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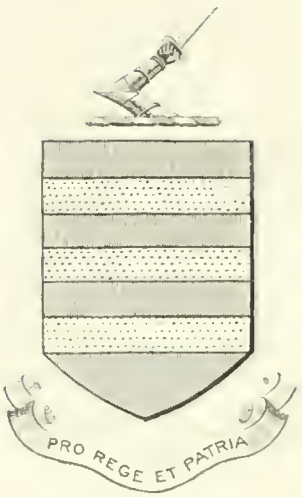

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Original Articles.

THE DISTINCTIVE CHARACTER OF THE TEMPERATURE CURVE OF MEASLES AND OF SCARLET FEVER; AND THE TREATMENT OF HYPERPYREXIA IN THESE DISEASES BY BATHS OF INCREASING TEMPERATURE.*

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THE clinical observation of measles and scarlet fever in hospital and private practice has led me to the conclusion that the temperature curve in these two acute infectious diseases is as characteristic and distinctive for each of them as are the respective curves of typhoid, typhus, and smallpox. I am well aware that this is not the view of the vast majority of writers on measles and scarlet fever, and it becomes all the more important that each of us who sees much of these diseases in a systematic way should add his quota of observation to the recognition of the normal course of the temperature curve in these extremely common affections.

The temperature curve of the acute infectious diseases is divisible into three stages: (1) That of accession, including the beginning and rise of the temperature to its maximum; (2) the fastigium or stage during which the temperature continues at its height before the positive decline has set in, which forms (3) the stage of defervescence. The first stage may be an acute steep rise to a high temperature in the course of a few hours, or a gradual rise, continuing for days before the fastigium or period of maintenance is attained. The second stage, or fastigium, also varies in duration in different diseases. In some the temperature is maintained for some days, in others the fastigium is scarcely attained before the third stage of the temperature, or that of defervescence, begins. Of the third stage, there are two types. When it declines rapidly, as in pneumonia, the temperature is said to resolve by crisis; when it declines gradually by a slow diurnal descending staircase movement, the resolution is by lysis.

Before discussing the temperature curve of the two diseases to which these observations are limited, I wish to object to the customary description of the symptoms of measles and scarlet fever under the head of the stage of invasion or prodromal stage, the stage of eruption, and the stage of desquamation. The stage of invasion or prodromal stage corresponds with the appearance of the enanthematic eruption upon the mucous membranes, those of the conjunctiva, the nasal fossæ, buccal cavity and inside of the lips and cheeks in measles, and the pharynx, tonsils, and tongue in scarlet fever. This stage is as much a part of the eruptive stage as is the exanthema itself. The so-called prodromal temperature is the temperature of the enanthematic stage of the eruption. The conception of the desquamative stage as synonymous with that of defervescence is also faulty, in that it would give the impression that desquamation begins with defervescence or disappearance of the eruption, which is rarely true even in measles, and is never true in scarlet fever. Every one who sees much of the latter disease knows that, as far as the skin lesion of this disease is concerned, there is in a large proportion of cases a period of three to eight days or more after the eruption has entirely disappeared and the skin has become normal to the eye and touch before desquamation begins. During this period the most expert clinician could not, in many cases, affirm from the presence of any positive symptoms that the patient had suffered from scarlet fever, and when the history points to that disease he awaits the appearance of the characteristic desquamation. While this is not true of measles, in which the skin does not return to its normal color or appearance until after desquamation is completed, yet even here the fading of the characteristic eruption is not, as a rule, immediately followed by desquamation, but there is generally a period of some days before desquamation sets in. If these diseases must be described clinically under the head of stages, it would be more logical and true to write of them as (1) the eruptive stage, including the enanthematic and exanthematic periods; (2) the stage of defervescence; (3) the stage of desquamation.

The pyrexia of measles and scarlet fever, due to the respective specific infectious cause of these diseases occurs during the eruptive stage as thus defined and the stage of defervescence. By that I do not mean that the rise and fall of temperature that occurs during these stages of all cases of measles and scarlet fever is due to the specific virus of these diseases, emphatically not; for very many suffer during the earliest as well as the latest stage from a variety of complications and mixed infections, each of which causes modifications and deviations from the temperature curves characteristic of measles and scarlet fever when these diseases are uncomplicated. What is meant is that the characteristic temperature curve of measles as well as the characteristic temperature curve of scarlet fever covers the stage of eruption and the stage of defervescence.

Let me then describe the characteristic temperature curve of an uncomplicated case of measles in which there is pyrexia. During the enanthematic period of the eruptive stage the pyrexia is moderate; it rises toward night, it declines about a degree toward morning. It lasts for from two to five days. There is a slight increment of pyrexia every evening as compared with that of the evening before. There is, however, a sharp decline, sometimes to within a degree of the normal, on the morning of the day when the skin eruption (face) is to appear. Synchronous with the appearance of the exanthema, the pyrexia becomes greater and the temperature rises rapidly, generally to a higher point than any

*Read before the New York Academy of Medicine, May 19, 1904.

reached during the enanthematic period of the eruptive stage. On the first day of the skin eruption, with the appearance of the exanthema on the face, the temperature is apt to be a degree higher than the highest figure of the enanthematic stage. From this figure there is a decline of about a degree

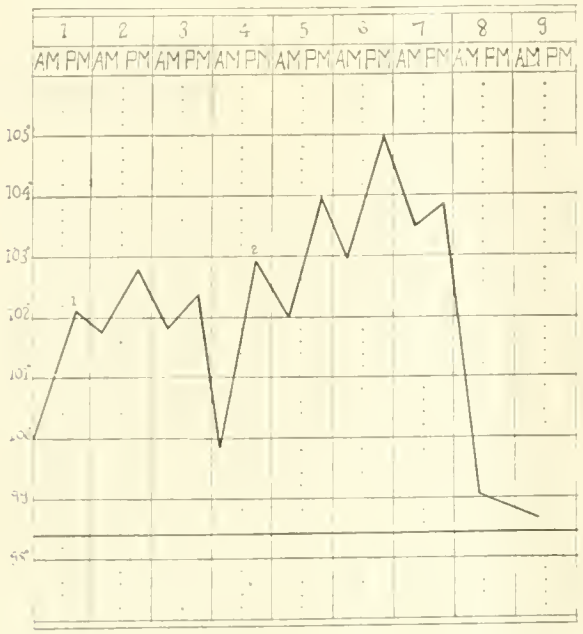

Chart 1. Schematic Measles; 1, enanthema, 2, exanthema.

by the following morning. During this second day the eruption covers the neck, chest, arms, and shoulders, and toward night the pyrexia is about a degree higher than that of the evening before; there is a slight decline toward next morning. On that day the eruption covers the abdomen, back, and thighs, and the temperature rises by evening a degree or a degree and a half higher than the evening preceding. This is the maximum height during the whole course of the essential temperature curve of the disease. It again falls

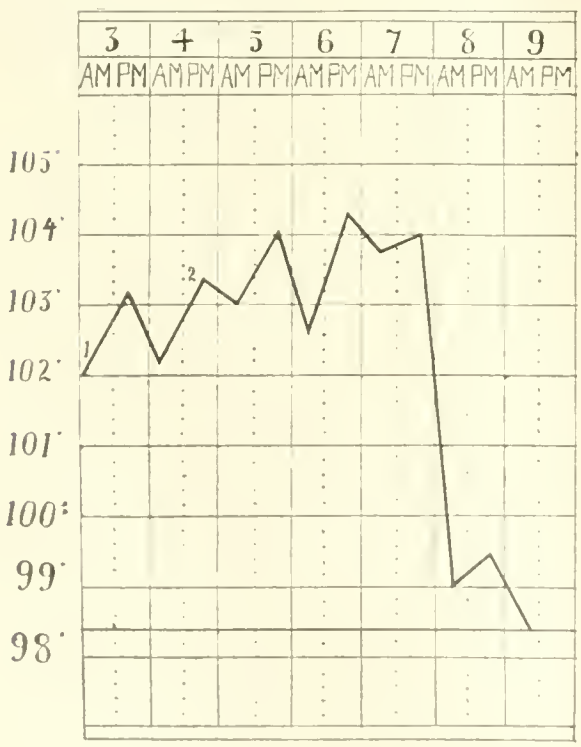

Chart 2. Measles. Jos. E.; 1, enanthema, 2, exanthema

one or two degrees by morning of the next day. During this day the eruption becomes complete, covering the legs and dorsum of the feet. The temperature again rises toward night, but not as high as the night before. During the night and following morning there is a decline or defervescence, abrupt and sharp, either down to the normal or almost normal, within twelve to twenty-four hours, or the abrupt decline may be interrupted at about midway by a slight evening rise and then an abrupt

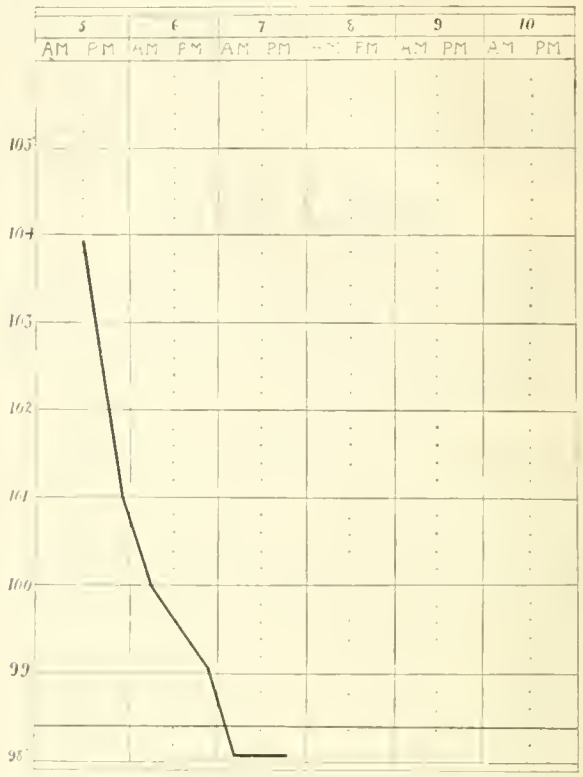

Chart 3. Measles, Defervescence. Oukio R.

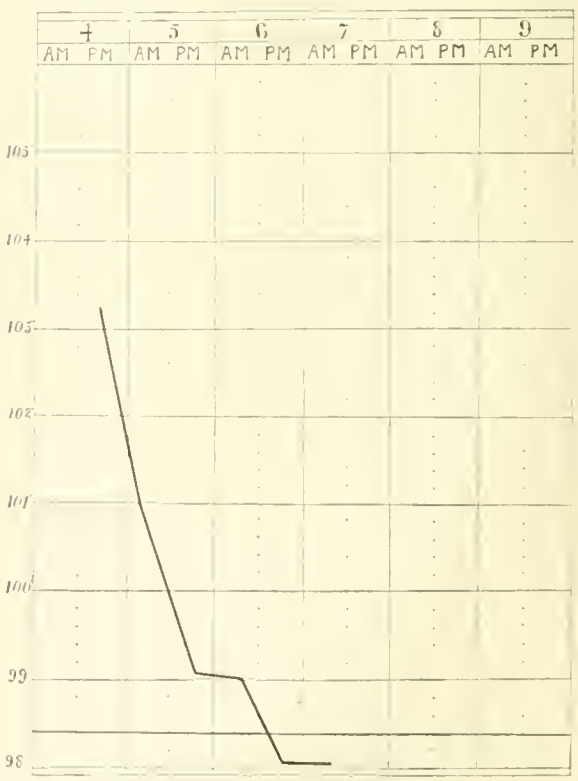

Chart 4. Measles, Defervescence. Jos. F.

decline to the normal by the following morning. This is schematically shown in chart 1 and in chart 2, the latter a complete uncomplicated measles curve from a case in private practice. If I were asked to indicate the most characteristic phe-

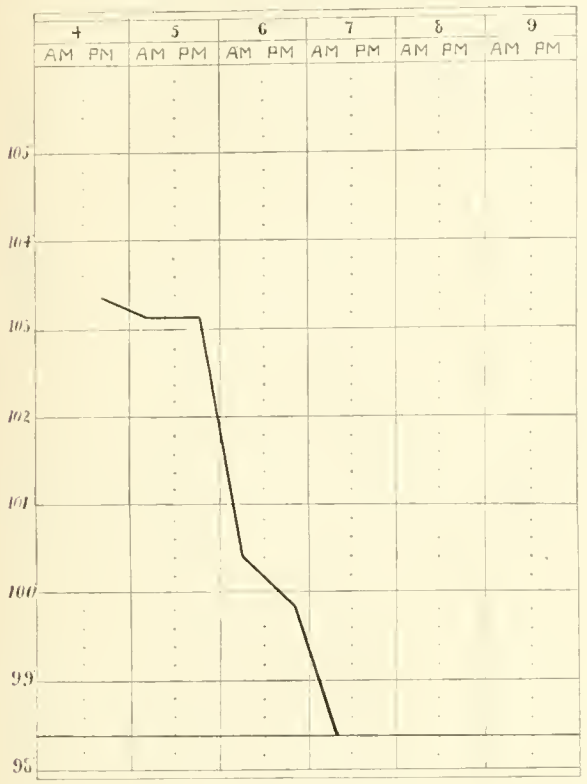

Chart 5. Measles. Annie G.

nomenon in the typical measles tempera ture curve I should say that it is this tendency to resolution or defervescence of the pyrexia by crisis. In this respect it differs positively and absolutely from the temperature curve of scarlet fever, in which, as I shall presently show, the resolution of the pyrexia takes place by lysis.

Frequently in severe cases of uncomplicated measles the writer has been able to predict that the temperature would fall to the normal on a certain given day, although on the day previous, at the time of the statement, the temperature was still at a very high and even alarming figure. This prognosis rested upon the absence of any complication in that particular case, and my absolute reliance on the positive fact that the pyrexia of uncomplicated measles always undergoes a resolution by crisis, as indicated above. The temperature curves taken from the histories of normal uncomplicated measles cases demonstrate graphically what I have attempted to describe at length. (Charts 2, 3, 4, 5, and 10.) All but chart 2 are temperature curves from cases in the Riverside Hospital.

Scarlet fever, when uncomplicated, has a much simpler temperature curve than measles. Nevertheless this curve is characteristic of this disease During the development of the enanthema synchronous with the initial vomiting and sore throat the temperature reaches a very high degree, frequently the highest point of the temperature curve. The enanthematic eruption is very rapidly followed by the exanthema, sometimes within six or eight hours, generally within one or at most two days. During this time the temperature is maintained at its height, suffering only the usual decline of a degree or a degree and a half toward morning, to rise again at night. If the skin eruption is delayed a slight drop in temperature precedes it. (Chart 7, from a case in private practice.) With the appearance of the exanthema the temperature is maintained at its height for three or four days more, while the eruption covers the body. The first slight decline is noticed when the eruption has reached the lower part of the legs and dorsum of feet, about the third or fourth day. This decline is slight, not more than two degrees, followed by a slight rise at night, but not as high as the temperature of the previous night, next morning again to decline to a degree or a degree and a half lower than the morning before, and so on, the temperature curve descending by steps very much after the manner of the typhoid curve until the normal is reached after five to eight days. In this disease the defervescence of the pyrexia is by lysis. This curve is schematically shown in chart 6, while chart 7 shows a curve from a case of uncomplicated scarlet fever observed from its very beginning to its end.

The temperature curve of measles as compared with that of scarlet fever shows the following points of difference: In measles the accession of the fever is gradual (shown in charts 2, 8, and 9), the fastigium limited (charts 1 and 2), and the defervescence by crisis (charts 1, 2, 3, 4, and 5). In scarlet fever the accession is acute (charts 6 and 7) and sudden, the fastigium lasts through almost the whole of the eruptive stage (charts 6 and 7), and the defervescence is by lysis (charts 6, 7, 11, 12,

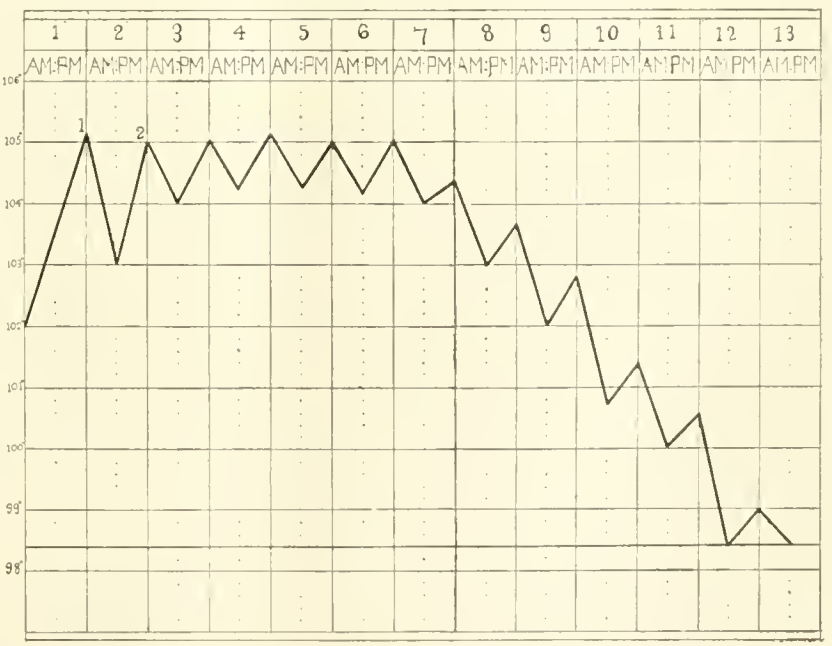

Chart 6. Schematic Scarlet Fever; 1, enanthema; 2, exanthema.

13, 14, 15, and 16).* I have spoken only of the uncomplicated measles and scarlet fever temperature curve, carefully abstaining from giving any abso-

(*Charts 10 to 16 are from cases in the Riverside Hospital, scarlet-fever service.)

lute temperature figures. For the general trend of a temperature curve that is distinctive and characteristic of a disease must be true, whether the pyrexia be a severe one with high temperature, or mild with very low temperature.

There are said to be also cases of measles and scarlet fever which run their course without any temperature. I have never seen such a case in hospital or private practice. I have frequently seen cases in which the fever has been very slight, but recognizable by rectal thermometric observations. I have certainly heard from mothers whose children showed by a characteristic desquamation and other symptoms that scarlatina had run its course in the little patient, and that there had been no fever accompanying the rash, but such statements resting solely upon nonprofessional observation and frequently lack of observation can hardly be taken as the basis for clinical data.

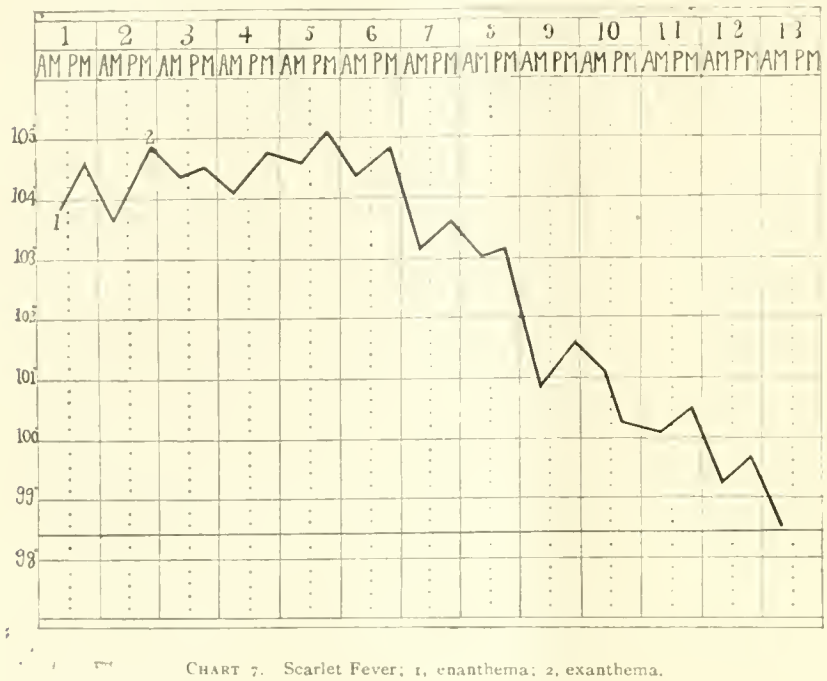

CHART 7. Scarlet Fever; 1, enanthema; 2, exanthema.

Of great importance is the fact that eminent authorities differ as to whether the temperature curves of measles and of scarlet fever are respectively distinctive of these diseases. Scarcely any two works on medicine agree as to the temperature curves of either measles or scarlet fever. Thus Wunderlich (Eigenwärme in Krankheiten, 1870), whose thermometric studies are classical, considers the measles curve absolutely distinctive, and that of scarlet fever also, under certain limitations. The curve for scarlet fever, which I have found in my experience differs from that of Wunderlich in many particulars, and my impression does not confirm the views of Wunderlich with regard to the measles curve in many respects, but the critical defervescence in measles and the defervescence by lysis in scarlet fever Wunderlich emphatically recognizes. Indeed, this shrewd observer makes this broad statement:

"The course of the temperature must be individual and characteristic in each separate infectious disease; each must present its typical curve, and if we fail to recognize it, the fault certainly lies with us." (Über einige Verhaltnisse des Fieberverlaufes bei Masern, *Archiv der Heilkunde*, 1863, p. 332.)

Just as we commonly accept as characteristic of smallpox, its well-known, peculiar temperature curve, and as characteristic of typhoid and typhus fever, the recognized curve of the pyrexia in these diseases respectively; to this extent at least, is the fever curve in measles and scarlet fever distinctive. The objectors to this view, prominent among whom are Thomas and also von Jurgensen, seem to expect more uniformity in the course of the fever of measles and scarlet fever as a *sine quá non*, for considering them distinctive, than they do from the curve of the fever in typhoid and typhus, which they agree are eminently distinctive. And yet variations from the typical fever course in measles and scarlet fever can be accounted for more easily and are far less numerous than the variations from the typical course in typhus and typhoid. One important reason why physicians do not recognize how typical are the fever curves of measles and scarlet fever, lies in the fact that pyrexia in these diseases, when uncomplicated, is much shorter in duration than that of typhoid and typhus. Then, too, complications of an inflammatory nature frequently mask the characteristic curve in scarlet fever and measles. Especially is this true at the period of defervescence, when, in an uncomplicated case, the fever would defervesce by crisis or pseudocrisis in measles, and by lysis in scarlet fever. Then, too, measles and scarlet fever can be observed in numbers sufficient to enable one to make deductions as to the fever curve only in infectious disease hospitals which are few in number;

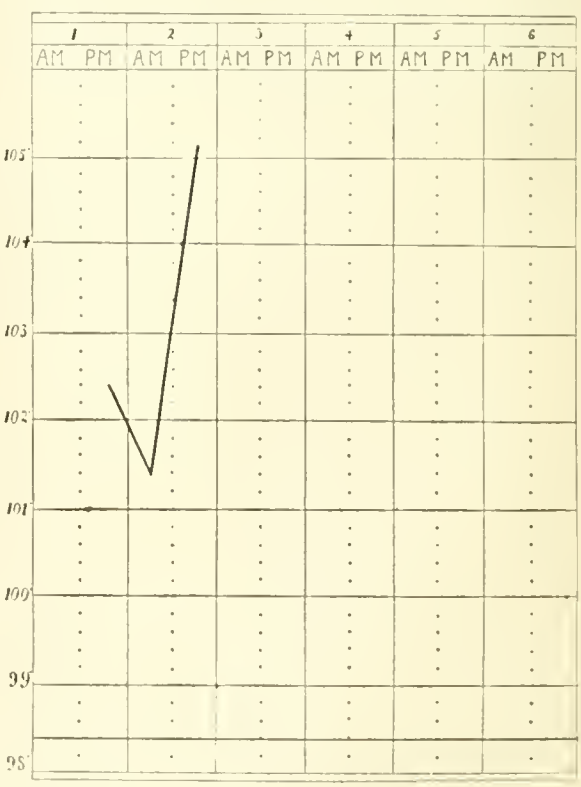

CHART 8. Measles, end of enanthema and beginning of exanthema. Louis L.

while of typhoid every general hospital furnishes sufficient material. Even in infectious-disease hospitals the cases come in too late for frequent observation of the first two, or even three, days of the curve. I have been compelled to study the behavior

of the fever curve in the first days of the disease, in my private practice.

I present some curves of the earlier days of two measles cases which I owe to the courtesy of Dr. M. Gershel, Physician to the Hebrew Sheltering Guardian Society (charts 8 and 9).

I have sought to explain the fever curve of measles and of scarlet fever. In both of these dis-

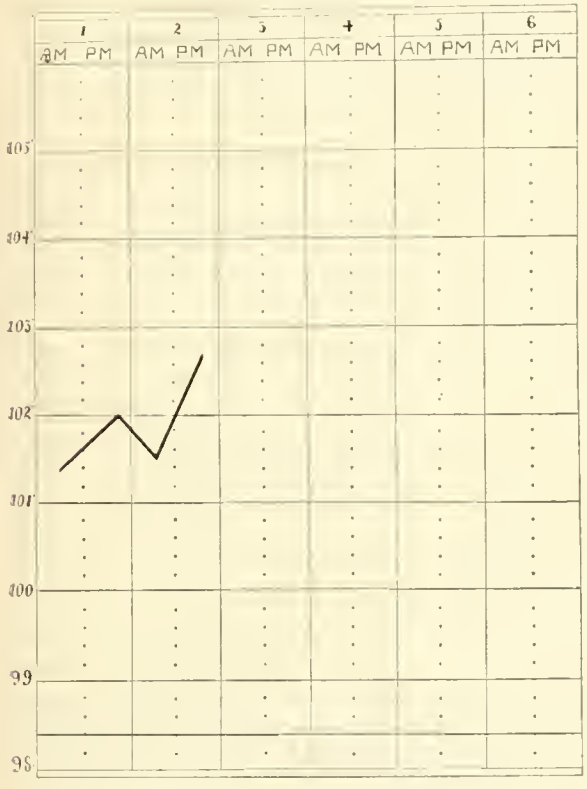

Chart 9. Measles, showing curve of exanthematic stage. Clara C.

eases the pyrexia is the combined result of the influence of the pathogenic germ and its toxins upon the various biological and chemical processes going on in the blood and tissues of the body, which are heat producing, as one factor, together with the rise in temperature produced by the inflammatory process going on in the mucous membranes and skin, to which the enanthema and exanthema are due, as another factor. I believe the latter factor to be dependent upon the former, for, in my opinion, the eruption in the acute exanthemata is simply a conservative inflammatory manifestation on the skin and mucous membranes due to their activity in helping to excrete from the system the toxic materials present in the blood and tissues. The influence of the toxæmic element in the production of the pyrexia is less in measles than it is in scarlet fever. On the other hand, the cutaneous inflammatory process involved in the eruption of measles has a more important influence on the pyrexia curve than the skin lesion of scarlet fever has on the temperature curve of that disease.

Keeping these two causative factors of the pyrexia in view, let us consider in the light of them the measles curve. The first portion of the pyrexia curve, during the enanthema is moderate even in cases of some severity, about 103° F., and is due to the catarrhal inflammation of the mucous membranes of the mouth, nose and eyes, plus the effect of the activities of the toxic agents. The slight drop in the fever before the appearance of the exanthema is due to the fact that the acme of the inflammation in these mucous membranes has been passed and that causative element in the pyrexia is therefore diminished. On a similar basis can be explained the rise in temperature with the appearance of the eruption on the face; the further rise on the following day as the eruption covers the chest; the rise to the maximum of the curve as the eruption spreads over the largest area on the third day of the exanthema, when the eruption covers the abdomen, trunk, and thighs; the decline as these surfaces are covered, followed by a rise, to a lower plane, however, with the appearance of the rash on the lower legs and dorsum of the feet, owing to the fact that the cutaneous surface involved is far less in extent than that covered on the day previous; and, finally, the rapid decline by crisis to the normal, due to the fact that the inflammatory disturbance in the cutaneous surface has run its course. All of these changes can be explained by taking these two causative factors of the pyrexia into consideration.

Nor is it essential to believe that with the disappearance of the fever, the toxic element should have been entirely extruded, provided a sufficiently large share of it has been neutralized and excreted by the skin and mucous membranes, so that it is no longer necessary for the body cells to continue the excess of chemical and biological activities of which the pyrexia was a manifestation and which preserved the cells in their contest against the activities and products of the bacteria of which the infection consists.

In scarlet fever the toxic agent plays a more important rôle in the production of the pyrexia than does the inflammation of the skin or mucous membranes; nevertheless, the latter, as in measles, has its effect, as is well shown in cases of scarlet fever in which the enanthema is not followed within a few hours by the exanthema on the shoulders and face

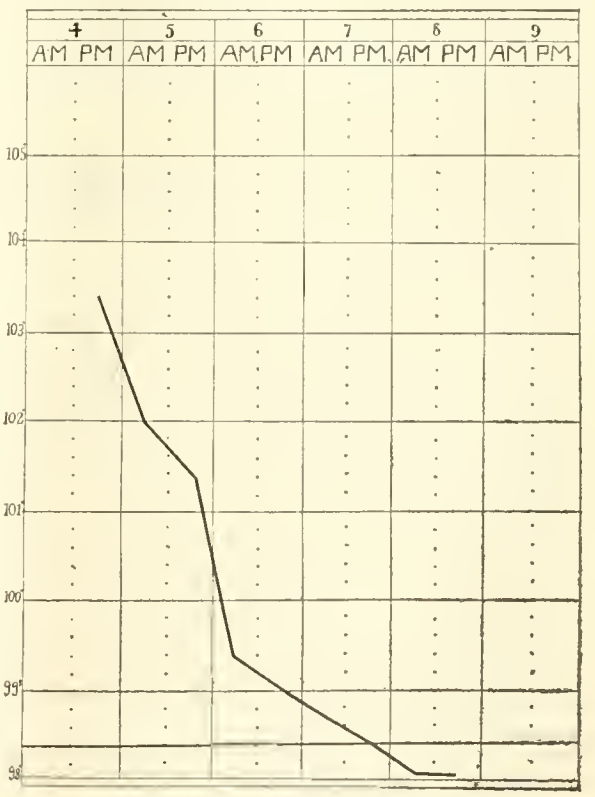

Chart 10. Measles, Defervescence. John H.

as is usual, but where such exanthema is delayed for two or more days, as is the case in the curve of normal scarlet fever shown in chart 7. In such cases there is a drop in the high temperature after the enanthema has appeared and before the exanthema appears (charts 6 and 7). But when the eruption becomes manifest the temperature rises to the high

point which it had attained with the initial tonsillitis and pharyngitis and vomiting, and the fastigium lasts, as already shown, with a slight increase on the third day of the eruption, for reasons similar to those spoken of under measles, but otherwise not showing the daily increment in the fever due to the involvement of additional skin areas in the eruption. For, in this disease, as I have already said, the local skin lesion plays a much less important part in the production of the pyrexia than does the toxæmia. The whole clinical picture of scarlet fever supports this view; the initial toxic vomiting, the rapid pulse and the frequency of toxic complications. This toxic element is sufficient to keep up in the body cells their fever-producing activities even after the eruption has reached its height and is subsiding. However, gradually the toxic agents are overcome, and this slowness is pictured in the gradual resolution of the fever by lysis; the temperature, while declining daily, does not reach the normal until four days to a week or more after the eruption has run its course. (Charts 6 and 7, and other defervescent scarlet fever temperature curves.)

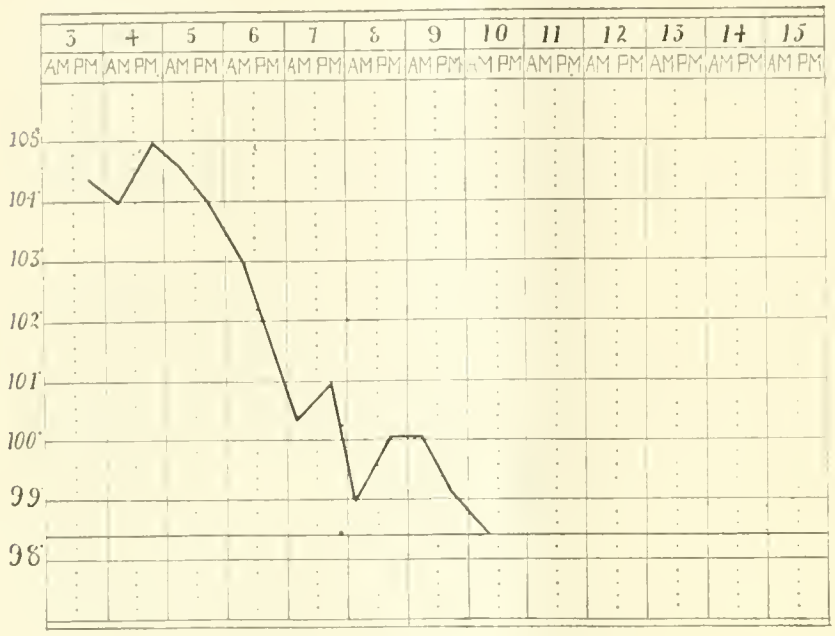

Chart 11. Scarlet Fever, Defervescence. John McK.

With this view of the temperature curve and its pathogenesis, it is possible by careful examinations of the patient from day to day to account for any positive departure from the typical fever curve in those suffering from these two diseases. Nor is it surprising that slight variations occur even when there are not decided complications. These two eruptive fevers, for the most part, affect children in whom even the normal temperature curve of the body in health is readily disturbed by comparatively unimportant factors, and yet so typical are the respective fever curves in these two diseases that variations in uncomplicated cases will admit of explanation on careful study of each case, and will serve only to prove the rule. Such reliance can one place upon the typical character of the curve, in my experience, that if a positive variation from the usual curve is seen, a complication must be sought for and will generally be found. Thus, if the critical drop in the temperature curve of a measles case in the defervescence of the fever has taken place, and a rise in temperature follows, it can be positively affirmed that there is a complication, such as pneumonia, otitis media, meningitis, etc., which a careful examination of the patient will reveal. If the critical resolution does not occur, but defervescence is only partial, the fever continuing as the eruption is fading, a complication, as a cause for the continued fever, will be found. Furthermore, if the course of the fever is not in a general way in accordance with the typical curve throughout the whole of the eruptive stage, and a careful examination reveals no complication, I have generally found that the critical defervescence will not occur, and gradually the concealed complication shows itself. In other words, an irregular curve will put the careful clinician upon his metal to discover the complication which causes the irregularity. In one of my cases an inflammatory rheumatism, involving at first only the vertebral articulations but later on other joints, gave rise to a septic temperature curve in a case of measles with a typical enanthematic and exanthematic eruption. Even the presence of very high pyrexia in cases with a normal measles temperature curve enables him who is familiar with the measles curve to predict a critical drop at the proper time, especially if a careful physical examination has failed to reveal any complicating condition.

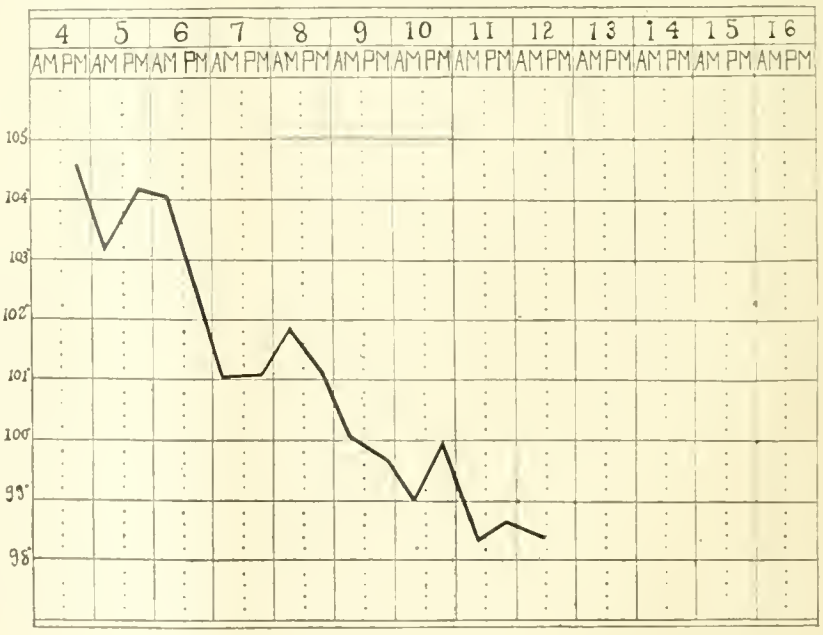

Chart 12. Scarlet Fever, Defervescence. Mary B.

In scarlet fever a knowledge of the normal curve will enable the physician and the patient's friends

to look with equanimity upon rather high temperatures during the fastigium, provided no complications are found. When, however, in the stage of defervescence resolution by lysis has begun, and after a day or two is interrupted by a renewed rise to the higher figures of the fastigium, then a complication must be sought for and found, for the scarlatinal virus uncomplicated never causes a renewed rise of temperature in the stage of defervescence when lysis is in progress.

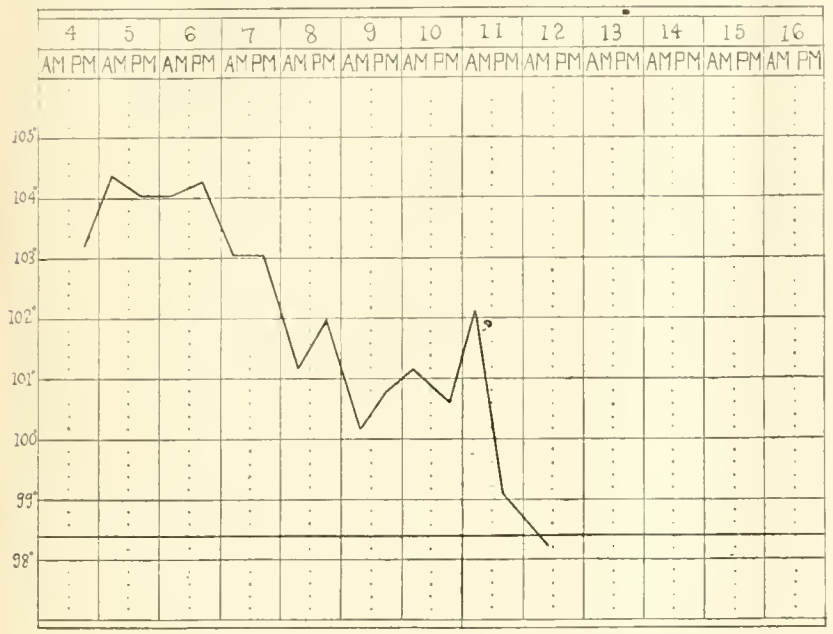

Chart 13. Scarlet Fever. Arthur M.

A knowledge of the normal temperature curve of scarlet fever will enable us to estimate at its true value any serum therapy proposed as a specific for the disease. For a specific serum treatment tried even in large numbers of cases may result, owing to the severity of the cases upon which it has been tried, in a larger death rate than that shown in the total mortuary statistics of a city where the death rate is based on all the cases of scarlet fever which have been reported, both severe and mild. But if the serum recommended really antagonizes the toxic elements of the disease, it must necessarily cut short the fever which is also dependent upon these toxic agencies. I should expect such specific serum injections, whether of the antitoxic or antibacterial type, to produce a prompt shortening in the duration of the fever of the fastigium and a defervescence, of the critical type, within twelve to twenty-four hours after the injection. I have accordingly attached no importance to the antistreptococcus serum therapy, owing to the fact that in the cases in which I have observed the Marmorek and Moser serum used, I have failed to see such or like influences upon the typical temperature curve of scarlet fever, as a sequence of these serum injections. A recovery after the use of the serum means little, for scarlet fever is cured without serum therapy. A change in the curve of the defervescence from lysis to crisis would mean very much. The successful antiserum, when discovered, I am sure, will show as one of the important clinical changes, a shortening of the fastigium of the fever curve and a resolution of the fever by critical drop and not by lysis.

In the course of my remarks I have purposely avoided any reference to absolute high or low temperatures in measles and scarlet fever, the object of this study being the development and recognition of the typical character of the uncomplicated temperature curve from day to day, irrespective of its absolute height or lowness. I may be permitted, however, to speak of the practical and important question of the treatment of hyperpyrexia in these two diseases. I think we may assume, for the purposes of this paper, that occasionally in measles and scarlet fever even when uncomplicated, the temperature, owing to its extraordinary height, may require therapeutic attention. This, notwithstanding the fact that from what has been said, our knowledge of the character of the curve enables us to predict its duration and probable extent as long as no complicating conditions occur. All the more does the temperature, when excessive, require attention in those cases in which complications exist; for not only is the temperature in some of these cases apt to rise to much higher levels, but owing to the uncertainty of its duration we must avoid as far as possible the evil effects of hyperpyrexia which the patient may have to endure for some time. The usual methods for reducing temperature in infectious eruptive fevers, employed also in measles and scarlet fever, are cold or cool baths, like the Brand baths, used in typhoid, cold or cool sponge baths, cold pack, and antipyretic drugs. The last, we may dismiss with an interdiction. I do not know of any of the acute infectious diseases in which these drugs

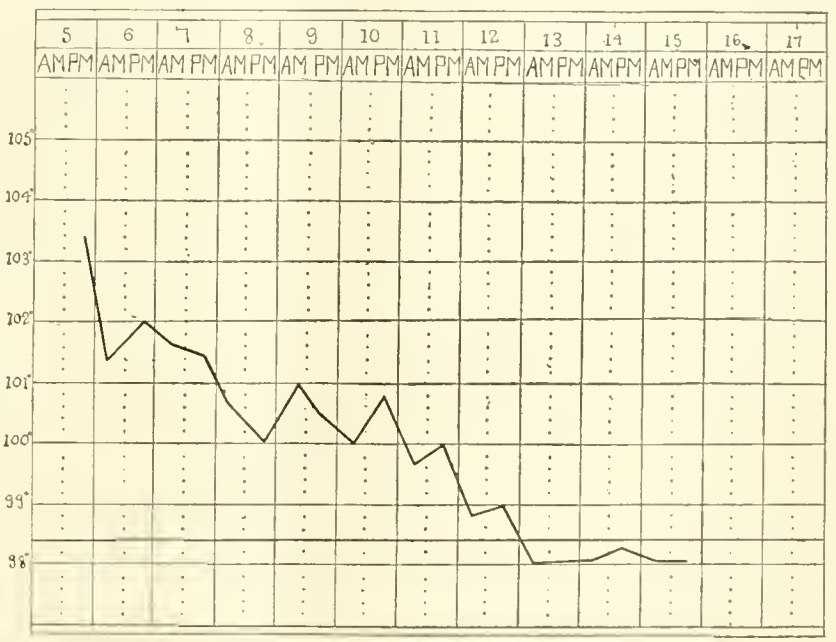

Chart 14. Scarlet Fever, Defervescence. Rose G.

are warranted for the reduction of hyperpyrexia. The reasons for this are for the most part well known and we need not enter upon them here. As far as the use of the other three methods is concerned, baths, sponge baths, and the cold pack, one fact is true with reference to all three of these methods of reducing hyperpyrexia when applied to measles and scarlet fever, and that is that no such reduction of temperature, either in amplitude or in duration, as is obtained from these methods in the high temperatures of other diseases, such as typhoid or pneumonia, takes place from their use in the pyrexia of measles and scarlet fever. This is easily accounted for. In both of these eruptive diseases, cold, whether in the shape of baths, sponging or packs, has a different effect upon the skin, which is the seat of an exanthema, from that which it has in diseases in which the skin is in a normal condition. The subcutaneous swelling and infiltration which is a part of the eruption causes pressure upon the cutaneous capillaries and their nerves. These capillaries do not undergo the primary contraction under the influence of cold which occurs when cold is applied to healthy skin, nor does the secondary dilatation which follows the primary instantaneous contraction where the skin is normal, occur in skin which is the seat of a measles or scarlatinal eruption. There is, therefore, not that interchange of cooled blood from the periphery and warm blood from the center which is so necessary a condition to the reduction of temperature by cold baths or pack. On the contrary, I have seen these agents when applied to a brilliant scarlatina cause the red rash to become violet and almost hemorrhagic and spotted in character, owing to stasis of the cutaneous circulation.

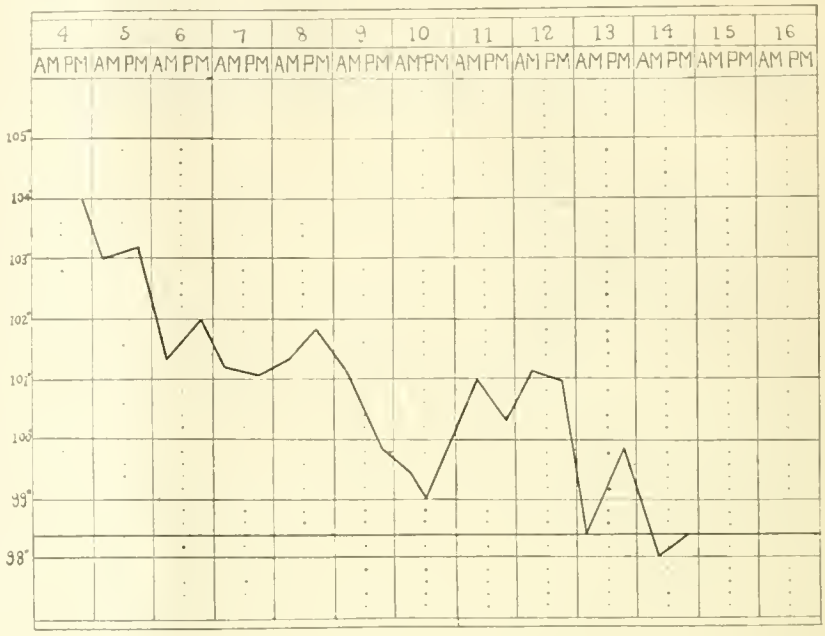

Chart 15. Scarlet Fever, Defervescence. Sylvester M.

For the same reason cold baths and cold packs in measles and scarlet fever inhibit perspiration both primarily and secondarily. I have referred above to the importance of the sweat glands in aiding the skin to excrete from the body the toxic materials which are the essence of the disease in measles and scarlet fever. I even believe that the eruption itself is the conservative manifestation of the eliminative activity on the port of the skin; so that any method of reducing temperature which inhibits the eliminative and excretory functions of the skin defeats the most logical indication for therapy that we have in the acute infectious eruptive diseases. A gentle perspiration during the course of the eruptive stage of measles and scarlet fever is desirable, and all therapy should be directed toward its encouragement. Whenever a case of measles or scarlet fever with high temperature and other toxic phenomena shows but a scant and incomplete eruption, I practice and advise the giving of a warm bath followed by a dry pack. The perspiration which ensues is generally successful in bringing out the eruption, while at the same time the temperature will sink materially and the curve be completed on a lower plane.

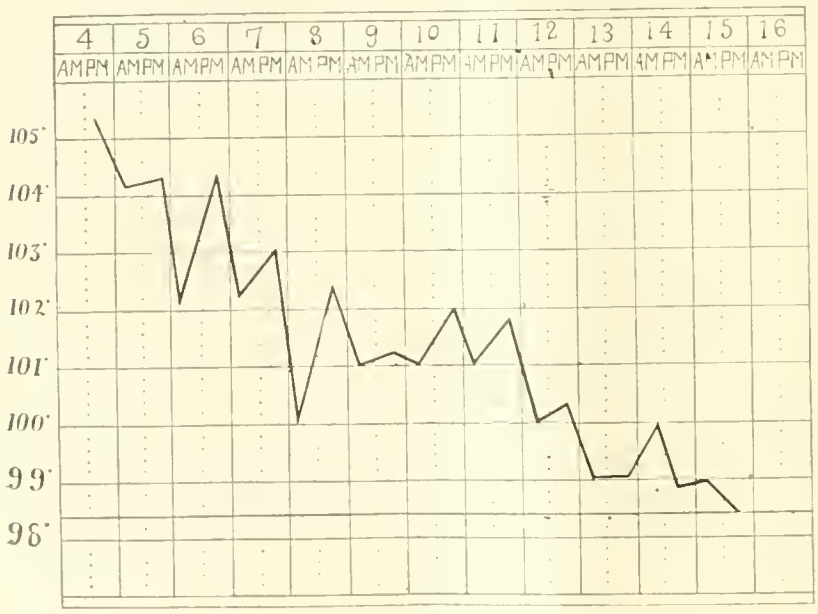

Chart 16. Scarlet Fever, Defervescence. Elsie K.

This is only done if with hyperpyrexia the eruption is incomplete. To reduce abnormally high temperatures (above 104°) in uncomplicated or complicated measles or scarlet fever, I have used for some years the following method: The patient is placed in a bath with the water at a temperature of 80° F.; at the end of five or ten minutes, depending upon the case, the temperature of the water is raised to 90° by the addition of warm water. A bath at 80° for a fever patient with temperature of 105° is a cooling bath, and yet not cool enough to produce the evil effects upon the capillaries of the skin of which I spoke above. The subsequent *raising* of the temperature of the water ten degrees for ten minutes is equivalent to giving a warm bath after the cool one to the patient who has become accustomed to the water at 80°. Whatever ill effect the cool bath

at 80° may have had upon the cutaneous capillaries and nerves is more than counterbalanced, and yet the temperature of the bath is still at 90°—much lower than that of the skin. The patient, when taken from the bath, is wrapped lightly in a sheet and covered lightly by a thin blanket. The temperature will be found to have declined from one and one-half to three or more degrees, and the decline persists longer than from any other method that I have tried in these diseases. Moreover, the eruption is not diminished, the pulse is improved, sleep generally induced, and a gentle perspiration covers the whole body. Practically, one point of importance must not be forgotten. When the warm water is added it must be poured into the bottom of the bath tub. The reason for this is that if the warm water is poured on the top, it floats over the cool water, unless imperfectly mingled mechanically by the nurse. The patient would thus have the lower part of his body bathed in cold water and the upper part in warm or hot water. For this purpose I have used in private houses a tin funnel with a piece of rubber hose long enough to reach to the bottom of the tub, and thus the warm water is delivered at the bottom of the bath. It then rises by its own lightness, as compared with the cold water, and is disseminated throughout the bath. For hospitals, a tub with a false fenestrated bottom can be made, and a permanent tin tube passed along one of the sides to the bottom, to accomplish more easily the same purpose. The patient should not be rubbed after such a bath, both because the warm additional water accomplishes all or more than the rubbing in the Brand bath, and for the further reason that friction is detrimental to the inflamed skin, producing a pseudo-desquamation long before the subjacent skin is ready to cast off its inflamed covering. Such desquamated areas of skin are practically superficial ulcers.

Lesser degrees of hyperpyrexia are treated by sponging with water at 70°, to which one-third ordinary alcohol has been added. The alcohol in these cases acts the part of the added warm water in the bath, and counteracts the ill effects of the cold sponging upon the capillaries and nerves of the skin. It is unnecessary to again repeat the injunction against the use of friction upon the skin. On the contrary, the sponging should be liberally done with a large soft sponge, only the excess of water absorbed by patting the skin with a soft towel and the patient lightly covered as after a bath. Of these two methods the most efficacious in very high temperatures of scarlet fever and measles has been the tub bath as above described.

With a knowledge of what is the normal and expected course of the temperature in uncomplicated cases of these diseases, we should be able from carefully kept charts to receive much aid in the differential diagnosis of these affections when they resemble each other, in the early recognition of complications and in the prognosis of individual cases. We should be able to estimate at their true value specific sera that may be recommended for the treatment of measles and of scarlet fever by their effect upon the normal temperature curve. The efficacy of the methods I have described for the treatment of hyperpyrexia in these conditions will be my excuse for a conscious offense against unity, in thus discussing or combining in one paper two closely allied, but yet separate and distinct topics.

The charts from the cases in the Riverside Hospital were furnished me by Dr. Watson, acting resident physician, and Dr. Horwitz, interne, at the Riverside Hospital, to both of whom I hereby express my sincere thanks.

923 Madison Avenue

GRAVE ANÆMIA DUE TO HOOK-WORM INFECTION.*

By LOUIS M. WARFIELD, A.B., M.D.,
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The recognition of the true etiology of a group of anæmias prevalent in our Southern States is of comparatively recent date, and the rôle played by the intestinal worm, *Uncinaria americana* (Stiles) is as yet little appreciated. The succession of events from 1901, when Stiles made the suggestion that we probably had in our midst a worm similar to, if not identical with, that found in Egypt, Europe, and the Tropics, which caused the so-called "brick-makers' anæmia," "miners' cachexia," etc., to the present status of Uncinariasis, has been both rapid and startling. Who would have supposed that within two short years all our ideas of one group of anæmias, in the South especially, would be so upset? From time immemorial malaria and the miasm of swamps have served as diagnostic rubbish heaps, where practically all cases of anæmias were indiscriminately thrown. Now, however, thanks to the labors of Stiles, Ashford, Harris, and others, we are waking up to the fact that we have a disease easy to diagnose and easy to cure that is responsible to a great extent for the lifelessness and unproductiveness of the country communities. Strange it is that a disease so easily recognized should so long have waited to be accurately diagnosed. It represents a triumph for science and microscopical methods in the hands of earnest seekers after truth.

The cases reported are few. Case 5 in particular is the only one of its kind that I have seen or heard of. The interest lies in the fact that it suggests possibilities of mistakes in diagnosis, and for this reason more than any other I present the case. First, let me relate briefly the histories of four other cases:

Case I.—Wm. C., age twenty, white, comes from Higgston, Ga., admitted to the Savannah Hospital, August 18, 1903, complaining of sores on penis. He says all his family are tall, well-built people. The patient up to ten years of age was well, except for chicken-pox. At age of ten he had rheumatism, which confined him to bed for nearly three years and left him a cripple. He has had ground-itch five times, the last attack three years ago. He lives among the piney woods on sandy soil, and says that many sallow people are in the town. Three months ago he contracted a venereal sore, which was diagnosed as chancroid. He has lost in the past year some weight and much strength. For our purpose his present illness began about ten months before admission. He began "to go down hill," felt drowsy all the time, and had a disdisinclination to move around. Does not think his disposition has changed. No loss of appetite, no diarrhœa at any time, and he never noticed that his stools at any time contained blood. Has suffered with shortness of breath and palpitation of the heart. Physical examination shows the patient to be undersized, underdeveloped, and dull intellectually, about 5 feet 3 inches in height. Small dressing on bridge of nose where abscess was opened. Walks on crutches. Complexion sallow, mucous membranes pale; very few vessels can be seen in conjunctivæ. Sclerotics of normal whiteness, pupils slightly dilated, equal, react normally. Soft systolic murmur at second left interspace. Heart not enlarged. Pulse regular in force and rhythm, good volume, rather low tension, 20 to ¼. Abdomen flat, no tenderness. Spleen felt extend-

*Read before the Georgia Medical Society.

ing 6 cm. below costal margin. Liver not enlarged. Healing sores on penis. Testicles small, no nodules. Legs show typical picture of arthritis deformans. The patient was seen by me on September 16. A specimen of stool showed numerous ova of uncinaria in all stages of segmentation. The stool had a peculiar granular appearance, dark brownish-red in color, with a curious odor which was not disagreeably fecal, combined with an odor somewhat resembling stale blood. A piece put on a sheet of white paper and allowed to stand for an hour left a reddish-brown stain, which is said to be of diagnostic value.

September 18.—Thymol was given in divided doses, followed by castor oil. All stools were lost. Since admission the patient has had an irregular temperature, reaching almost every afternoon to 99° or 100° F., returning in the morning hours nearly to, or quite to, normal.

September 19.—Temperature subnormal, and up to the time of discharge on September 26, it was never 99° F. The patient was given two other courses of thymol, but through some misunderstanding all the stools were lost.

September 25.—Discharged at his own request. He is much improved, but a few eggs are still to be found in the stools.

Case II.—Wm. S., age eighteen years, Screven, Co., Ga., complains of shortness of breath and feeling badly. This patient was under the care of Dr. Carter, at whose suggestion I examined the stools. The patient says his family are well. All are full-sized. His father used to be sickly, but now seems quite well. He himself has always been sickly. Used to feel tired and drowsy, and was subject to attacks of diarrhœa. He has had repeated attacks of grounditch, the last attack two years ago. For some time he has been a messenger boy. His health at present is much better than it ever has been. The patient was seen by me on September 24. He had been under Dr. Carter's care for several months, and had improved considerably under treatment with iron and tonics. He had had a dilated heart and all the symptoms of grave anæmia. He had constantly a low fever from 99° to 100° F. *Status præsens*: A markedly sallow, underdeveloped boy, cheeks puffy and skin tough, parchment-like, yellowish in color. Mucous membranes exceedingly pale, lips dry and full of fissures. Eyes bright, pupils not dilated, react normally, tongue clean. Chest small, but normal; lungs negative. Heart's apex in fourth interspace inside nipple line. No increase in dulness, no thrill. A soft systolic murmur heard all over left chest, loudest at second left interspace. Arm and legs thin. Abdomen a trifle full. Spleen and liver readily felt; no œdema. Genitalia not developed. Stool formed, same characters as Case I. Very numerous ova found on microscopical examination.

September 27: Thymol given, followed by castor oil. A small specimen of stool passed at 4 P.M. seen. All other stools lost.

September 28: Blood count: reds, 4,152,000; whites, 10,500; hæmoglobin, 43 per cent. Stained specimen showed numerous eosinophiles; slight irregularity in the size of the red cells; no nucleated red cells seen. The patient was discharged September 29.

November 10: On microscopical examination of a specimen of stool many eggs are still seen. The patient says he never felt better in his life. He is gaining weight and color.

Case III.—Harry W., white, Camden Co., Ga. I am indebted to Dr. Corson for permission to report this case. The patient was born in Syracuse, N. Y. He was taken by his parents when a few months old to Camden County, where his people have since lived. He entered the Savannah Hospital October 3, 1903, complaining of a gunshot wound of the right arm. His parents are living and well. He has three brothers and one sister, all of whom look pale and sallow; have had repeated attacks of grounditch, and chills and fever. He has always been well, except for attacks of chills and fever, occurring, as a rule, in the fall. He has had repeated attacks of diarrhœa, but has never noticed blood or mucus in the stools. His appetite is good. He goes barefoot, and has had several attacks of grounditch. He does not admit much shortness of breath or palpitation of the heart. He says that near where he lives are many people who eat pine straw, and are said to eat dirt. He is sallow, yellowish, anæmic, quite intelligent, eyes bright, sclerotics have a slightly yellowish tinge. The conjunctivæ are almost white, tongue slightly coated. A hæmic murmur heard at the second left interspace, and a palpable spleen which has a hard fairly sharp edge, are the only points of interest. The right arm is bandaged from wrist to shoulder, and is laid on a pillow. He has had a slight rise of temperature since admission. October 9: A stool obtained was yellowish brown, homogeneous. On microscopical examination a number of ova of uncinariæ were found. Blood count: reds, 2,596,000; whites, 9,000; hæmoglobin, 48 per cent. No malarial organisms found in fresh smears of blood; some pigment seen. All red cells are of equal size; eosinophiles not numerous, but appear slightly increased in numbers. October 10: The patient was given thymol, followed by castor oil.

November 10: No eggs were found in the stools after careful search. The patient has more color and says he feels better than he has ever felt.

Case IV.—Gussie M., age fourteen, white, Waycross, Ga. Admitted November 12, complaining of fever. Family history negative. She has always been well, but has never been very strong. She has always been pale, suffers from shortness of breath; has never had diarrhœa; appetite good. Menstruation began at age of twelve, and has always been regular and painless. She has had several attacks of grounditch, the last attack two years ago. She has never had malaria. While in South Carolina recently she had dumb chills, followed by sweats. No vomiting, no nausea, some headache; loss of appetite. Hyaline æstivo-autumnal malarial parasites were found in fresh smears of blood. Temperature on admission was 101°F. She was given quinine, and in a few days her temperature was normal, and has remained so ever since. She is a well-nourished pale, sallow, girl, fairly intelligent. The mucous membranes are pale, the sclerotics have a slight yellowish tinge; pupils normal. Soft systolic murmur at second left interspace. Large tumor in abdomen, which is an eight months' pregnancy. Spleen not felt. Stool examined November 16 was brownish, fairly homogeneous. Numerous eggs were found on microscopical examination. Blood count: November 19, reds, 3,920,000; hæmoglobin, 55 per cent. Stained specimen showed one crescent; red cells slightly irregular in size; nucleated red cells seen; no noticeable increase in the eosinophiles. Patient not to be treated until after delivery.

Case V.—This is the case to which I wish particularly to call attention. It illustrates one phase

of the infection with hook-worms which I have suspected occurred, but so far have seen but this one patient. Lina T., age twenty-one, white, single, was seen on November 10, when she complained of pain in the back, chilly sensations, and fever. She comes from Screven Co., Ga. Both parents are dead, causes unknown. She has two sisters and two brothers living in Savannah. All are well, except a younger sister, who is pale and sickly. She has always been sickly, and has never been able to do much work, as she tires very easily. She had scarlet fever two years ago; no sequelæ. She had chicken-pox when a child. Up to two years ago she had grounditch every summer; the attacks were severe. Menstruation began at age of fourteen; her periods have always been scanty, irregular, and accompanied with some pain. She has had at times a slight leucorrhœa. Occasionally her feet and ankles have swollen, but she has had no urinary troubles. She has had some irregularity of the bowels, and attacks of diarrhœa. Appetite usually good. She works in the American Cigar Factory here. On November 10 she was seized with chilly sensations, pain in the back and loins, and fever. For several days previously she had been feeling unwell. The pains were so severe that she was forced to go to bed. She has had no trouble in passing urine, did not think it was abnormal in color, and she has had no suppression. Bowels regular, appetite lost. The patient was seen at night by the light of a small lamp. She was lying on the right side, and seemed in pain. A fairly well-nourished girl, but markedly anæmic, skin pasty white; eyes puffy; mucous membranes pale; tongue slightly coated; lips fissured; the under lip showed herpes, and several excoriations. Pulse 30 to ¼ regular; low tension; fair volume. Temperature 101.4° F. There were a few râles in the lungs at the bases. A loud systolic murmur was heard all over the left chest in front; loudest at the second left interspace over the pulmonary area. No thrill was felt. The apex beat was inside the nipple line in the fourth interspace. Abdomen negative, except for pains in both loins on deep pressure. There was distinct œdema of both shins, knee-jerks normal. There was no specimen of urine but the signs and symptoms were so suggestive of a nephritis that she was treated as such, and she was told to have a specimen of urine ready at the visit next morning. November 11: This morning there is no fever. The complexion is seen to be sallow, parchment-like. Her anæmia is seen to be profound. A specimen of stool was obtained and the suspicion of uncinariasis was confirmed by finding enormous numbers of eggs. The stool was exactly like that described in Case I. Urine examination showed a clear urine, slight flocculent precipitate acid, sp. gr. 1012, no albumin, no sugar. November 13, temperature 99.4° F., pulse 30 to ¼. The patient is up and says she feels about as usual.

Blood count showed red cells 3,160,000, hæmoglobin 27 per cent. In a stained specimen one sees that the red cells stain faintly; they are irregular in shape and size and show some chromatophilic degeneration. There is a decided increase in both the eosinophiles and small mononuclear cells. Normoblasts are also present. The patient was sent to the Savannah Hospital, where she could be observed and treated better than at home.

November 14: Temperature 99.6–100° F. Thymol was given in divided doses, followed later by castor oil. In the stools large numbers of male and female uncinariæ were found. November 16: Temperature 98.6–99° F. Thymol was again given, followed by castor oil. A number of worms were found in the stools. November 18: Temperature has been normal since last note. Discharged improved. December 20: The patient has gained in flesh and strength. Eggs are still found in the stools. She will be given another course of treatment.

These few cases serve to illustrate the point that I wish to bring out, viz., that in cases of anæmia one should always examine the stools for intestinal parasites. If the case has come from the country, a child or young adult, and gives a history of previous grounditch and attacks of diarrhœa, one is sure to find eggs of the hookworm in the stools. The number of eggs found is, as a rule, in proportion to the severity of the anæmia.

From studies that I have been able to make around Savannah, I am led to the conclusion that (1) The anæmias of the country districts are due in the great majority of cases not to malaria, but to uncinariasis; and (2) that in almost all cases of uncinariasis there have been previous attacks of grounditch. That the connection between these two diseases is a close one seems beyond doubt. The idea was advanced by Looss only two years ago, but evidence is daily accumulating tending to show the intimate relationship between the two conditions. Bentley has found in the water sores of panighao, which evidently is similar to our grounditch, embryos which he identified as those of *Ankylostoma duodenale*. That is very significant, and I believe that when grounditch is carefully studied in the light of our present knowledge, we shall have ample confirmation of his work.

Elsewhere I have expressed the belief that uncinariasis may at times give rise to a fever simulating typhoid or æstivoautumnal malaria. That there is a long-continued fever in the severe grades, three of the foregoing cases show. One shows that an acute exacerbation of a puzzling character may take place. In such cases it is of paramount importance to make an exact diagnosis, otherwise whatever treatment we use only temporarily betters the condition. From the histories and general appearances, cases of uncinariasis may resemble those of pernicious anæmia. The examination of the stools alone settles the diagnosis. The blood conditions in the two diseases may be similar except for the eosinophilia, which always occurs in grave cases of uncinariasis. One condition is easily curable, the other is rarely ever cured.

For a proper interpretation of microscopic blood changes, however, special training is necessary, whereas any one who can see through a magnifying glass can look for and recognize uncinaria eggs under the low power of a microscope. A small piece of stool the size of a pin-head is put on a slide and mixed well with a drop of plain water. On this a coverslip is dropped and the slide then examined with Leitz ocular 3, objective 3. In cases of severe infection one usually focuses immediately on an egg, and one sees at times ten or a dozen eggs in one field of the microscope. The whole procedure takes not longer than a minute, hence no one should ever be too busy to devote that time to making an accurate diagnosis on his patient. This is all the more important when we know that the treatment is so simple and generally so successful. Without the diagnosis no treatment is of any avail that does not attack the cause of the trouble. With our present knowledge we may be morally certain of hook-worm disease from the history and general appearance of the patient, and if there is no means of verifying microscopically our suspicion, we can give specific treatment and tell the patient

to look for small, thread-like worms in his stool, and have him bring a specimen for inspection. The truth is that we must all lay aside our preconceived notions that all anæmias and all sallow complexions can be caused only by malaria, if we have any such ideas, and lay it all to hook-worm infection until we prove any individual case to the contrary after careful stool examination. It is far better that the pendulum should swing completely over, and that we should believe all anæmias to be due to hook-worm infection and none to malaria, than that we should jog along as we have done and yearly sacrifice thousands of lives on the altar of inherent prejudice to new ideas. Let the profession at present look with suspicion on grounditch, preventing it whenever possible, and when present curing it without delay. Let us take the attitude of the Saxons that a man is guilty until he is proved innocent and apply it to grounditch. We may be mistaken in laying so much stress on an antecedent grounditch as the cause of hook-worm disease, but the facts at present at our command warrant us, in the writer's opinion, in believing such an hypothesis.

It is also of interest to note that in high grades of anæmia, from whatever cause—neoplasm, hemorrhage, pernicious anæmia, uncinariasis, malaria, etc.—there may be œdema and even anasarca, and there is in most cases some fever. The fatal termination is at times preceded by delirium, high temperature, and even mono- or hemiplegia.

The treatment of the cases is simple and successful, although in severe cases it is necessary to continue specific treatment at intervals until the stools are free from eggs. One gives an adult castor oil or Epsom salts in the evening. There must be no food whatever given from then until noon of the following day. At 8 A.M. 30 grs., 2 grams, of finely powdered thymol are given either in capsule or with a little water. At 10 A.M. another dose of 30 grs., followed at noon by a large dose of castor oil or salts (℥ I–II). In order to facilitate the action of the thymol some give whiskey or brandy with it, but as the combination has proved on several occasions to possess distinct depressing and toxic actions, it is safer to administer the drug in capsules or with water alone.

Finally, let me urge my fellow-practitioners to be on the watch for cases of anæmia, especially in children and young adults who come from the country. I know that some of you do not agree with me when I lay so little stress on malaria as a cause of anæmia. I ask you to take careful histories, make, when possible, blood and stool examinations, and I feel sure that before you have made many such examinations you will agree with me that it is the hook-worm that causes, and has caused, such suffering to our country people. It is with us in the South a serious economic problem, and we cannot start too early to band together to fight it intelligently.

Percussion of the Pulmonary Apices.—Jundell discusses the possibilities of making errors in doing this, and especially the fact that percussion is very apt to be carried too far to one side or the other. He suggests that in percussing the supraclavicular fossa, a point be selected which lies just above the clavicle and at the outer border of the clavicular portion of the sternomastoid muscle. The finger should be so placed that its volar aspect is directed backward and only very slightly downward and toward the median line. When percussing the fossa supraspinata the same precaution should be taken to place the finger so that the percussion stroke is at right angles to the surface of the lung.—*Zentralblatt fur innere Medizin.*

ACUTE TETANUS CURED BY INTRANEURAL INJECTIONS OF ANTITOXIN.

By JOHN ROGERS, Jr., M.D.,
NEW YORK.

The following case corroborates very strongly the experiments with tetanus in animals which demonstrate the curability of the disease by injections of antitoxin into the motor nerves of the part primarily infected.

J. M., a boy of eleven years, sustained a punctured wound of the sole of the left foot from a rusty nail. This occurred on the afternoon of Monday, April 25, 1904. No attention was paid to the injury, and beyond some soreness no symptoms resulted until seven days later, or Monday, May 2. On arising at 6 A.M. this day he complained of some stiffness about the jaws and neck and was unable to eat breakfast.

He was brought to Gouverneur Hospital at 10 A.M., where examination revealed marked trismus with risus sardonicus and stiffness and rigidity of the muscles of the back of the neck. There was a small punctured wound in the anterior part of the sole of the right foot just to the outer side of the ball of the great toe. Pulse 110. Temperature 99°. He was immediately put to bed and given 20 c.c. of antitoxin subcutaneously and this dose was repeated in the afternoon. At 6 P.M. the rigidity of the neck had extended to all the muscles of the back and the jaws were tightly closed.

May 3. During the night the condition had become worse and the apisthotonus was so marked that he was placed on his back with pillows under the lumbar and shoulder regions to relieve somewhat the strain from the backward extension of the head and legs. At 11 A.M. Dr. Elliot, under whose care the case had been, kindly consented to allow me to try the efficacy of the intraneural injections of antitoxin which had proved so successful in the previous case, and therefore under chloroform anæsthesia, with every antiseptic precaution, the anterior cruræ nerve was exposed just below Poupart's ligament and about ℥ ss of antitoxin injected into its substance. The same procedure was adopted with the great sciatic nerve opposite the gluteal fold posteriorly. A rather fine needle was employed, and while the nerve was held on the index-finger the needle was several times withdrawn and reinserted into the substance of the trunk to insure some wounding of the nerve fibers, as experimentally this seems an essential matter to secure entrance for the antitoxin. The patient was then turned over and the needle introduced into the spinal canal between the laminæ of the second and third lumbar vertebræ. The needle was manipulated back and forth in the spinal canal until its motion produced a twitching of the left leg (the right leg contained the source of infection). This was intended to make at least an abrasion of some of the nerves in the cauda equina, and the twitching was considered evidence of the success of the manœuvre. The escaping cerebrospinal fluid contained no blood. Antitoxin ℥ iss, was then injected into the spinal canal subdurally. The wound in the foot was next laid widely open, a small foreign body, apparently a piece of leather, and a little pus and necrotic tissue scraped out and the raw area swabbed with tincture of iodine and packed with iodoform gauze. A culture made from the wound was reported later by Dr. Letchworth Smith, bacteriologist at the Cornell Medical College, to contain numerous tetanus bacilli. At the conclusion of the operation there was found to be a noticeable relaxation of the rigidity, which persisted until recovery from the effects of the anæsthetic (chloroform). This relaxation occurred with each

subsequent anæsthetization and seemed to me of appreciable benefit. During the night following (of May 3) the condition again grew worse and there were four separate convulsive seizures, each lasting about ten minutes.

May 4. The condition seemed hopeless; the opisthotonus was, if anything, worse than in the previous morning, but there had been no recurrence of the convulsions noted in the early part of the night. Not even water could be given by mouth. The temperature was 103° and the pulse 120. As the outlook could not be made worse, I decided to make one more trial of the antitoxin near the vital centers, and therefore, under chloroform anæsthesia, inserted a rather fine needle with a long point into the spinal canal between the laminæ of the second and third *dorsal* vertebræ. After the needle was felt to pass between the laminæ it was pushed on until it impinged against the bodies of the vertebræ in front. In other words, an attempt was made to puncture the dorsal cord, and though no blood tinge occurred in the escaping cerebrospinal fluid, I cannot see how the cord could have escaped some wounding by the long, fine point. At any rate, ʒ iss of antitoxin was injected while the tip of the needle was felt to touch the posterior surface of the vertebral body. The only reaction noted was marked contraction of the pupils and a slight slowing of the pulse. Opportunity was taken of the anæsthesia to redress and swab with tincture of iodine the wound in the foot.

During the rest of the day and through the night a very remarkable improvement took place.

May 5. In the morning it was found that no convulsions had occurred. The rigidity of the back and legs had largely disappeared and the mouth could be opened about half an inch. The improvement was so great that it forced me carefully to review the previous conditions, and then for the first time I made the humiliating discovery that in injecting the motor nerves of the leg I had entirely overlooked the obturator. The source of infection had probably been entirely eliminated at the first operation and the charge of poison on its way to the cord in the two chief nerves, the sciatic and anterior cruræ, blocked, but the charge in the obturator had been allowed to flow upward and almost produce death. It had been stopped from reaching the vital centers only by the antitoxin injected ahead of it into the upper end of the cord. Whatever the explanation may be, the value of injecting motor nervous tissue and of previously producing a wound of this nervous tissue for the entrance of the antitoxin seems to me abundantly proved by the injection here into the dorsal cord. The condition of the patient was changed within a few hours from one of impending death to one of comparative well-being. And there is the less possibility of exception from this view because of its close analogy with the experimental results previously referred to in the work of Meyer and Ransom.

May 6. The condition of the patient was found on this day to have deteriorated somewhat from that noted during the previous twenty-four hours. It was so excellent on May 5 that no antitoxin had been given, but on May 6 the trismus had returned with some stiffness of the neck and back. Liquids which could be taken freely by mouth yesterday could not now be managed so well and had again to be supplemented by rectal alimentation. A lumbar puncture was therefore performed (under chloroform) and in manipulating the needle to wound the nerves there was produced a considerable flow of blood, perhaps half a drachm mixed with cerebrospinal fluid. But without waiting for it to cease ʒ iss of antitoxin was injected subdurally. The only result noted was contraction of the pupils and slight slowing of the pulse. During the afternoon and evening the patient seemed more comfortable and mouth feeding was resumed.

May 7. The patient seemed perceptibly improved and could separate the teeth about half an inch. The neck and back were still quite rigid, but the extremities were entirely relaxed. As no harm could result, and to forestall any possibility of relapse, another dose of ʒ iss of antitoxin was administered by lumbar puncture. No more was given subsequently.

May 8. Slow, but evident gain. In the past twenty-four hours he has been able to roll about in bed and professed to feel perfectly well if only he could "cheer."

May 9. The improvement continues, though the trismus has not entirely disappeared, and did not until May 13. During the afternoon an extensive erythema began to appear on the abdomen and legs. On the following day this had spread to involve the whole trunk and had almost the appearance of purpura hæmorrhagica. But the pulse and temperature continued low, and on May 13 the rash had entirely disappeared as well as all the symptoms of tetanus. The wound over the anterior crural nerve had failed to unite and became infected. The wound in the sole of the foot was of course granulating and open. The wound over the sciatic had healed. He was eating regular house diet, and on May 18 he was out of bed and pronounced cured.

To my mind the progress of this case has demonstrated without a shadow of doubt the efficacy in tetanus of injections of antitoxin into the substance of the motor nerves of the part of the body primarily infected and into the spinal cord. From the wonderful and rapid change for the better noted after injecting the antitoxin into the dorsal cord on May 4 it might be argued that the motor nerves could be neglected, but in view of the experiments by Meyer and Ransom this would seem unsafe. The exposure of the nerves in the axilla or high up in the thigh is simple, and adds nothing to the gravity of the situation, and in the two cases I have reported really seemed very advantageous. My inexcusable neglect to inoculate the obturator nerve in this second case I am convinced led to the increase of symptoms on May 4. That they were checked by injecting the dorsal cord only goes to show the necessity of producing a wound of nervous tissue to secure entrance for the antitoxin. This, by the way, is evidently the crux of the whole problem and seems a beautiful confirmation of a physiological fact, or perhaps theory, which is as remarkable as it is unique, namely, the complete isolation of at least some nerve cells from the circulating blood. The tetanus toxin and the antitoxin can only reach these nerve cells through nervous tissue, and normally this course begins with the terminal filaments of the axis cylinders.

102 East Thirtieth Street.

Erysipelas and Nephritis.—Nyrop gives the histories of two cases in which intercurrent erysipelas appeared to cure or improve an already existing nephritis. The first, already described by Langeballe, is that of a young woman suffering from a severe acute nephritis which cleared up entirely in the course of a moderately severe general erysipelas. In the other case the albumin and casts did not entirely disappear but marked and permanent improvement followed.—*Zentralblatt fur innere Medizin*, No. 15, 1904.

THE NON-SIGNIFICANCE OF CLINICAL SYMPTOMS IN DETERMINING THE PATHOLOGICAL CONDITIONS OF APPENDICITIS.*

By A. P. STONER, M.D.,
DES MOINES, IOWA.

That the millenium in which the clinical diagnosis of the pathological conditions of the inflamed appendix is not attained, is evidenced by the experience of some of our most noted clinicians and operators. As one's experience grows with the diseased appendix, the less inclined we are to make positive assertions as to the conditions that will be met on the operating table. After having operated upon over two thousand cases, Murphy is quoted by Knott ("Transactions Iowa Medical Society," Vol. XX) as saying that "he did not pretend to know anything more of the pathology of a given case than that the patient had an inflamed appendix which should be immediately removed." Now and then we meet a case in which it is indeed impossible to say whether or not the patient has even "an inflamed appendix." In the early stages of appendicitis the pains are diversified over the whole abdomen, or may be confined to the gastric region. These phenomena are explained by the fact that the superior mesenteric plexus which supplies the appendix also sends filaments to the intestines. In some instances in which a low grade of inflammation of the organ exists, the pains never become localized around the appendix, but during each attack or exacerbation of the disease, pain may constantly be observed in the gastric region.

Case I is an illustration of this type. Michael S., professional gambler, age forty-six; no specific history. Formerly drank to excess. His infatuation for cards was such that at times he would go without his meals for from twelve to twenty-four hours, after which he would grossly overindulge in food and drink. The trouble for which he sought relief began about six years ago in periodic spells of violent pains and vomiting.

The attacks would readily pass away under proper treatment and leave no apparent trace of the disorder. He was under my observation about one and one-half years before the operation. Usually appearing after a debauch in diet, the attacks would invariably continue until relieved by opiates. When the stomach was emptied, purging would ensue. I often found him on the closet stool with a vessel between his feet, purging and vomiting at the same time, ejecting by these efforts only a little mucus or liquids. The accompanying pains could be compared only with the tortures of childbirth. Indeed I have seldom witnessed such agony from any cause. Although at this time he was not an habitué, it required from one-half to three-fourths grain morphine to alleviate his suffering. The attacks came on at varying intervals of from three weeks to three months, and would last under proper treatment from two to six days. Rectal feeding usually had to be resorted to. After the attack he would be apparently well again and could eat all sorts of food. No pains or inconveniences were experienced between attacks. The matter vomited was analyzed on several occasions and usually showed deficiency in hydrochloric acid, and the presence of lactic acid. At no time, even during the attack, was there any pyrexia. Pressure over McBurney's point could arouse no suspicion of a diseased appendix. The immediate region of the gall-bladder was apparently normal. Jaundice was never present. Even during the attack the abdomen was always flat, yet no information could be obtained from palpation, etc. The attacks became so frequent and were of such severity that the patient became reduced to a mere skeleton before finally submitting to operation. He had now become a confirmed morphine fiend, using from .5 gr. to 1.5 grs. daily. He entered Mercy Hospital August 15, 1903, and was placed upon nutrient enemas. Following this he was cautiously fed by the stomach. It was not, however, until September 19 that his condition was such as to permit of abdominal section. Under ether anæsthesia I opened the abdomen, beginning at the costal arch and extending downward three or four inches along the outer margin of the rectus muscle. I rather expected to encounter a diseased gall-bladder. This region, however, was apparently normal, as was also the stomach and pancreas. Strangely, the stomach presented no evidences of the abuse to which it had so long been subjected. The incision was extended downward to the appendix, which was found to be slightly enlarged and injected, and thoroughly adherent to the posterior border of the cæcum. After the removal of the appendix, the wound was closed by two rows of continuous catgut, and interrupted skin sutures of silk-worm gut. The belly being scaphoid, some difficulty was experienced in bringing the walls of the abdomen together. During convalescence the patient proved to be extremely incorrigible, and the day following the operation was found sitting up in the bed. Subsequently he was chastised a number of times for the same offense. The stitches were removed on the seventh day, and the second night following the nurse found him out of bed sitting upon the commode in an effort to evacuate the bowels. My attention next day was directed to blood upon the dressings, and upon removing them, the ghastly spectacle of the abdominal contents met my gaze. The wound—a seven-inch incision—had been torn open from one end to the other. He was again prepared for operation, and taken to the operating room. It required considerable dexterity and patience to coapt and hold the edges of the wound together. The tissues had become softened and the sutures easily cut through. However, by the aid of through-and-through sutures of silk-worm gut, which were tied as the continuous sutures of catgut drew together the fascia and peritoneum; the wound was thus finally coapted. The wound healed a second time by primary union. The stitches were allowed to remain two weeks, and he was kept in bed an additional fortnight. It is now four months since the operation and the patient has gained 40 pounds and feels perfectly well. He still uses morphine, however. Although a number of surgeons examined this patient with me, at no time did any of us seriously suspect that the appendix was creating the disturbance.

Case II.—The following case, upon which I operated a few weeks after the one just related, illustrates, on the other hand, the paucity of symptoms sometimes observed in the most virulent types of the disease. Mr. S. B. L., age twenty-seven, was sent me by Dr. Swartslander of Huxley, Iowa. On Friday, October 31, he experienced pains in the abdomen, and drove to town to see his doctor. The doctor found him suffering from appendicitis, and advised him to return home and go to bed. On the following Sunday some tympanites developed, and the doctor was called. A saline purge was administered and the symptoms rapidly cleared away. Tuesday he was taken five

*Specimens presented and cases discussed before the Des Moines Pathological Society, March 29, 1903.

miles to the railway station in a carriage and brought to Mercy Hospital in this city, a distance of forty miles by rail. Examination revealed an induration over McBurney's point, slightly tender upon pressure. Otherwise his condition was apparently normal. Indeed, the patient stated that at no time would he have gone to bed had not his physician and friends urged him to do so. However, he was anxious to have his appendix removed, and on the following Friday, November 6, exactly seven days from the beginning of his first and only attack, the operation was undertaken. Upon opening the abdomen, the region of the appendix presented an apparently inextricable mass of adhesions. A large mass of partly disorganized omentum, the thickness of one's hand, was finally released, and after being tied off was completely removed. In searching further for the appendix, much more semi-gangrenous tissue was encountered and cleared away. Presently I came upon a pocket containing a mass, the size of a filbert, of semi-solid fecal matter. It seemed to have been extruded directly from the cæcum, which organ was very much thickened and scarcely distinguishable from the mass of adhesions in which it was embedded. After having removed the fecal mass, and while still laboring under the impression that the cæcum had been opened, I attempted to close up the vent, but the sutures cut through the softened tissues, and the stitches were of no avail. What was thought to be the base of the appendix now became visible, but it was not possible to extricate the appendix, so thoroughly was it embedded in the exudate. The opening being guarded by gauze, a longitudinal incision was made along the visible portion of the appendix. The incision included the peritoneal and muscular coats. The mucous lining was then grasped with forceps, and while traction was being made, the incision was prolonged until the other end was reached; which was found to be the base and to occupy the posterior border of the cæcum. The supposed rupture of the cæcum proved to be a perforation in the distal end of the appendix. The core of the appendix having been freed, it was ligated and the stump cauterized and covered with peritoneum. The wound was closed without drainage. Nothing whatever marred the recovery until the seventeenth day after the operation, when thrombosis of the right femoral and saphenous veins developed. The temperature rose to 101° F., the pulse became accelerated, and much pain was experienced. This annoyance continued until November 27, when the patient was again permitted to be out of bed. He left the hospital November 31. To my mind it is almost a mystery how the insignificantly inflamed appendix in Case I could have been responsible for the profound symptoms manifested. It is none the less mysterious how one could be up and about doing farm-work with such a condition as was revealed in Case II. The deduction to be drawn from Case I is that a slightly diseased appendix may be responsible for a variety of symptoms that may be attributable to other organs. Case II furnishes additional proof that no case, however apparently mild, should be entrusted to nature or drugs.

Large Doses of Carbolic Acid in the Treatment of Plague.—Dr. J. C. Thomson gives particulars of 141 cases of plague treated with large doses of carbolic acid. One hundred and forty-four grains were given daily, divided into two-hourly doses of 12 grains each. The mortality among those so treated was only 36.4 per cent.—*Journal of Tropical Medicine.*

HYGIENE IN GYNECOLOGY.*

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In all branches of medicine hygiene is considered the most important factor in combating the source of disease, and so it is primarily in gynecology. Secondarily, hygienic treatment is the most valuable therapeutic agent in wrestling with women's troubles.

Therefore, to oust the gynecologist from his present status as curative agent we must primarily prevent women's diseases by attention to women's hygiene.

Starting from the very beginning the connubial bliss enters our consideration. Marriage between minors, between people, one of which is syphilitic, between near kin, between people who are by nature of their poverty unable to rear their young, ought to be prevented, if possible. For part of their offspring would naturally only appear as natural weaklings, always complaining of very natural woes, while the other would be forced by circumstances to enter the race of life before they are physically able, and thereby show themselves as physical wrecks in our general clinics.

The influence which crowded quarters with their inherent absence of cleanliness and morals have upon the female child are well recognized. The consequence of bad morale is well known. The habits of the young girl deteriorate, and moral turpitude may be traced directly to the surroundings. Not only does the poor young female child suffer from want of care of the mind in her morally corrupt atmosphere, but her body is not properly cleansed; her clothes are insufficient; her food is not well up to the standard in calorics, and last, but not least, by the attitude of her poor parents she is prevented from attending school "whenever that may be," to cure an insufficient degree of ignorance which will be propagated on the next generation. Their interest will lie in making the little girl a self-supporting wage-earner at as early a date as the lax law will permit. Bent over the shuttle, or bending over other work like sewing, sewing in a sweat-shop, or working in crowded factories for abnormal hours, the little girl lays the foundation of future sickness.

Still wealthier parents' girls are hardly any better off. The bottle cannot equal a mother's nourishment and care. Children's balls are not conducive to a better standard of womanhood. A fashionable school will not help to raise the morale or the physique of a fashionable girl.

Thus, in trying to avoid, or make other people avoid any of the previous delicto of hygiene we stand as gynecologists on the point where we ought to stand regarding the prevention of women's troubles by hygiene.

Now, supposing that we get in contact with a patient suffering from some female trouble, let us remember the great axiom "*Mens sana in corpore sano,*" and as a corollary: *Nullus uterus* (+ *adnexa*) *nisi sanus in corpore sano.* Ergo *Mens sana* = *Uterus sanus, i.e.* a healthy body contains a healthy mind, and a healthy uterus (and adnexa).

To the greatest extent our patients suffer from subjective symptoms—they complain of pain, and consequently their nervous system is affected. They must be treated in a surgical way if necessary, or by medical therapeutics, either by medicinal agents or by hygiene.

*Paper read at a meeting of the New York Obstetrical Society.

The first thing for us gynecologists is to make a thorough and complete diagnosis. By exclusion, by objective examination, the cause of our patients' trouble ought to be established, should such require surgical interference—for example, for tumors benign or malignant, pus collections, repair of lacerations, removal of degenerated mucous membrane, dilatation, dislocation—in fact, anything that would objectively show a degenerated organ or interference with normal functions—well and good, let our proper surgical demanded work precede all other curative measures, always keeping in mind that this is done for a subjective painful symptom for which the patient is likely to consult us, and which we are trying to relieve.

But these are not surgical procedures but makeshifts, if we remove organs not unhealthy, diagnosed because patients complain of pain in their respective regions.

We are past the period of clitoridectomy, past the period of oophorectomy and salpingectomy, past even the period of nephropexy, and last, but not least, indifferent curettage for subjective symptoms only. I say, we are, I mean the Eastern gynecologists, and the people in the West, South, or North who are abreast of the profession.

Only lately I came across a female wreck, who had been carved by a St. Louis artist, and after four operations had both her kidneys anchored, appendix, uterus, and adnexa removed, and who begged pitifully for the relief of pain for which she originally consulted her physician. All operations make a strong impression on the woman's mind, relieve her of her complaint, but only for a certain time.

Massage of the uterus and adnexa so grandly introduced have failed, except in certain selected cases. The rest cure has only lately fallen asleep. Hypnotism and suggestion, Christian Science, and hydrotherapy, and Kneippism are looked on through different spectacles from formerly. Nowadays each up-to-date gynecologist tries the newest fad, *i.e.* electricity in one or the other forms. But if the nerve specialists acknowledge that this therapeutic agent will only act curatively in 25 per cent. of their cases while 75 per cent. are benefited only by the sensations, what is there in gynecology to permit the indiscriminate application with a view of curing the disease? We may relieve symptoms but not cure the cause. Let us now consider the local treatment of uterine affections. Deviations of the uterus which produce painful symptoms or may be the cause of sterility will, of course, be benefited by restoring the organ to its original position.

As we know that almost a majority of copulating women's troubles are the result of the gonococcus, God bless our confrère Noeggerath for his invention, and Lawson Tait for his original technique—the local effort of stamping out the cause will be of the highest importance. Hot or cold douches for inflammatory troubles plus glycerin tampons cannot be dispensed with. Whether paintings with one or the other agent for plain endometritis are of any but impressionable advantage, I have my serious doubts.

Medicinal agents are good either as a placebo or as aperients or ferruginous compounds, as most of our patients are subject to anæmia and constipation. Ergot has prevented many a fibroid operation, but of all others, practically, I have my doubts.

Knowing that all aches and pains (and it is primarily the object of finding relief from those that the gynecologist is consulted) are the result of sensitiveness, and as sensations are relative and a subjective symptom which cannot be appreciated objectively by any other person, and knowing that otherwise healthy women are least sensitive comparatively, therefore, a course of general treatment can only conduce to the health of the individual—that is, in our case to the female patient. This general treatment is called hygeine. Any and all women will be benefited, and some will be restored to health and happiness.

Being consulted by a patient, and having heard her complaint, which practically will consist of pains in the back or abdomen, leucorrhœa, etc., after having carefully excluded heart, kidney, lung trouble, etc.; after having carefully excluded a diseased or misplaced genital organ which might need surgical or local treatment, it behooves us to inquire carefully into the marital relations, the mode and frequency of coition, the means taken to prevent conception, and remedy whatever is possible in this direction. To go into details would be an insult to your intellect.

The house surroundings and mode of living ought next to be studied; whether the patient is kept too warm, or too cold, whether the fresh air supply is sufficient (open windows, ventilators, heating apparatus, etc.); what an amount of care she takes in the household management, or what work she performs, what food she partakes of or craves for, the hours of meals, the recreations—reading, for example, the theater, balls, parties, or athletic exercises, etc., what stimulants she partakes of, or what narcotics (alcohol, coffee, tea, tobacco, morphine, chloral, bromine, etc.), and in what quantities. The care of the skin and teeth is next in order, and last, but not least, her mode of dressing: shoes, heels, corset, underwear. That her stools ought to be attended to is self-understood; also the general care of the period of menstruation; ditto the support of a pendulous abdomen.

Once more I only need mention these points to remind you of their importance.

There is but one point more to which I would call your attention. Physical exercise is usually overdone, unless carefully prescribed and superintended. Six-ounce dumb bells are better than two-pound ones. A walk of half a mile is better than one of several miles if it tires the patient.

It is with this graduated and superintended hygiene that the well-known watering-places in Europe obtain their stupendous results. In the treatment of females: Absence from home influences and the husband; fresh air, baths, and spongings carefully administered; carefully prescribed exercises, attention to diet and digestion, early hours—all these hygienic measures do more toward curing a patient of her symptoms than long continued local or symptomatic treatment indiscriminately employed.

45 Irving Place.

Typhoid Fever and Its Treatment.—B. A. Bobb present the following conclusions: (1) Typhoid fever is self-limiting disease which can often be modified and shortened in its course, and often aborted if treatment is instituted early in the course of the disease. (2) Where early eliminative, antiseptic and hydro-therapeutic treatment is instituted there is not the dry tongue after the first few days. The tympanites is absent or nearly so, and there is not the exhaustive diarrhœa. (3) The temperature is easily controlled by sponge baths. (4) There are cases wherein complications develop that will call for a most careful study of the case in question. (5) It is the duty of every physician who has cases of typhoid fever in charge to use every prophylactic measure to prevent those who have the care of patients thus afflicted from contracting the disease.—*The Medical Herald*, March, 1904.

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COLLEGIATE TRAINING OF WOMEN.

THERE has arisen among civilized women within the past few years a great desire to compete with men in whatever callings of life are open to both sexes. This new departure on the part of women has been especially noticeable in the United States. In order to qualify themselves to meet men on anything like equal terms in the battle of life, women have recognized the fact that they must, as far as is possible, be well equipped for the fray. Consequently female colleges have sprung up like mushrooms in all parts of this country. To a lesser extent this statement is true also of Great Britain. As to the wisdom of this course opinions are greatly divided, but the weight of evidence would seem to show that women in encroaching upon fields which have hitherto been occupied solely by men, on the whole, have been ill-advised. Of course, it is well understood that some women must go out of their own groove of work and earn their livings outside their homes. It is, however, a grave question as to whether this tendency has not been carried to excess, and whether the race has not suffered, at any rate in America, through women deserting their domestic duties for a life which is contrary at least to the traditions of their sex.

Is a collegiate training harmful to women? The majority of medical men are of the opinion that such is generally the case—at all events, that co-education is harmful to women—and hold the view that women are not fitted physically for the strain put upon them by strenuous professional or business careers.

In the *Edinburgh Medical Journal* for May, 1904, Dr. T. Claye Shaw deals with this matter from his own point of view, which it may be asserted is probably the point of view of nine-tenths of the medical profession. The writer points out that those best able to judge of the evils of college training for women are medical men attached to such institutions, and their experience is to the effect that stress of competition presses in too indiscriminate a way upon the young women who are brought together and educated in very large numbers. In the opinion of Dr. Shaw, the forcing system in vogue in colleges both for men and women at the present time is good neither for the quick-witted nor for the moderate or dull girls. The former, indeed, perhaps suffer the most, for their readiness at work and the pressure that is put upon them to accomplish an end at all risk, though at times compassed with impunity, often ends in disaster and evil after-consequences. The writer also thinks that the results of these distressing efforts to compete with man on his own ground are decidedly barren. A few succeed in their university curriculum, and may be said to have found their true metier, but, in the words of Dr. Shaw, "It does seem as if the altruistic and sympathetic side of the woman's character is destroyed by the process of the new education, which substitutes a cold formalism for the warm spontaneity which dominates the majority of the sex."

If women desire a university education they should be separated from men in their work, as in addition to the competition in intellectual pursuits the entire trend of co-education is toward the elevation of the purely intellectual, and the disregard of the emotional side of the character, thereby unfitting the woman for her natural vocation, that of motherhood and of caring for her children and home. While a few women succeed in competing with men on the same plane of mental endeavor the majority are more or less failures, their training on the lines of co-education, not having benefited them a jot, indeed rather the reverse.

Dr. G. Stanley Hall, the eminent American psychologist, has recently published a work on "Adolescence," a part of which treats of its relations to education. In a consideration of adolescent girls, and their education from a medical standpoint, the author quotes largely the opinions of medical men on the subject, some of which will be noticed here. Dr. Storer urged that girls should be educated far more in body and less in mind, and thought delicate girls frequently ruined in both body and mind by school. Dr. Clarke, in 1873, wrote a book in which he pleaded that woman's periods must be more respected. This work appeared at the height of the movement to secure collegiate opportunities for girls, and was suspected of being unofficially inspired by the unwillingness of Harvard University to receive them. It reached a seventeenth edition in a short time, but the views expressed therein were warmly combated by a number of ladies distinguished in the movement for the higher education of women. Clouston has, in various articles and books, expressed himself in very trenchant terms. In the United States, Clouston thinks that most families have more or less nervous taint or disease; that heredity is weak because woman has lost her cue, although nature is benign and always tends to a cure if we have not gone too far astray, but, he adds, "There is no time or place of organic repentance provided by nature for sins of the school master. A man can work if he is one-sided or defective, but not so a woman. "If she be not more or less finished and happy at twenty-five, she will never be." Parents want children to work in order to tone down their animal spirits, and it almost seems to Clouston as if the devil invented school for spite.

Dr. S. Weir Mitchell has so often given out his views on the question, that they are well-known. Woman, he holds, is physiologically other than man and no education can change her. Grant Allen said: "In any ideal community the greatest possible number of women must be devoted to maternity and marriage, and support by men must be assumed and not female celibacy. The accidental and exceptional must not be the rule or goal. This is only a *pis aller*. It is not so much the unmarried minority that need attention as the mothers. We must not abet woman as a sex in rebelling against ma-

ternity, quarrelling with the moon, or sacrificing wifehood to maidenhood."

Le Bon pleaded that the education we now give to girls consists of instruction that fits brains otherwise constructed, prevents womanly instincts, falsifies the spirit and judgment, enfeebles the constitution, confuses their moods concerning their duties and their happiness, and generally disequilibriates them. Sir James Crichton Browne holds that differences between sexes are involved in every organ and tissue, and deprecates the present relentless zeal of intersexual competition, concerning the results of which it is apalling to speculate from a medical point of view. When the University of St. Andrews opened its theological department to women, it was not a retrograde movement, because our ancestors did no such thing, but a downhill step fraught with confusion and disaster. He quotes with approval Huxley's phrase that "what has been decided among prehistoric protozoa cannot be annulled by act of Parliament." Prof. A. W. Small thinks that to train women to compete with men is like poison administered as a medicine, the evils being quite as bad as the disease.

So far as co-education is concerned, Dr. Stanley Hall thinks that while the system is not so harmful in college and still less harmful in university grades after the maturity which comes at eighteen or twenty has been achieved, it is high time to ask ourselves whether the theory and practice of identical co-education, especially in the high school, which has lately been carried to a greater extreme in this country than the rest of the world recognizes, has not brought certain grave dangers, and whether it does not interfere with the natural differentiations seen everywhere else.

The consensus of expert opinion is against the higher education of women carried to extremes, and particularly adverse to co-education. The weightiest argument against too much mental stimulus for women, is the fact that educated women, and especially highly educated women, are less fecund than their more ignorant sisters. Herbert Spencer was authority for the statement that "absolute or relative infertility is generally produced in women by mental labor carried to excess." According to Dr. Hall, this has probably been nowhere better illustrated than by college graduates. He says "Excessive intellectualism insidiously instils the same aversion to 'brute maternity' as does luxury, overindulgence, or excessive devotion to society. Just as a man must fight the battles of competition, and be ready to lay down his life for his country, so woman needs a heroism of her own to face the pain, danger, and work of bearing and rearing children, and whatever lowers the tone of her body, nerves, or morale so that she seeks to escape this function, merits the same kind of opprobrium which society metes out to the exempts who cannot or who will not fight to save their country in time of need."

The ordinary woman's true place is her home, and by far her most important duty to the race and to the State is the bearing and bringing up of children. Her educational training should at least not unfit her for the proper performance of this essential service. It is claimed, and undoubtedly with much truth, that the modern system of education does tend in this direction. Consequently, the system should be altered. If by a continuance of the present methods of educating women, the birth rate of those countries in which such methods are practised will inevitably decrease, it can be clearly understood that the game is not worth the candle.

DIAGNOSIS OF TOPHI IN THE EAR.

The differential diagnostic characters of tophi in the ears is discussed by Dr. Wilhelm Ebstein in a recent number of the *Deutsches Archiv fur klinische Medizin*. Strangely enough, there seems, the author tells us, to be no very accurate description of tophi in the books. The question is then under what circumstances one is justified in considering a nodule in the ear as referable to the group of tophi, and therefore proof of the existence of gout. The best description is that given by Garrod, who says tophi are sometimes single, sometimes numerous, sometimes smaller than a pin head, sometimes larger than a split pea. They generally have the appearance of pearls, and usually lie on the borders of the helix. As regards consistency they are sometimes hard and sandy, but frequently soft and yield a milky juice on puncture. Since Garrod's time little in the way of description of them seems to have been attempted. As to their significance, they are regarded as the exclusive property of the gouty. Thus Duckworth has found them in one-third of his cases (forty-nine out of 150), and as their appearance frequently precedes the arthritic manifestations of gout, their presence has acquired a diagnostic value that can hardly be overestimated.

In the course of the preceding year Ebstein has seen, in three cases, formations in the ears which resemble in many ways, and therefore require differentiation from the true gouty tophi, from which they are separated by the following characters: First, their seat is neither in the cuticle, nor in the subcutaneous connective tissue, but in the cartilaginous tissue itself; and, secondly, no uratic contents can be obtained from them. The first of the cases was that of a man, with gradually increasing joint pains, and old tuberculous lesions at the apices, who presented on the antihelix sharply bounded, hemispherical elevations, 4 mm. in diameter, with a hard feel, which yielded on puncture no fluid, the tumor being solid. The left knee-joint was 3 centimeters larger in circumference than the right, and the patellar bursa contained fluid which was drawn three times but never contained uric acid or urates. The second case, a man of thirty-two, developed the tophi-like bodies while under intermittent obervations extending over years. The helix and antihelix, tragus and antitragus, exhibited a series of prominences which, on puncture, yielded fluid not containing uric acid or urates. The mother was under treatment for chronic gouty arthritis. The third case was one of typical uratic gout, without typical tophi anywhere; prominences of cartilaginous consistence were present in the ear cartilage itself.

These observations, though few in number, nevertheless yielded a viewpoint that deserves attention. Grouped, the observations yield the result that rheumatic, and goutily-burdened individuals, tophi-like nodules may be present in the ears which do not correspond to the gouty deposits frequently occurring there, not being like the ordinary tophi, seated in the subcutaneous tissue, but lying in the cartilages

themselves. They appear to be generally of firm consistence, not deviating from that of the cartilage. Whether they bear a relation, and if so what relation, to rheumatism and gout, is an open question. This much, however, may at least be said, that in no case should one make a diagnosis of tophi, and therefrom of the presence of gout, unless he obtains uratic contents from the ear tumors.

MEMORIAL TO THE LATE MAYOR WALTER REED.

It is proposed to erect in the city of Washington, a suitable memorial to Walter Reed, Surgeon U. S. Army. For this purpose the Walter Reed Memorial Association has been formed and has further been incorporated under the general laws of the District of Columbia, to give unity to the various proposals which have been made for the securing of a Memorial Fund. The officers of the association are: *President*, D. C. Gilman, LL.D., *Vice-President*, General G. M. Sternberg, LL.D; *Treasurer*, Mr. Charles J. Bell; *Secretary*, General C. DeWill, U. S. A. The executive committee is composed of the following: Major I. R. Kean, Surgeon, U. S. A.; Major W. D. McCaw, Surgeon, U. S. A.; and Dr. A. F. U. King.

There are many and obvious reasons why the late Major Reed's memory should be perpetuated by the building of an appropriate monument. One reason is that physicians, whose benefits to the human race have been, perhaps, greater than those of any other profession, have been less often honored during life or after death than members of any other profession. Again, medical men of the United States have not been greatly distinguished in original scientific research, so that when an American surgeon has made a discovery such inestimable importance as the cause of yellow fever, it is fitting that the discoverer should receive every possible recognition.

Although Dr. Carlos Finlay of Havana, several years ago, had advanced the theory that a mosquito conveyed the yellow fever to man, he did not succeed in demonstrating the truth of his theory. It remained for Major Reed to prove fully by laboratory and practical experiments that such was indeed the case. The principal conclusions of the board of investigators, of which Reed was the leading spirit, were: (1) The specific agent in the causation of yellow fever exists in the blood of a patient for the first three days of his attack, after which time he ceased to be a menace to the health of others. (2) A mosquito of a single species, stegomyia fasciata, ingesting the blood of a patient during this infective period is powerless to convey the disease to another person by its bite until about twelve days have elapsed, but can do so thereafter for an indefinite period, probably during the remainder of its life. (3) The disease cannot in nature be spread in any other way than by the bite of the previously infected stegomyia articles used and soiled by patients who do not carry infection.

The application of methods suggested by these conclusions resulted in the virtual extirpation of the yellow fever in Havana, and like means may be relied upon to have correspondingly efficacious effects in localities in which yellow fever is rife.

It may be anticipated that it is but a matter of time when yellow fever will be known no more. That the discovery made by Reed is one of the first importance, must be clear to all. He was assuredly a benefactor to mankind at large, and as such his memory should be kept green. The medical profession throughout the country, military and civil alike, should haste to do honor to the name of Reed.

WORK OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

The annual report of the Surgeon-General, recently issued, gives the doings of the Marine-hospital Service for the fiscal year 1903. A part of the report is devoted to the sanatorium for consumptives established by the service at Fort Stanton, New Mex. Two hundred and seventy-four patients have been treated at the sanatorium during the year, an excess of 62 over the previous year. There were 12 discharged, recovered; 54 discharged, improved; 10 discharged, not improved; 150 remained under treatment during the year. The treatment has been, on the whole, attended with very beneficial results, but as Surgeon P. M. Carrington, the surgeon in charge, remarks, patients leave too soon. He thinks that greater control should be exerted over the patients in this respect. It is therefore suggested that Congress be asked to pass a law which will enable the service to enlist these patients for, say, a period of one year, or to make other written agreement with them, with appropriate penalty for breach of contract on the part of the patient, granting authority to the commanding officer to arrest or otherwise restrain those desiring to leave without his consent prior to the termination of their enlistment or contract.

Regarding the plague, the report states that cases of this disease have continued to appear in the Chinese district of San Francisco, thirty-eight cases being reported during the fiscal year. The aid afforded the municipal authorities has been continued, and this joint work has no doubt served to confine the disease to its original limits. No case of yellow fever was reported in the United States during the fiscal year 1903, while Cuba has continued to be free from the disease.

During the fiscal year 857,046 immigrants were inspected by the officers of the service as to their physical fitness for admission, as prescribed by the immigration laws. One officer has been stationed at Naples, and another at Quebec, in the interest of the medical-inspection service. Examinations are conducted at thirty-two ports in the United States, and on account of the large number of immigrants entering at New York, Boston, Baltimore, Philadelphia, New Orleans, and San Francisco medical officers have been assigned to duty at these ports exclusively for the examination of arriving aliens.

At the close of the fiscal year the commissioned corps of the service consisted of 109 officers, as follows: The surgeon-general, 6 assistant surgeons-generals, 24 surgeons, 27 passed assistant surgeons, and 51 assistant surgeons. At the close of the fiscal year there were 179 acting assistant surgeons, including seven appointed for duty at fruit ports of Central America whose service will be terminated at the close of the quarantine season. During the fiscal year the scope of the hygienic laboratory has been increased with the additional features contemplated by the act of July 1, 1902. The Division of Zoology has been organized and the organization of the Division of Pharmacology is in progress. The Division of Chemistry will be organized at a later date. The work of the laboratory has been along lines pertaining to public health, examination of water supplies, a study of the action of various disinfectants and germicidal agents, the investigation of diseases and conditions of sanitary and economic importance.

Among the contributed articles in the report is an

excellent one by Passed Assistant Surgeon J. C. Perry on the epidemic of cholera in the Philippine Islands during 1902.

The Localization of Tabetic Lesions.

In the Paris letter of the *Albany Medical Annals*, for May, 1904, reference is made to Pierre Marie's article in the *Revue Neurologique* on this subject. Marie's article is probably the best exposition of the matter that has ever been given. The Paris school of neurology has made immense studies of late, and our knowledge of nervous pathology has been greatly increased by the laboratory work of men like Brissaud, Marie, Babinski, and others. The meeting of the "Société' Neurologique" on the first Thursday of every month is an event in scientific circles, for no meeting passes by without papers of the highest interest being read and earnestly discussed.

Marie, in his paper on "The Localization of Tabetic Lesions," proposed to explain this localization, by bringing into play the lymphatic distribution of the spinal meninges. He has noticed that in early tabes, the topography of the patches of sclerosis does not always coincide with the intramedullary course of the posterior nerve-roots, and therefore thought that this relationship was more apparent than real. For him the sclerosis of the posterior columns is not the extension of the process observed in the posterior nerve-roots, but is dependent upon, and limited by, the lymphatic supply. From the investigations of several observers and by laboratory experiments made by Marie himself and others, it is evident that the posterior columns, their meninges, and the posterior nerve-roots have a special lymphatic system, the "posterior lymphatic system," constituting in itself an anatomic entity, Marie consequently believes that the lesions of locomotor ataxia can be best explained by admitting that the morbid process is one of lymphatic origin and distribution. Marie ends his paper by saying that "The initial lesion of locomotor ataxia is a syphilitic lesion of the posterior spinal lymphatic system."

The primary cause of tabetic lesions has ever been of the greatest interest to the neurologist. Recently a certain amount of doubt has been cast upon the widely held belief that to syphilis must be attributed the origin of locomotor ataxia. The conclusions therefore of so eminent a student of nervous pathology as Marie cannot but carry much weight.

Military Sanitation in the Japanese Army.

The Japanese have afforded to a somewhat wondering world an excellent object lesson on the value of military organization and preparation for war. So well have they imitated and assimilated Western methods and ideas, that probably no European army is superior while more than one is inferior to that of Japan as regards equipment and organization. This is the case, too, with sanitary and medical affairs. The first evidence of the State of high efficiency to which the Japanese had brought their military medical organization was in the war with China in 1894. In the *Journal of the Association of Military Surgeons of the United States* for June, Lieutenant-Colonel John Van Rensselaer Hoff, Deputy Surgeon-General, U. S. A., calls attention to this almost forgotten fact. The writer quoted from writings of the present Director General of the British Royal Army Medical Corps, who was at the time of the Chino-Japanese war at the scene of conflict. The then Colonel Taylor says in part: "At Port Arthur there were opportunities of seeing how every part of the medical machine worked. . . . Lives were saved on the spot where the men fell, by the prompt application of tourniquet and even large arteries were ligatured under heavy fire. . . . The wounded were removed from the field without any delay just as quickly and quietly as they always were on the bi-weekly parades of the bearer columns in time of peace. If regiments were engaged far ahead, the regimental bearers did the work until the bearer companies came up, when they again took their places in the ranks. There was no loss of time, the medical men were everywhere."

So little news of the war has been allowed to leak out by the Japanese authorities that only the main facts are known. However, it may be taken for granted that the Japanese Military Medical Department has upheld the reputation it gained for itself in the war with China, and has successfully vied with the army in fulfilling its duties. There is no doubt that if the war with Russia is long protracted that there will be an immense amount of disease with which to deal. When the rainy season sets in, considering the insanitary state of the towns in Manchuria, typhoid fever will become rife, and it is not unlikely that plague and beriberi may attack the troops. Beriberi is a disease to which the Japanese are susceptible, and plague is a malady more prevalent in China than in any other country. The work before the medical organizations of both Russian and Japanese armies bids fair to tax their respective capabilities to the utmost, but, judging from the accounts of the Japanese Military medical service, it should, at least, be relied upon to cope with any situation presenting itself with credit.

News of the Week.

Medical Congress at St. Louis.—The plan and purpose of the Medical Department of the Congress of Arts and Science at St. Louis deviate so far from traditional lines that some explanation may be necessary to show how it should interest the medical profession. It is primarily a congress of scholars rather than of specialists. It is divided into twenty-four departments, one of the strongest of which is medicine. The Department of Medicine is divided into twelve sections, embracing the principal fields covered by the subject. These do not include Embryology, Anatomy, Physiology, or Bacteriology, as these subjects are embraced in in the Department of Biology. The Department of Medicine will be opened on Tuesday, September 20, under the chairmanship of Dr. William Osler, with two general addresses by Dr. W. T. Councilman of the Harvard Medical College and Dr. Frank Billings of the Rush Medical College. One of these speakers will review the progress of medicine during the past century, and the other will treat its fundamental conceptions.

On Wednesday morning, September 21, a section of Public Health will meet under the presidency of Dr. Walter Wyman, Surgeon-General of the U. S. Public Health and Marine-Hospital Service. It will be addressed by Prof. W. T. Sedgwick of the Massachusetts Institute of Technology and Dr. Ernst J. Lederle, formerly Commissioner of Health of New York City. Communications relating to the subject are also expected from several eminent members of the profession. A section of Otology and Laryngology will meet at the same time: Chairman, Dr. Glasgow of St. Louis; Principal Speakers, Sir Felix Semon of London and Dr. J. Solis-Cohen of Philadelphia.

In the afternoon a section of Preventive Medicine will meet, under the chairmanship of Dr. Mathews, President of the Kentucky Board of Health. It will be addressed by Professors Ronald Ross of Liverpool and Celli of Rome. Some question has been raised against the advisability of separating the sections of Preventive Medicine and Public Health. This separation is, however, of no practical importance, as all interested may equally well attend both. On the same afternoon a section of Pediatrics will meet under the chairmanship of Dr. Rotch, and will be addressed by Escherich of Vienna, Jacobi of New York, and others.

On Thursday morning, September 22, there will be meetings of sections of Pathology and Psychiatry. The chairmen of these sections are Drs. Simon Flexner and Edward Cowles respectively. Marchand of Leipzig and Orth of Berlin have accepted invitations to address the section of Pathology, but it is not certain whether both will be able to attend. Psychiatry will be treated by Ziehen of Berlin and Dana of New York.

In the afternoon a section of Neurology will meet, under the chairmanship of Prof. L. F. Barker of Chicago, and will be addressed by Kitasato of Tokio and Putnam of Boston.

The sections which will meet on Friday and Saturday, September 23 and 24, are as follows:

Therapeutics and Pharmacology. Chairman: Dr. Hobart A. Hare of Jefferson Medical College. Speakers: Sir Lauder Brunton, F.R.S., of London and Prof. Mathias E. O. Leibreich of the University of Berlin.

Internal Medicine, Friday afternoon. Chairman: Prof. F. C. Shattuck of Harvard University. Speakers: Prof. Clifford Allbutt, F.R.S., of the University of Cambridge and Prof. William S. Thayer of Johns Hopkins University.

Surgery, Friday morning. Chairman: Prof. Carl Beck of the Post-Graduate Medical School, New York. Speakers: Prof. Frederic S. Dennis of Cornell Medical College, New York, and one other not finally selected.

Gynecology, Saturday morning. Chairman: Prof. Howard A. Kelly of Johns Hopkins University. Speakers: Dr. L. Gustave Richelot, Member of the Academy of Medicine, Paris, and Prof. J. C. Webster of Rush Medical College, Chicago.

Ophthalmology, Saturday afternoon. Chairman: Dr. G. C. Harlan of Philadelphia, Pa. Speakers: Dr. Edward Jackson of Denver, Col., and Dr. George M. Gould of Philadelphia, Pa.

One of the two principal speakers in each section will treat of the relation of the subject to other departments of knowledge; and the other of its present problems. Besides the principal speakers it is expected that each section will receive several brief communications from leading members of the profession in attendance at the meeting. It will be seen that the division into sections is one of subjects rather than of men. The chairmen and speakers will be different in different sections, but the attendance, it is expected, will be the same, except in the sections holding their meetings at the same time

The California Medical Practice Law.—The Supreme Court of California has recently rendered a decision in a test case upholding the constitutionality of the law establishing the State Board of Medical Examiners. The decision not only declares the law constitutional in every respect, but approves of its object and affirms the need of such regulation of the practice of medicine in terms so emphatic as to effectually discourage all future attempts to evade the law.

University of Southern California.—The graduation exercises at the Medical Department of the University of Southern California, Los Angeles, were held on June 14. The degree was conferred upon twenty-four members of the class. A most enjoyable banquet was participated in by the faculty, graduating class and alumni, at the Angelus hotel in the evening. On the following Thursday the corner-stone of a new clinical laboratory building was laid. This is to be one of the best equipped laboratories in the West and will cost $200,000.

The Annual Sacrifice.—The *New York Times* says that the State Board of Health of Pennsylvania has communicated to the Mayors and Burgesses of every city and township in the State a memorandum calling attention to the need of a better enforcement of the law relative to the sale of toy-pistols and high explosives. It makes the assertion that the recorded casualties last year from the use of toy-pistols, giant firecrackers, and explosive toys during the Fourth of July celebration were 4,349 injuries and 466 deaths, or more than the Russian casualties in killed and wounded during the recent two days' fighting at Hai-Cheng. Its tabulated record of injuries and deaths last Fourth of July makes the following showing of totals:

Died of tetanus caused by injuries	406
Died of other injuries	60
Totally blinded	10
Number who lost one eye	75
Arms and legs lost	54
Number who lost fingers	174
Number injured who recovered	3,083
Total number of casualties in the United States	4,349

Warning against Yellow Fever.—Dr. Taber, the Commissioner of Health of Texas, has sent an official communication to the Governor requesting the latter to issue a proclamation warning the people of the State of the imminent danger of a yellow-fever epidemic if they neglect the first principles of cleanliness and sanitation in their houses and communities. On account of the open winter of 1903–4 in southern Texas and the prevalence of yellow fever in Mexico at present, he says he greatly fears that should a case be introduced into the State with the present very bad sanitary condition of a large number of the cities and towns and the presence of the yellow-fever mosquito, which also exists in large numbers throughout the State, there will be the most extensive epidemic of yellow fever ever known. He therefore urges the Governor "to issue a communication calling upon the county judges, mayors, and health officers of Texas to inaugurate sanitary campaigns in every community in the State without delay, especially for the destruction of the mosquitos."

The Manhattan Eye and Ear Hospital, which has been located for many years at Forty-first Street and Park Avenue, is to have a new home next door to the Baron Hirsch Trades School in East Sixty-third Street. The capacity of the present hospital is fifty ward patients, with eight rooms for private patients. It is proposed to construct eventually on the new plot buildings which will accommodate about four hundred ward patients and fifty private patients.

Exhibit of Johns Hopkins Hospital at the World's Fair.—The Johns Hopkins Hospital has placed a display in the Educational Building at the St. Louis Exposition. It is unique as being the only demonstration of nursing work among the exhibits. The exhibit consists of a series of photographs showing the hospital' exterior, views of the interior, groups of student nurses at work in the laboratories, class-rooms, and wards. Models of nursing appliances in operation, with specimens of charts,

etc., are intended to give an idea of the opportunities for nurses and the results of their training.

Sanitary Responsibility of Property Owners.—The Health Commissioner of St. Louis received a decision from the City Counselor in regard to the responsibility of agents, property owners, and tenants in cases in which insanitary conditions exist. The opinion of the Counselor states that an agent is never responsible except in cases in which he has power of attorney; that where more than one family occupy the premises, if the tenants are compelled to use toilet facilities in common, the owner should be held responsible; that if the premises are occupied by more than one family and there are separate toilet facilities for each family, the persons using these accommodations should be held responsible for their sanitary condition, be they owner or tenant.

An International Congress of House Sanitation.—The Société d'Hygiène Française has issued a call for an international congress to study the present hygienic conditions of dwellings and to devise means for their amelioration. The investigations and discussions of the congress will cover dwelling-houses in city and country, laborers' cottages and tenements, hotels, lodging houses, schools, and the living quarters on steam and sailing vessels. The work of the congress will be distributed among six sections, embracing the subjects above mentioned. The membership fee is fixed at 20 francs ($4). Those intending to present communications to the congress should forward the manuscript to the secretary-general not later than September 1. The President of the congress is Dr. Janssen; the Secretary-General, Dr. F. Marié Davy, 7 Rue Brézin, Paris.

First Toy-pistol Victim.—Walter Booth of Cincinnati was trephined June 25, at the City Hospital, for tetanus resulting from a toy-pistol wound. This is the first case in Cincinnati since the passage of the ordinance last March forbidding the sale of the toy-pistol.

Cocaine Habit in Cincinnati.—Despite the fact that stringent laws were passed by the Ohio Legislature last winter regulating the sale of cocaine, it is said that the sale of the drug in Cincinnati is larger now than ever before. It is sold principally on the levee and in the sections of the city where the dissolute congregate. It has been reliably estimated that 350 ounces of cocaine, of a value of about $6,000, is sold every month to this class in Cincinnati.

National Guard of Pennsylvania.—Dr. Joseph K. Weaver of Norristown has been promoted from Division Surgeon to Surgeon-General, replacing Dr. Robert G. LeConte of Philadelphia resigned. Dr. George H. Halberstadt of Pottsville has been reappointed Surgeon of the Third Brigade, and Dr. J. C. Biddle of Ashland has been appointed Assistant Surgeon of the Eighth Regiment.

Commencement Exercises of Rush Medical College.—This college, which is affiliated with the University of Chicago, held its commencement exercises June 15, at which time degrees were conferred on a class of 107. The Doctorate Address was delivered by Dr. Chas. G. Stockton of Buffalo, N. Y.

Increased Endowment.—The Chicago-Farmington Society held a lawn fête in Winnetka, Ill., recently, at which $2,000 was raised to complete the endowment of the Sarah Porter room in the Passavant Memorial Hospital.

Smallpox in Chicago.—Since the first of January there have been eighty-nine cases of this disease discovered in Chicago, and removed to the Isolation Hospital, and it is said of these not a single individual had been properly or recently vaccinated. Two patients died, seventy-six were discharged as recovered, and eleven were still under treatment.

Dr. John B. Murphy was recently elected President of the Chicago Medical Society

Hospital Needed.—Dr. Chas. E. Humiston of Austin, Ill., urges the establishment of a hospital at some point midway between Austin and Oak Park. The two villages have a population of fifty thousand, and the nearest hospital is four miles away.

New Hospital at Kewanee, Ill.—In the new St. Francis Hospital, Kewanee, organizations and individuals have already agreed to furnish twenty-one out of the twenty-four private rooms. Dr. L. A. Westgate has decided to sell or close the Sycamore Hospital, which has not been a profitable institution.

Physicians for Elks' Reunion.—Forty physicians have been appointed for service during the Elks' Reunion to take place in Cincinnati this week. They will serve without expense to the city, and will be uniformed in white with red crosses on sleeves.

Dr. Russell Hulbert.—The report recently published in the daily press and in these columns that Dr. Hulbert had escaped from a sanatorium at Green's Farms and walked to Higganum, was incorrect. Dr. Hulbert had left the sanatorium and was at his parents' house in Middletown. One day he walked from Durham to Higganum for the sake of exercise, and this was the only foundation for the report as published.

Pulmonary Diseases in the Street-sweepers of New York.—Street Cleaning Commissioner Woodbury made public a few days ago the result of his medical examination of the sweepers of the department. He was aided in this work by ten physicians of the Health Department. Out of a total of 1,872 men 283 were found to be afflicted with pulmonary complaints. Of this number only 60 had tuberculosis. The consumption scare in the Street Cleaning Department came about two months ago, when the department's doctors discovered that more than 25 per cent. of those who applied for sick leave were suffering from this disease. By the time the news reached the public it had taken growth, and the statements were made that a quarter of the entire street-cleaning force had consumption. The men became alarmed for their own safety, thinking that their work must be particularly dangerous, and their fears were not quieted by the discussion in the press of the peculiar dangers to which it was assumed they were exposed, despite the fresh-air theory of the prevention and cure of the disease.

Obituary Notes.—Dr George L. Fitch, a native of New York State and of late a resident of San Francisco, died suddenly at Santa Cruz, Calif., on June 2. From 1880 to 1885 Dr. Fitch served as the Crown physician of Hawaii. In this capacity he made a study of leprosy on Molokai.

Dr. Charles S. Woodward of thiscity died at Glens Falls on June 26, of pulmonary tuberculosis. He was born in Michigan thirty-five years ago, and was graduated from the New York University Medical School in the class of 1891. He was a member of the New York State Medical Association.

Dr. John F. Bird died at Fox Chase, Philadelphia, on June 23, at the age of eighty-nine years. He was graduated from the Medical Department of

the University of Pennsylvania in the class of 1843.

Dr. Julius J. Strecker died at Johnstown, Pa., on June 23 at the age of fifty-three years. He was graduated from Jefferson Medical College in the class of 1878. He was President of the Board of Health of Cambria County and Vice-President of the Cambria County Pharmaceutical Society.

Dr. Dennis J. Treacy died in Philadelphia on June 20 at the age of sixty years. He was graduated from Jefferson Medical College in the class of 1867.

Dr. James Simpson died in Philadelphia on June 20 at the age of sixty-five years. He was a student at Jefferson Medical College when the Civil War broke out, receiving appointment as an Army Surgeon and being placed in charge of the hospital corps at Alexandria, Va. At the close of the war he concluded his medical studies and was graduated from Jefferson College in the class of 1865. He was for several years chief physician to St. Mary's Hospital.

Dr. James M. Clement died of pneumonia in Philadelphia on June 12, at the age of seventy-one years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1862.

Massage of the Heart for Chloroform Collapse.—W. W. Keen states that on only three occasions in his entire professional life has he had a patient die on the table. The first two were cases of operations on the brain and goiter respectively. Hemorrhage was the cause of death in both cases, all the usual means being unavailing. The third case was especially interesting for several reasons. This patient had previously had a fracture of the skull from which he had entirely recovered. He later suffered from squamous epithelioma of the vocal cords. At the first operation unilateral laryngectomy was performed, partly under local anæsthesia and partly under chloroform. The latter produced marked cyanosis. At the second operation, total laryngectomy was performed. Chloroform and oxygen were given to the patient, but not until he was upon the operating table. When enough chloroform was given to keep him quiet he became so cyanosed as to make the writer very anxious for his life. Just as the wound was ready to be closed his pulse suddenly failed and his face became suddenly blue. The operation and the administration of chloroform were immediately stopped. Strychnine was given hypodermically, pure oxygen was administered, and artificial respiration was instituted with rhythmical traction on the tongue. The battery was applied over the phrenic, but in spite of all this treatment, his heart continued to beat much faster and weaker; he became more cyanotic, and in two or three minutes he was dead. After continuing the above means for about ten minutes as a last resort the upper abdomen was opened and the writer introduced his hand into the abdominal cavity, and between this hand and the right hand, which made counter-pressure on the anterior wall of the chest, the heart was massed. These efforts were continued for nearly half an hour, but without avail. The writer then reports a case which came under Igelsrud's care. The operation was that of abdominal hysterectomy. There was chloroform collapse. The writer laid bare the heart by a resection of parts of the fourth and fifth ribs. The pericardium was opened and the heart seized between the thumb and fore and middle fingers on the anterior and posterior surfaces. Strong and rhythmical pressure was made for about one minute when the heart began to pulsate of itself, but as the pulsations became weaker, massage of the heart was practised for about one minute more. From that time the pulse was perceptible and the contractions of the heart became regular. The patient recovered. The writer gives an interesting *résumé* of work by various authorities on this subject.—*Proceedings of the Philadelphia County Medical Society*, March 31, 1904.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL SUNDAY—SPONGE LEFT IN ABDOMEN, ACTION FOR DAMAGES—CENTRAL MIDWIVES' BOARD'S ABSURDITIES—DIRECTOR-GENERAL NAVAL MEDICAL DEPARTMENT—KING'S COLLEGE HOSPITAL—TUNBRIDGE WELLS HOSPITAL—NURSING ASSOCIATIONS—L. L. JENNER.

London, June 11, 1904.

We are on the eve of Hospital Sunday, and great efforts are being made to equal and, if possible, to surpass the last year's collection. That was the record year (£64,975). Some hope to make it £100,000 this year. Mr. George Herring has again promised to add one-fourth to the amount collected up to £100,000. Last year his cheque was £12,302. The *Lancet* has again issued a special supplement for distribution, and the Lord Mayor has made the usual appeal. Mr. Charles Morrison has sent in £1,000 to be added to the fund.

An action against a lady doctor was concluded on Tuesday in a way which seems fraught with serious consequences for the profession, while it controverts the received doctrine of negligence. A patient, on whom the doctor had performed an abdominal operation, brought the action for damages in consequence of a sponge having been left behind. The judge, in summing up, said there was no doubt that the operator was a skilful surgeon, but the question was not as to her skill but whether she had been guilty of want of reasonable care. He put the following questions to the jury: (1) Was the defendant guilty of want of due and reasonable care in respect of the counting or superintending the counting of the sponges? (2) Was the nurse employed to act as defendant's assistant during the operation? (3) Was the nurse guilty of negligence in counting? (4) Was the counting of the sponges a vital part of the operation? (5) Was the nurse under the control of the doctor during the operation? The jury after a long deliberation, answered all five questions in the affirmative and assessed the plaintiff's damages at one farthing. The judge pointed out that this was inconsistent with the findings on the other questions and the jury again retired to consider that point. On returning they said they did not think this was a case for damages, as the operation had been performed by the defendant without any fee. Finally, they declared plaintiff ought not to have more than £25, and that only in consideration of her suffering. Judgment was accordingly entered for that amount and costs.

Several questions are being talked about in reference to this case. It seems to traverse the general view that professional service is not to be accounted as negligent if ordinary skill and care be exercised. Special or expert skill is not the offer of the ordinary professional man. It is not improbable that much discussion on this point will take place.

Another question arises as to the liability of a doctor who renders a service without fee or reward. Should a patient who accepts gratuitous aid have a right to damages for unskilful or negligent treatment? If this is to be recognized as law, surgeons will become more chary of taking such cases, or may think it necessary to protect themselves by obtaining an indemnity beforehand, in case of a mischance occurring.

It would seem that those who leave counting sponges to the nurse are yet responsible for her errors—a decision which may serve to check the tendency to hand over to nurses duties for which they are not fitted. This applies to many points in practice. If a miscount by a nurse is to saddle the doctor with damages, the position becomes more serious.

Another point was raised in a conversation the other day, *viz.*, was the doctor in this case a member of one of the protection societies? Some said if not, she did not deserve pity. For ten shillings a year a kind of insurance can be entered into against the pecuniary consequences of such a misadventure. The defence would be undertaken by the society of which the doctor was a member, and would probably be more successful than when conducted by lawyers without special experience.

The last question reminds one that the annual meeting of the Defense Union was held on the 26th ult., when a very satisfactory report was presented. In the past year over 1,000 cases had been submitted for the council's consideration, besides many others which had been dealt with by the secretary. This shows the great risk that is run by practitioners in various ways. The cases that go to the solicitor are about 150 per annum. Some remarkable statements were made as to attempts at blackmail defeated by the intervention of the union, and of slanders or libels retracted and apologized for as soon

as the accusers found the defence was in the hands of a society.

The proposal of the British Medical Association to absorb the Defence Union was repudiated, and the meeting determined to "maintain the integrity of the union in its entirety as at present existing."

You know how the apathy of the profession allowed the Midwives' Act to pass—an apathy which many now lament. The Central Midwives' Board—the product of the act—has now resolved to invite reporters to its meetings. This is, so far, well, for hitherto the proceedings of the board have been characterized by ignorance and prejudice. So much so that Dr. W. J. Sinclair of Manchester, an independant member of the board has felt constrained to expose some of its doings. This eminent professor accepted a seat, but has not been able to secure the cooperation of the other medical members, and as a consequence the lay members have utterly ignored the profession—or rather, so far as they can, placed it in a position of inferiority to the midwives' calling. Thus, they have actually proposed to appoint a "trained woman" as an inspector of institutions applying for recognition. That such inspection would be useless, that it would be an insult to the medical staffs and, through them, to the whole profession to send a midwife to report on their teaching, was of no consequence. The midwife interest carried it—and that because three out of four medical members, to their shame be it said, declined to vote At the next meeting the degradation of the profession is to be carried a step further by a proposal to appoint matrons or midwives of lying-in hospitals as examiners.

Many county councils have appointed their medical officers of health as executive officers for the administration of the act. How will these M. O. H.'s, most of them highly qualified practitioners, relish the idea of their work being inspected by midwives or their teachings reported on by matrons?

You will remember how this board lately proved its incompetence by refusing to recognize the Dublin Schools of Obstetrics, which are notoriously the most efficient in these islands and perhaps in Europe. At the same time the London Obstetrical Society's diplomas were recognized as also a number of institutions with no pretense to be more than local lying-in charities But the board has now capped all its former exploits by a resolution that "it is desirable that Mrs. H—— should be certified, as it appears from her letter that she is quite prepared to take a case alone." This woman's letter stated "that she had not undertaken cases without doctors, but had been advised by a medical man that she need not be afraid to do so and she did not feel afraid of so acting." The resolution is in direct defiance of the board's own rules, and will serve as a precedent for any woman certifying herself as not afraid to act as a midwife.

All this scandal arises, as I have said, from the apathy of the mass of the profession and the readiness of a few men-midwives' to sacrifice the interests of their brethren to the "Midwives' Institute," a small trades-union of Mrs. Gamps.

Inspector-General Herbert M. Ellis, R. N., has been selected to succeed Inspector-General Sir H. F. Norbury, K.C.B., who will shortly retire, as Director General of the Navy Medical Department.

The Duke of Connaught has accepted the presidency of King's College Hospital in succession to the late Duke of Cambridge.

Last night there was a grand fancy ball at the Albert Hall on behalf of the removal fund. It was organized by the Countess of Pembroke, and a large number of the smart set attended and a great success was attained. The peculiarity proposed and largely carried out was for the ladies to adopt a fancy head-dress.

Tunbridge Wells Hospital has been enlarged at a cost of £25,000. The new buildings comprise male and female wards of twenty-four beds each, children's ward, isolation ward, and additional out-patients' accommodation. Ten thousand pounds has been raised and a bazaar was opened on Tuesday in aid of the fund.

The report of the Affiliated Benefit Nursing Associations for the Supply of Cottage Nurses, presented at the annual meeting on Wednesday, stated that 138 societies are now comprised in the organization, that the balance sheet is satisfactory, and that the demand for the benefits of the association is increasing.

The Colonial Nursing Association's annual meeting on Wednesday was graced by the presence of Princess Henry of Battenburg and a distinguished company. Mr Chamberlain was among them, and a reprint of his article in the *North-American Review* was distributed. This association has 109 nurses at work, 89 having been selected at the request of the government. Earl Grey said the association was filling the rôle and almost the dignity of a department of State and deserved the support of every public-spirited individual. The Duke of Marlborough added that the Colonial office constantly received evidence of its usefulness.

The first annual report of Lady Dudley's scheme to establish district nursing in the poorest parts of Ireland has just appeared, and in a rather attractive form. There are photographs of the districts where the nurses are at work. Nine nurses have been placed in cottages, or in lodgings in poverty-stricken places, and are doing a great work in ministering to the suffering poor. To extend the system only funds are needed, and for such help the committee appeals.

The death of Louis L. Jenner, M. B. Oxon., of the Lister Institute of Preventive Medicine, at the early age of thirty-eight, occurred on the 2d inst. He was the fourth son of the late Sir William Jenner, Bart., G.C.B.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

SANITARY PROBLEMS—NEED OF AN EFFICIENT PERSONNEL—LACK OF FUNDS—IGNORANCE OF THE NATIVES—OPPOSITION OF THE LANDLORDS—OUTLOOK PROMISING DESPITE OBSTACLES.

MANILA, May 26, 1904.

THE question of an efficient personnel for the execution of sanitary work is a very troublesome one. The number of available physicians is totally inadequate to meet medical and sanitary needs, and there are some four hundred municipalities in the islands having organized governments which have no local boards of health, for the reason that there is not a single physician or undergraduate in medicine living in any one of them. Clearly, without the advice of any medical man being available, any efforts at local sanitation in such towns must be inefficient, and proper statistics as to causes of mortality will be unobtainable. This deficiency in the number of medical men is one that can only be remedied by the education as physicians of a much larger number of young men than are now matriculating at the single medical school in the islands; the best that can be done to minimize the evil effects of such deficiency is to cause frequent inspections to be made of towns having no such boards of health by provincial and insular health officers. A higher standard of medical education should also be required. Not a few of the native physicians present marked professional deficiencies, not so much through their own fault as through the absence of modern facilities for their education. Manila is the only place in which there is a sufficiency of doctors, but there is no small difficulty in inducing these to take positions in the provinces, where they would be surrounded by a population regarding them with more or less distrust as foreigners and with whom they would have little that is congenial. For the minor sanitary positions there is less difficulty in securing satisfactory service, for the Filipino learns his part readily in the performance of routine and can carry out directions even when unable to initiate the proper action in an emergency. One trouble with this class of minor employees is that they are too apt to assume undue importance in their official positions and commit abuses liable to bring the whole sanitary service into disrepute. The employees of all grades, as a whole, require frequent inspection to keep them up to the efficient performance of a reasonable amount of work. In any medical emergency of any importance in the provinces, assistance and supplies must usually be sent to the local authorities from Manila, subject to the common annoying delays due to poor transportation facilities and deficient means of communication.

Another obstacle to health work is lack of funds. The proportion of the appropriations allotted to this purpose is satisfactory, but with the inception of sanitary work it was found that the investment of a vast amount of money in permanent sanitary improvements was necessary. Nothing of a sanitary nature was inherited from the Spaniards. In spite of the desire to limit outlay, many changes were imperatively demanded, and in Manila alone the attempt to convert it into a modern city, from one of the sixteenth century, in the brief space covered by the American occupation, would have bankrupted the inhabitants. Sanitary growth in other parts of the world is gradual, while here proper sanitation meant a complete remodeling of everything done up to that time. Tasks must be undertaken as a whole which in other countries would simply be continued over long terms of years. With a country left impoverished by war and pestilence, the revenues were naturally unsatisfactory and the appropriations for sanitary purposes suffered accordingly. The only remedy available is found in greater financial prosperity, and in the time necessary to accomplish the sanitary changes required.

Ignorance is a great bar to sanitary work. A large part of the population is illiterate, and some 600,000 of them

are savages. The amount of assistance in sanitary work which would be given by naked, head-hunting, and ghost-worshiping savages is naturally not great. It is useless to appeal to their intelligence and reason from the basis of modern medical science, for the latter is absolutely unknown to them and totally opposed to tribal teachings and customs. Even among the more intelligent Filipinos it is difficult to make many understand that sanitary science is based on accurate knowledge; they are unwilling to disinfect in cholera because they cannot see the bacilli, yet they pray for relief from the epidemic to an invisible San Roque. One great reason for ignorance on sanitary matters is the total absence in the past of any literature on the subject in the native languages, the lack of any such information in Spanish and the failure on the part of the Spaniards to give any instruction in such matters. Here a great opportunity is afforded for the inception of a sanitary educational propaganda, through the wide circulation of bulletins on health matters couched in simple language and printed in the various native tongues, and through the teaching of elementary hygiene throughout the public schools. Such an educational propaganda, efficiently conducted, should bring about more immediately satisfactory results than could be obtained in any other way, and is the best means of advancing sanitation at the present time. The board of health is already proceeding along these lines, both by the education of health officers in a practical school in Manila and the circulation of a vast amount of literature on health matters.

In Manila the chief objections to sanitary work now come from the wealthy householding class, who are unwilling to pay the bills for the sanitary remodeling of their unwholesome tenements. These bills have been very heavy, as naturally would be the case in a city where practically everything was wrong from a sanitary standpoint. This wealthy class has fought sanitary reform in every possible way, and has only lately come to the conclusion that compliance is necessary and that sanitary laws were made to be enforced. The poorer classes have lately come to understand that these sanitary reforms are much to their advantage and mean greater comforts and conveniences of life for them. A noticeable change has lately occurred in the much greater frequency with which these people are calling the attention of the sanitary authorities to unhygienic conditions, and requesting their abatement. The working classes are rapidly learning that health is their most valuable asset, and the householding class that an insanitary tenement is not a good investment.

On the whole, sanitary work here has every drawback met with in civilized communities, besides many obstacles of which the sanitary officer in the United States has no conception, and the importance of which can only be appreciated through extended personal experience. Nevertheless, the outlook for considerable sanitary progress in the early future is very promising. As far as the provinces go, sanitary advance must depend to a considerable extent upon commercial development and prosperity and the higher type of general civilization attached thereto. Ignorance and superstition are to be combated by education, racial dislike overcome, and distrust superseded by confidence. The guiding hand should be firm, yet diplomacy will be required and important sanitary problems can never be considered as apart from politics. The Filipino is readily susceptible to kindly handling, and a little tact and consideration will remove opposition that force could not brush aside. Many reforms cannot be carried out in an ideal manner; under such circumstances one must be contented with the best results which it is possible to obtain. Continued opposition along any given line is best met by temporary cessation of pressure until the people have become accustomed to the new order of things, when the advance may be resumed. Larger funds for sanitary expenditure will be available as the country recovers from the effects of war and epidemic, while experience will add to the efficiency of the sanitary personnel. Nevertheless, it is too much to expect that provincial conditions here will at any early date approach those of rural communities of the same size in the United States. With the exception of Japan, however, it is equally true that another decade should see provincial conditions here better than in any other part of the Orient. With regard to the city of Manila, sanitary improvement should be even more rapid. Much is now being done in the way of house repairs, grading, draining, filling, and the opening up of new means of communication. Work is shortly to be commenced on the new water supply, and it, with the drainage and sewerage systems already planned, should be completed within three or four years. Cholera has been banished, plague cut down, and special attention given to the infant mortality. The health work is constantly being broadened as opportunity offers and funds permit. In view of all this, there is no reason why Manila shall not share with Havana the honor of being the healthiest city in the tropics, and show a lesser mortality than many communities at home.

ELECTRICITY APPLIED TO THE DENUDED PERICARDIUM OVER THE VENTRICLE IN HEART FAILURE: A SUGGESTION.

To the Editor of the Medical Record:

Sir: As a possibly successful means of resuscitation in sudden heart-failure I would suggest laying bare the pericardium over the left ventricle and applying electricity at the bottom of the wound.

The usual failure of electricity applied over the præcordium to excite cardiac action is probably due in large part to the very great electrical resistance of the integument and the subcutaneous fascia characteristic of those structures. This resistance dissipates the current through a wide area, and necessitates such intensity of action as endangers deeper-lying nerve centers. With only the two layers of the pericardium between the electrode and the cardiac muscular fiber it should be easy, theoretically at least, to provoke contractions by a relatively feeble current, particularly if concentrated upon a limited area by the use of a small electrode.

Moreover, the possible importance of this power of limiting and controlling the action will be apparent when we consider the possibly disastrous effect of including the inhibitory nerves in the electric stimulation.

As a last resort, electric-puncture into the muscle substance might be tried, the surface of the heart being practically already exposed. Incidentally there would be an advantage in being able to note slight ventricular movements, of which there would be no indication if the chest-wall were intact.

Andrew H. Smith, M.D.

18 East Forty-sixth Street, New York, June 20, 1904.

THE PRESENT STATUS OF THE SURGICAL TREATMENT OF CHRONIC BRIGHT'S DISEASE.

To the Editor of the Medical Record.

Sir: An article bearing the above title, from the pen of Dr. A. A. Berg, which appears in the issue of your valued journal of June 18, has interested me. In this article the writer engages in the laudable attempt to base the indications for medical and surgical therapy upon the variety of nephritis present. For this purpose he arranges all cases of nephritis according to their etiology, under eight groups. As illustrating types of these groups, Dr. Berg details six cases; three of his own, two of Rovsing and one reported by the writer. A few not unimportant errors have crept into the report of the case last named; to correct these is the purpose of the present communication.

Dr. Berg writes: "As evidence of the bacterial infection producing different lesions in the kidneys of the same patient, the following history is quoted from Edebohls: In the one kidney are all the evidences of chronic Bright's disease, in the other multiple abscesses." Now, as a matter of fact as well as of record, both kidneys were the seat of chronic Bright's disease, and both kidneys were, in addition, affected by pyelonephritis with miliary abscesses.

Next follows an abstract of the history of my case as originally reported in full in the Medical Record of December 21, 1901. In the course of his abstract, Dr. Berg states: "After the operation (right nephrectomy), the patient's condition improved, and she gained flesh and strength, but her urine contained albumin and casts. *Gradual evidences of chronic Bright's disease developed and Edebohls performed decapsulation on the remaining kidney.*" This again is a misunderstanding on the part of Dr. Berg, possibly due to hurried or careless reading of my original report, where it is distinctly stated that the nephritis from the patient's last pregnancy, while infection of both kidneys occured only sometime after delivery. In other words, the case represented an instance of bilateral chronic parenchymatous nephritis with subsequent infection of both kidneys. The order of events was as follows: Chronic nephritis during entire last pregnancy, which terminated at term on February 12, 1901. Persistence of chronic nephritis after delivery. Hysterectomy for sloughing uterine fibroma, March 17, 1901. Acute proteus infection of right kidney a month later. Right nephrectomy for acute pyelonephritis with miliary abscesses, July 9, 1901. Persistence of left chronic nephritis and of pyuria. Decapsulation of left kidney, November 10, 1901.

While the above errors are perhaps explicable, I find it difficult to account for the following statement of Dr. Berg, on page 996: "Edebohls' case (cited above) of bilateral bacterial nephritis in which one kidney was removed and decapsulation performed upon the remaining one, was only temporarily improved, the patient finally succumbing to the disease." Not only has she *not* suc-

cumbed, but at the present writing, more than two years after decapsulation of the kidney, the patient is in the enjoyment of practically perfect health. This gratifying state of affairs has been reached after steady progress toward health during the past two years, a progress apparently continuous even at the present time. A trace of albumin, with a very occasional hyaline cast and leucocyte, are all the indications that remain of her former serious condition, while the patient has long ago resumed her duties in life, has absolutely no complaints of any kind, and considers herself a perfectly well woman.

I am possibly as deeply interested as any physician or surgeon in the solution of the problems of the surgical treatment of chronic Bright's disease. Articles of the scope and aims essayed by Dr. Berg are particularly welcome and appreciated, especially if based upon personal experience, as is the case in part at least in the present instance. So much keener is the disappointment when the validity of deductions and conclusions made and drawn are practically nullified by the incorrectness of the premises upon which they are based, and especially when such mistakes in the premises might, as in the instance before us, have been so readily avoided.

Whether other avoidable errors have crept into Dr. Berg's paper I am not prepared to say. Of unavoidable errors, that is, errors into which Dr. Berg's personal experience has perhaps not been sufficiently large or varied to prevent him from falling, I have noted one or two which I may attempt to correct in the proper place on a future occasion. GEORGE M. EDEBOHLS, M.D.

NEW YORK.

THE NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: I am in receipt of a number of inquiries from all over the United States and from abroad, concerning the outcome of the various meetings which have taken place in Baltimore, Philadelphia, New York, and Atlantic City in regard to the formation of a national tuberculosis association. Although your paper published a paragraph concerning the Atlantic City meeting, it must have escaped the notice of many of my correspondents.

The constitution and by-laws of an American National Association for the Study and Prevention of Tuberculosis were adopted on Monday, June 6, at Atlantic City. The objects of the organization, as stated in its constitution, are as follows: (*a*) The study of tuberculosis in all its forms and relations; (*b*) the dissemination of knowledge concerning the causes, treatment, and prevention of tuberculosis; (*c*) the encouragement of the prevention and scientific treatment of tuberculosis.

The following are the officers of this association: *President*, Dr. Edward L. Trudeau of Saranac Lake, N. Y.; *Vice-Presidents*, Dr. William Osler of Baltimore and Dr. Hermann M. Biggs of New York; *Treasurer*, Dr. George M. Sternberg of Washington, D. C.; *Secretary*, Dr. Henry Barton Jacobs of Baltimore. The Board of Directors, in addition to the officers above named, consists of Drs. Norman Bridge, S. E. Solly, John P. C. Foster, Arnold C. Klebs, Robert H. Babcock, J. N. Hurty, Wm. H. Welch, H. B. Jacobs, John S. Fulton, Henry M. Bracken, William Porter, Edward O. Otis, Vincent Y. Bowditch, Frederick L. Hoffman, S. A. Knopf, Edward T. Devine, Charles L. Minor, Charles O. Probst, Lawrence F. Flick, Mazyk P. Ravenel, H. S. Anders, Leonard Pearson, M. M. Smith, George E. Bushnell, and Walter Wyman.

Its membership is to consist of three classes: (*a*) Members—those who are elected by the Board of Directors and who pay annual membership dues of $5. (*b*) Life members—those who pay $200 and are already members of the association. (*c*) Honorary members—persons distinguished for original researches relating to tuberculosis, eminent as physicians or as philanthropists, who have given material aid in the study and prevention of tuberculosis.

The government of the association, the planning of work, the arrangement for meetings and congresses, and everything that appertains to legislation and direction, are to be in the hands of the Board of Directors, and committees are to have the power to execute only what is directed by the board. The Board of Directors is empowered, however, to appoint an executive committee of seven members to which is entrusted the executive work of the association. This committee, chosen at the meeting in Atlantic City, consists of Drs. Edward L. Trudeau, Henry Barton Jacobs, Edward O. Otis, Mazyk P. Ravenel, Arnold C. Klebs, John N. Hurty, and Mr. Edward T. Devine. The Board of Directors is empowered to appoint representatives to the International Committee on Tuberculosis. It was decided at the meeting of organization, that this representation was to be headed by Dr. Wm. Osler, and his associates will be selected later. The board is authorized, also, to appoint such committees as may be necessary for scientific and educational work, and for the holding of meetings and congresses.

The majority of the vast audience present at the Atlantic City meeting were enrolled as members of the new organization. S. A. KNOPF, M.D.

16 WEST NINETY-FIFTH STREET, NEW YORK.

THE POTASSIUM CHLORATE AND IRON MIXTURE.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Permit me to make a few remarks in connection with Dr. W. E. Dreyfus's brief article contained on page 1043 of the MEDICAL RECORD of June 25. While I regret that my name, or that of any other physician, should be linked together with any "special" prescription—that practice is always liable to tempt thoughtlessness and superficial routine—I admit that the doses published by the doctor are fairly correct. It will be noticed that a teaspoonful contains a grain of potassium chlorate and the double dose of the tincture of ferric chloride. When a dose is given every hour the amount taken in the course of a day amounts to about 16 or 18 grains of the salt. That is as it should be according to my teaching of the last forty-five years, in the case of a child of from two to six years of age. The same rules were given in the *American Medical Times* of 1860, in the second volume of Gerhardt's "Handbuch" (1876) and in my "Treatise on Diphtheria" (1880).

From the latter, which I happen to find on my shelves, I beg to quote what I could never sufficiently impress on colleagues or students: (Page 160) "The local effect cannot be obtained with occasional doses, but only by doses so frequently repeated that the remedy is in almost constant contact with the diseased surface. . . . It is better that the daily quantity of twenty grains should be given in fifty or sixty doses than in eight or ten; that is, the solution should be weak, and a drachm or half a drachm of such a solution may be given every hour or every half hour, or every fifteen or twenty minutes, care being taken that no water is given soon after the remedy has been administered for obvious reasons."

One of the main effects of the potassic chlorate is its preservative influence on the mucous membrane of the mouth, which should be kept as intact as possible to guard against the spreading of the membrane. From that point of view the recommendation to use the mixture in question as a gargle cannot be objected to. But (1) small children do not gargle, and (2) "gargles are not of much service" (in diphtheria) "for the simple reason that they do not come into immediate contact with the affected parts, and reach at the utmost to the anterior pillars of the soft palate" (page 192). I cannot help being delighted with my knowledge of the fact that this simple observation, probably not even original, and published by me first, forty-four years ago, has often been rediscovered and has given rise to numerous essays.

I have reason to believe that the composition as found in many drugstores is not always equal to that which is published by Dr. Dreyfus. The proportions given by him are, as I said, fairly correct. His chemical expositions are very gratifying. The individual physician will make such changes as will suit his case or cases. Very probably the next edition of the "Bellevue Hospital Formulary" will make appropriate alterations if the formula will ever be reprinted. I never knew it formed part of the formulary until lately. President Brannan was good enough to promise a revision at the proper time.

A. JACOBI, M.D.

BOLTON LANDING, LAKE GEORGE, N. Y., June 26, 1904.

The Blood in Malignant Disease.—Ernest Cunliffe, as the result of a year of fellowship work upon the blood in carcinoma and sarcoma, formulates the following conclusions: (1) There is a constant decrease in the hæmoglobin and hæmoglobin index. (2) The number of red cells is unaffected until the disease is advanced or the patient has suffered loss through hemorrhage. (3) Leucocytosis is the rule. It is caused especially by hemorrhage, metastasis, ulceration, and septic infection. It may be absent, however, throughout. Its sudden occurrence in such an instance indicates the probability of a metastasis. (4) The polymorphonuclear neutrophiles are increased in number. This feature may be present without the total number of leucocytes being raised, and in this relation points to the presence of malignancy. It is therefore a diagnostic sign of importance.—*Medical Chronicle.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, June 23, 1904.

A Case of Labor in an Epileptic.—Annie Lee Hamilton gives the history of this interesting case. The patient was a primipara, twenty-six years of age. She had been subject to epileptic attacks for twelve years. She had sometimes had as many as two or three attacks in a week. During her pregnancy they were less frequent up to the sixth or seventh month, then rather more frequent between the seventh and eighth months. Up to December 8, four days previous to her entrance to the hospital, she had not had a convulsion for four weeks. On December 8 she had three, and two or three on each ensuing day until the eleventh, when she had five before coming to the hospital. She was now about eight and one-half months pregnant. She seemed to be in pain, and at first she resisted examination. The patient had two convulsions, and it was decided to dilate manually and deliver. There was no laceration. The patient soon apparently recovered from the ether but did not recover consciousness. The baby did very well for the first week but died within a few weeks of convulsions. The patient's condition for several days required very close watching. Finally, on December 18, she began to improve, and in talking, kept to the line of thought very well. On December 31 she was sent home, in very good condition. The treatment in the hospital was chiefly symptomatic. Elimination was carefully looked after and the nervous symptoms were treated by sodium bromide and hydrotherapy. Since her return home the convulsions have been decidedly less frequent. There seems to be very little in the literature in regard to this condition.

Medical News, June 25, 1904.

The Tracheal Traction Test as an Aid in the Recognition of the Asthmatic Lung.—Albert Abrams concludes that: When the head is thrown forcibly backward, the normal resonance obtained by percussion over the manubrium and lungs contiguous thereto, becomes converted into a dull or flat sound. This manœuver the writer has called the tracheal traction test. The tracheal traction test is positive in health and in all cardio-pulmonary affections, but it is negative in cases of idiopathic asthma. The recognition of this test affords a valuable aid in the diagnosis of idiopathic asthma, and assists in its differentiation from symptomatic asthma and other spasmodic pulmonary affections which suggest an asthmatic genesis. The manœuver specified as tracheal traction, evokes contraction of the bronchial muscle by stimulation of the pneumogastric nerves. In asthma the tone of the bronchial muscle is so reduced, that it no longer responds to vagus stimulation brought about when the neck is forcibly extended on the sternum; hence, the tracheal traction test in idiopathic asthma is negative.

Acute Thyroidism Following Curettage.—Brooks H. Wells reports a case of this nature. The patient, aged fifty-three, had passed the menopause at the usual time, but for the last six months had had repeated small bleedings from the uterus which was not enlarged and was freely movable. The patient for many years had had a slight enlargement of the right lobe of the thyroid, slight tremor, but no protrusion of the eyeballs. To exclude cancer of the fundus, a curettage of the uterus was performed. The scrapings showed only a moderate grade of endometritis. Six hours after the operation, the patient was flushed, tremulous, nervous and voluble, although her mind was clear. The pulse had risen to 130, and the temperature was 100.5° F. These symptoms increased in severity, excepting the temperature which fell. The thyroid was enlarged, especially on the right side, and presented quite an apparent thrill. There was marked throbbing of the heart and the large arteries. Examination of the urine revealed neither albumin nor casts. There were many colon bacilli, however, and a few pus-cells. These symptoms of extreme toxæmia continued to the end of the first week. On the tenth day the temperature reached 104.8° with a pulse of 148. There was no leucocytosis. Death was expected at any time from the fifteenth to the twenty-fourth day. The heart-action was most rapid and weak when the temperature was lowest. Diarrhœa ceased to be troublesome on the twenty-first day. On the twenty-fourth day the patient began to improve, and finally reached a condition approximating that before the operation.

Iodine and Mercury to Combat Local Infections.—Aug. Stabler describes a general method of treating local infections which has given him the most gratifying results in many cases of various kinds. The solution of iodine which he applies to mucous membranes, is as follows: A menstruum is made of equal parts of glycerin and water. To this is added tincture of iodine one drachm to the ounce, with a little belladonna and carbolic acid as local sedatives. This solution is applied through a simple hand atomizer to throat and nose, or to the uterus, vagina, urethra, or skin, in any way that is indicated. In using the atomizer, the patient holds the tube between the teeth with lips closed in the same position as in smoking a pipe, and breathes through the nose. The spray will come through the nose when the bulb is worked. Calomel is given internally in moderate doses, frequently repeated, and so mercuric iodide is formed in the system. In rheumatism this treatment achieves brilliant results. If used early, suppuration of the tonsil and joint and heart affections rarely occurs. In acute articular, the writer applies an iodine plaster to the affected joint. He also pushes the mercury internally, and gives a little acetanilid and salol. Subcutaneous affections, such as boils, felons, etc., are treated with the happiest results in this same way. The writer usually combines ichthyol and tincture of iodine, of each one part, with six parts boroglyceride. This is applied on lint or absorbent cotton, which is covered with parchment paper and a bandage.

New York Medical Journal, June 25, 1904.

Albuminuric Retinitis.—L. Webster Fox notes that the retinitis of Bright's disease occurs in about 30 per cent. of all cases of this malady, especially with the contracted kidney. It is nearly always bilateral, but may be unilateral. He describes the changes found in the acute and chronic forms respectively and refers to the accompanying blood changes. Vision is nearly always impaired or lost according to the number, extent, and situation of the hemorrhages. Prognosis as regards life is very grave. The treatment of the general condition will afford the best possible chances for improving the ocular area. The importance of the question of albuminuric retinitis lies in the necessity of making an early diagnosis, and the ability to do this is to a large extent denied the general practitioner, unless he has been trained in the use of the ophthalmoscope, as the symptoms, headache, and loss of vision are common to a number of less serious affections, and in the absence of expert advice on the subject such a patient might go wandering about aimlessly until too late to employ any measures which would be of any benefit whatever.

A Plea for a Truer Therapy—Real Treatment of the Sick.—Dr. W. C. Abbott refers to the fact that many physicians have lost faith in drugs and constantly prescribe empirically without a clear conception of what they wish to accomplish. In regard to dosage he notes that the effective dose depends on both the absorptive and eliminative powers of the patient. It must therefore constantly vary in both amount and frequency. There being absolutely no way by which we can determine *a priori* the amount of any drug which will produce the effect desired in any given case, it is left for us to find that dose by giving *to effect*—either remedial or physiological—beyond which we should not go. The only avenue of escape from therapeutic nihilism lies along the road of medication by active principles in small doses given to effect. Not alone by deduction is this the only rational therapy, but clinical experience with the active principles proves it absolutely. There can be no hesitation in adopting the active principles, if we admit the obvious fact that all medicinal action that a drug possesses is the result of the presence in that drug of one or more active principles. If of one, then does this active principle contain in itself a full expression of the therapeutics of the drug? If more than one active principle is present, then is it not better and more scientific, more exact, to study the action of each separately, than to give such empirically, hoping to get the desired results, which perhaps depend on the presence in *excess* of a certain alkaloid?

American Medicine, June 25, 1904.

Primary Typhoidal Cholecystitis, with Calculi.—Francis S. Stewart operated on the patient, whose case he reports. For three weeks before operation the woman, aged twenty-six, was intensely jaundiced. On admission to the hospital the temperature was 101° F., and the pulse 100. The blood coagulated in one minute. When the distended fundus of the gall-bladder was opened, there came out a small quantity of clear fluid and then a large quantity of sand and greenish-yellow pus. A stone about three-quarter inch in diameter was removed from the sacculation near the cystic duct. The pus from the gall-bladder gave a pure culture of bacillus typhosus. After this report was received, a test was made for the Widal reaction with positive results.

The Larynx in Beginning Pulmonary Tuberculosis.—W. G. B. Harland declares that examination of the larynx in all cases of tuberculosis can give important information. This may be positive or negative. In either case it will be of use in making a prognosis, and may give valuable

assistance in arriving at a diagnosis. Frequently, slight changes in the larynx are observed early in tuberculosis of the lungs. These changes may be congestive or anæmic. The writer declares that in the usual run of cases of beginning tuberculosis of the lungs, an examination of the larynx may give the first clue to the presence of the lung infection. When the larynx is the chief seat of the disease the diagnosis and prognosis must be founded on the local appearances present. In all cases the lesions observed in the larynx, as is true of those found elsewhere, will be of most value in making a diagnosis and prognosis when taken in connection with a thorough careful study of the case as a whole.

Three Points of Interest Concerning Smallpox and Vaccination.—Bernard Kohn reports three cases from which several conclusions may be easily deduced. The first patient, a girl of ten, although she had a physician's certificate of successful vaccination four or five years before, developed smallpox. No scars could be found on her arms. Several days later the girl's uncle developed the disease. He had been vaccinated several weeks before contracting the disease. It was doubtless a case of spurious vaccination due to poor virus. No vesicle was formed. A baby sister of the first patient, about seventeen months old, was vaccinated by the writer eight times, separate tubes of virus being used, the virus being very potent. None of them took, neither did the child contract smallpox, although she had countless opportunities for doing so. This must have been a rare case of natural immunity to smallpox and vaccinia also. The manufacture of vaccine virus should be more carefully supervised by the government. And more care should be exercised in the issuing of vaccination certificates and in admitting children to school on the strength of them.

The Lancet, June 18, 1904.

On the Etiology of Scurvy.—M. Coplans gives an extensive review of his personal experience with scurvy in the Transvaal and Orange River Colonies during the Boer war. He concludes that the disease is not due either to the presence or absence of any particular kind of food from the dietary but rather to an infection for which the food may act as a vehicle under conditions of impure storage or impure preparation. In his experience the disease prevailed in inverse proportion to the personal standard of hygiene, and this would seem to indicate that its infectivity depended on the insanitary habits and possibly the unwholesome occupations of those who were stricken with it.

Lymphatics of the Larynx and Malignant Disease.—P. de Santi discusses the anatomy of the laryngeal lymph channels and believes that these anatomical considerations have a direct bearing on the matters of choice of operation and prognosis. As regards the former the question turns on (1) the site of the origin of the disease and (2) the stage in which diagnosis is made. If an epithelioma of strictly intrinsic origin is seen and diagnosticated early while it is still limited, thyrotomy is amply sufficient to eradicate the disease. In the absence of obvious glandular involvement experience has shown that there is no need to perform a set operation to remove the group of glands liable to infection. On the other hand in most advanced cases of intrinsic cancer which necessitate removal of one-half of the larynx the corresponding glands ought to be removed whether they seem enlarged or not.

The Treatment of Tabes Dorsalis and Its Prognosis.—Maurice Faure notes that while certain cases of syphilitic tabes improve rapidly under vigorous mercurial treatment it is certain (1) that no tabetic gets well solely on account of the quantity of iodide or of mercury which he absorbs, and (2) that aggravation of the disease is more frequent among tabetics who are put on an antisyphilitic treatment in increasing doses than among those who are not treated in this way. It is necessary to avoid attributing exclusively to the action of heroic remedies, such as mercury, the relaxations and the diminutions in the symptoms of disease which are sometimes observed in the majority of cases of tabes, for such ameliorations are the rule, and it is incorrect to say that locomotor ataxia must be a disease which is necessarily and invariably progressive. The disease is steadily progressive in a third of the cases. It is arrested, improved, or gets well in about a fourth of the cases and in the remainder it proceeds very slowly with periods of quiescence only affecting the life of the patient seriously on occasions, and during the rest of his life offering him the possibility of living a life the activity of which doubtless must be diminished, but which is by no means very uncomfortable. As regards treatment, the best results will follow from care of the bladder, keeping the bowels open, attending to nutrition, providing against insomnia, compelling open-air life, preventing overwork, mental or physical, and by attending to the circulatory system

British Medical Journal, June 18, 1904.

Appendicular Colic.—W. Hesketh Evans describes one of his own cases in which, from time to time, appendicular colic was severe. There was no rise in temperature or alteration in pulse, but the pain became so severe that operation was performed. On cutting open the excised appendix, a dark-brown, semi-solid, foul-smelling substance oozed out. In the interior were several small pockets containing a similar substance with fecal odor. Large doses of opium would have probably masked the only symptom, and the termination might then have been fatal.

A Case of Leukanæmia.—F. Parkes Weber reports this case and sums up the main features as follows: Progressive waxy pallor and asthenia with maintenance of subcutaneous fat; changes in the red-blood corpuscles rather similar to, but not so extreme as, those met with in true pernicious anæmia; absence of true leukæmic changes in the blood, but presence of slight myelocythæmia and presence of the inverted proportion of lymphocytes to polymorphonuclears, which is found in cases of lymphatic pseudoleukæmia; no abnormal amount of pigment in the urine; changes found after death in the hæmopoietic tissues, similar to those which occur in cases of "mixed-cell" leukæmia, or pseudoleukæmia; abnormally firm consistence and increase of connective tissue in the bone-marrow from the shaft of a long bone; absence of enlargement of the ordinary lymph glands, but great hyperplasia of the spleen (hæmal gland) and prevertebral hæmolymph glands; absence of any reaction in sections of the spleen, liver, and kidneys for free iron, such as is found in pernicious anæmia. Charcot-Leyden crystals were not noticed in the bone-marrow, etc., but were not specially looked for. In spite of the poikilocytosis, the writer believes the disease in the present case to have been primary in the bone-marrow

The Deterioration of Vision During School Life.—Ettie Sayer has made a careful study of this subject. She has discovered that, at six years of age, 3 per cent. of school children have seriously bad vision, and 88 per cent. can see 6-6 with each eye. At eleven years of age, 11 per cent. have seriously bad vision, and only 58 per cent. see 6-6 with each eye. The rest have slight defects. The writer declares that no child's eyes were intended by nature to undergo the strain of accommodation for lessons, for six or seven hours every day of their lives, between four and fourteen years of age. But if compulsory education enforces it it becomes the duty of the Board of Education annually, to separate those 20,000 children or more, whose vision is so defective that they are unfit physically, to devise for them a specially modified curriculum, and to provide them with glasses if their parents are too poor or too ignorant, to do so. There is plenty of skilled manual work to be done by the class which is so poor that the public has to pay for their education, and they should be taught from their earliest infancy to regard this as their special lot in life. Not only the child with defective vision suffers, but also future generations. All eyes should be tested immediately on the child beginning its education, as to visual acuity; as to rapidity of perception; as to color blindness. At no time during school life should type smaller than pica be used. While infants should be allowed to use only chalk on cardboard. Reading should be learned from the blackboard. There is no defect more likely to be transmitted from parent to child, than that of defective eyesight.

Deutsche medizinische Wochenschrift, June 9, 1904.

Tuberculous Pericarditis.—Scagliosi reports an instance of this rare condition as occurring once in 1077 autopsies made at the University of Palermo. The patient was a woman of sixty who died as the result of a pyelonephritis. At the autopsy a moderate amount of serous fluid was found in the pericardium, and the inner layer was irregularly covered with small nodules, which were later on determined to be tuberculous. The lesion was proved to be primary in the pericardium, and the author thinks that the patient's age was the predisposing factor in determining this localization. It is well known that the blood-vessels of the heart in older persons are usually more or less diseased, and thus offer a point of lessened resistance. Careful histological examination of all the other organs and the lymphatic glands failed to reveal any traces of tuberculous processes. It seems rational to assume, therefore, that a primary tuberculous pericarditis may exist as a disease entity.

Rupture of a Tuberculous Abscess into the Trachea.—Gaudiani directs attention to the possibility of a destruction of the walls of the air passages by the softening of masses of tuberculous cervical lymph-nodes. This may be followed by a sudden invasion of the trachea and the bronchi, leading to death by asphyxiation. An instance of this comparatively rare condition is reported as having

occurred in a child of three, who had just recovered from what was supposed to be an angina. A few days later, sudden dyspnœa came on, and although a tracheotomy was done it was impossible to save the child. Autopsy showed that the trachea down to the bifurcation was surrounded by a mass of glands. A perforation had taken place and the bronchi were filled with cheesy masses. This case also shows the difficulties attending the proper diagnosis. The only differential point which distinguishes this from laryngeal stenosis is the character of this voice, which is but slightly affected in the former condition. No other symptoms may have been present to point to the extensive character of the diseased processes in the glands.

Treatment of Injuries to the Diaphragm.—Rona calls attention to the seriousness of this class of injuries, in which the proper surgical treatment is an urgent necessity. The patient, a boy of fifteen, presented a stab wound of the chest between the eighth and ninth ribs, through which a considerable portion of omentum protruded, pointing to an injury of both the pleura and the diaphragm. The transthoracic method of operation was employed, and after exposing the eighth rib under Schleich anæsthesia, a portion about 15 cm. long was resected. This disclosed a slit in the diaphragm about 4 cm. long, through which the omentum protruded. The latter was cut way after ligature and the stump dropped back into the abdomen. The upper border of the wound in the diaphragm was then sutured to the parietal peritoneum and the skin wound closed with the exception of the lower angle, in which a few strips of gauze were introduced for drainage. The patient made an uninterrupted recovery.

A New Property of the Tubercle Bacillus.—Piatkowski presents a preliminary communication dealing with the differentiation of the tubercle and the other acid-resisting bacilli. His method is based on the observation that the acid-resisting bacteria may be isolated from a mixture by diluting a small quantity of the latter with water or bouillon (10 c.c.) and then adding two to three drops of formalin. This is thoroughly shaken in a test-tube, and after half an hour a culture is made in a plain agar, or a glycerin-agar tube. Successive cultures are made from the same mixture at intervals of about fifteen minutes. In one or more of these tubes a pure culture of the bacillus will be found. It appears that the group of acid-resisting bacilli is less sensitive to the action of the diluted formalin solution than other varieties of bacteria. But even these are killed after prolonged exposure to the formalin, and so the difference is one of time only. The formalin solution has no effect whatever on the morphological characteristics of the acid-resisting bacilli and does not affect their staining properties. The author considers that this method can be more simplified, and is making further researches in this direction.

Berliner klinische Wochenschrift, June 9, 1904.

Gonorrhœal Phlebitis.—Heller reports an instance of this rather rare complication of gonorrhœa, a search of the literature disclosing the fact that this is only the twenty-sixth case on record. The patient presented neither varicose veins nor any other factor which could be considered as an etiological factor. About four weeks after a gonorrhœa, which had apparently subsided, he developed a marked phlebitis of the lesser saphenous veins and the pampiniform plexus, which gradually disappeared under appropriate treatment. The affection seems to be found most often in young men between the ages of twenty and thirty, and usually comes on during the first attack of gonorrhœa, during the subacute stage. An arthritis was present in most of the cases reported. A varicose condition of the veins was noted in but one instance, so that this cannot be looked upon as a predisposing factor. The veins of the lower extremity are involved in the large majority of cases, particularly the saphenous vein. The principal symptoms are pain and localized œdema, and the average duration of the disease is about six weeks. The prognosis is usually good, although a few fatal cases have been reported. The author considers that the process may be due to the rupture of some hidden focus, most likely prostatic, and the entrance of the septic material into the venous circulation. Treatment is that of phlebitis elsewhere.

Fatty Degeneration.—Rosenfeld thinks that this term should be limited to that condition in which an organ contains more fatty tissue than is normally present. This must be determined by chemical or microscopical methods. The latter, however, seems inadequate in most instances to afford any reliable quantitive estimate of the fat present in any given organ. Of the chemical methods, that which is based on the extraction by alcohol or chloroform seems most efficient. The author attempted to ascertain by experiments in animals which organs are the most liable to undergo a fatty degeneration. These were given phosphorus, phloridzin, chloroform, alcohol, and various other materials. The liver was apparently the most quickly affected. As regards the heart, chloroform and cantharides had no effect, alcohol and potassium bichromate caused an increase of about 2 per cent., phosphorus and phloridzin about 4 per cent., and extirpation of the pancreas was followed by an increase of 6 per cent. It seems, therefore, that there is no connection between the two in cases in which a patient dies from poisoning by chloroform and a fatty heart is found at autopsy. In the kidney a marked decrease in the amount of fat present is produced by cantharides and chloroform, very little change follows the administration of either phosphorus or potassium bichromate or extirpation of the pancreas, but a rather marked increase in the amount of fat is produced by alcohol. Muscular tissue, as a general thing, afforded the surprising picture of a diminution of the fatty elements rather than an increase. The author concludes from his observations that in those organs where fatty degeneration is present the fat arrives there by a process of migration.

Munchener medizinische Wochenschrift, June 7, 1904.

Treatment of Skin Diseases with the X-rays.—Muller reports on the employment of this agent in pruritus, hyperidrosis, and chronic eczema. By the use of moderately soft or even very soft tubes he obtained excellent results, but does not consider it wise to apply the method indiscriminately in these diseases without having tried other procedures. A case of pruritus vulvæ of long standing which had resisted other treatment was entirely cured after five exposures. In the case of profuse sweating of the hands, the exposures were followed by an exfoliation of the skin, and from the new dermal covering this excessive perspiration was absent. Another patient with this condition in the anal region was also favorably affected. The cases of chronic eczema were freed from the itching and the indurated skin after a few exposures.

Value of Lumbar Puncture in Meningitis.—Wertheimer believes that Quincke's method of lumbar puncture affords the means of offering a better prognosis in many cases of meningitis in children, especially in those instances in which this disease follows a pneumonia or acute infectious process, and in which the meningitis may with considerable certainty be considered of the serous type and free from bacteria. He claims that the therapeutic value is also considerable and believes that partial evacuation of the cerebrospinal canal should not be delayed until the test puncture has shown the presence of a high intracranial pressure. Rather it should be done as soon as the general symptoms, particularly the condition of the eyes, point to an increased cerebral pressure, and then the puncturing may be kept up until the pressure disappears. The author reports a case in which a meningitis followed a pneumonia, in which 560 c.c. of fluid werere moved from the spinal canal at intervals of several days. The fluid was proved free from bacteria. The symptoms subsided and the child made a good recovery.

French and Italian Journals.

A Case of Total Hysterical Deafness.—Bouyer has had under his care a case of total hysterical deafness which developed suddenly in consequence of a violent emotion. There is complete suppression of perception both by the medium of air and bone. The deafness has several times been momentarily suspended under the influence of certain therapeutic measures, which appeared to play especially a suggestive rôle—insufflation and electric treatment. The patient was able to preserve for several moments a normal perception, but soon the sounds became confused, and were lost in a distant murmur, which signalled the progressive return of the auditory nerve to numbness, and the development of intellectual torpor.—*Gazette Hebdomadaire des Sciences Médicales*, May 29, 1904.

Intestinal Occlusion by an Enormous Uterine Fibroma; Entire Relief of the Symptoms by Means of Right Lateral Decubitus.—Paul Gallois reports this case of a woman forty years of age, suffering from an enormous uterine fibroma. Constipation was persistent, the abdomen was distended, and the patient suffered from fever. Vomiting was also a troublesome symptom. The patient could not eat, and grew cachectic. The condition was growing alarming. It occurred to the writer to advise the patient to lie on her right side. He reasoned that this position would disengage the sigmoid flexure, and besides, it would throw the weight of the tumor on to the distended intestinal loops and increase their power of evacuation. Soon after the patient was able to lie on her right side gas escaped from the intestine, and fæces were quickly passed.—*Le Bulletin Médical*, May 28, 1904.

Hysterical Polydipsia and Polyuria of Eleven Years' Duration.—Sollier has observed a case of polydipsia and

polyuria in a young woman who drank from 12 to 17 litres of water daily with no complication of alcoholism. The polydipsia had been caused by a sensation of burning in the œsophagus, the effect of an acute hysterical attack which developed at the age of seventeen years. The burning sensation was relieved by drinking cold water. The polyuria, resulting from the polydipsia, persisted for eleven consecutive years, and then ceased, when the hysterical troubles were relieved. The patient was treated in a sanatorium by measures generally employed in hysteria—isolation, rest in bed, and mechanotherapy. Within three months, a complete cure resulted without the aid of any hypnotic suggestion of any kind.—*La Presse Médicale*, May 28, 1904.

A Large Foreign Body in the Nasal Fossæ.—Texier reports this unusual case of a man without morbid antecedents who was suffering with a suborbital fistula. There was a mucopurulent discharge from the nose. The fistula was thought to be due to a fall which had resulted in an abscess of the cheek. Two years before the patient's arm had been amputated as a result of injury by the explosion of a firearm. On examining the fistula, it was found that a probe could be pushed inward and backward for 12 cm. Rhinoscopic examination showed the presence of a foreign body which had gone through the septum, penetrating both nasal fossæ. It proved possible to seize the object through the fistula orifice and extract it. It was found to be a piece of iron about the size and length of the little finger. It had penetrated the nose at the time of the explosion, but the injury of the arm had been so severe that the accident to the nose had passed unnoticed.—*La Bulletin Médical*, May 18, 1904.

Results of Some New Researches on the Etiology of Rabies.—A. Negri states that in the nervous system of animals affected with hydrophobia is found a microorganism of the nature of a protozoon. It is found in the cells of the cerebrospinal axis. In dogs which have died of rabies furiosa after subdural injections of the virus, they are found in the encephalon, especially in the cornu ammonis. They are round, oval, or angular, when of large size. Many are smaller and round. They vary in size from 1 to 20 μ in diameter. The smaller ones are homogeneous, the large ones granular, irregular in shape, nucleated, with one or more nuclei. They may invade all the cells of the nervous system, the cells of Purkinjé, the cerebral cortex, pons, medulla, and Gasserian ganglion. In rabies paralytica the distribution is different; when inoculated in the sciatic, the disease is ascending, and attacks the cells of the spinal ganglia, and is not found in the brain. The author has found this organism in one case in man. They are soon destroyed by caustic alkali, but are not injured by acids. Drying, heat, putrefaction, glycerin, water, and physiological solutions do not affect their virulence.—*Lo Sperimentale*, April, 1904.

Movable Kidney and Enteroptosis.—H. Sérégé calls attention to the frequent coincidence of enteroptosis with the movable kidney. The latter condition is, in the great majority of cases, to be considered as one of the phenomena in the general process of splanchnoptosis. Gastrointestinal troubles in general, particularly those of infancy and adolescence, handing down a defective state of nutrition, are the origin of the process of ptosis in 54 per cent. of the cases. Pregnancy, alone, without other antecedent morbid cause, followed by serious dyspeptic troubles, appears to be the first cause in the proportion of 32 to 100. Multiplicity of pregnancies does not seem to augment the trouble to any sensible degree. Periodic congestion is noted as a cause. Traumatism is a rare cause. The treatment of the movable kidney, the writer believes to be essentially medical. As to surgical treatment, it should never be attempted till medical treatment has failed. The writer calls attention to the importance of the Glénard supporter. Besides this, he advocates the use of daily laxatives, the meat régime, and the use of alkalines. His results have been most encouraging. He believes in the use of the supporter even in cases in which the abdomen is not prominent.—*Journal de Médecine de Bordeaux*, May 29, 1904.

Four Conservative Cæsarean Sections and One Destructive One for Osteomalacia.—T. Morisani publishes five cases of cæsarean section done for pelvic deformities, three rachitic, two osteomalacic. The children were all saved. One mother died of sepsis. In one the uterus was removed, while in the others it was left. The author advocates making an incision in the median line of the fundus, from the highest portion, extending as far toward the symphysis as is necessary. The incision should avoid the location of the placenta as far as it can be ascertained, as this lessens the danger from hemorrhage. Hemorrhage depends less on the cutting of large vessels than on a lack of uterine contraction. In the median line of the uterus there are few large vessels to be cut. The extraction is also easier, and there is less danger of rupture of the uterus in a subsequent pregnancy because the scar is firmer. The higher up the incision, the stronger is the uterine muscle cut through. There is also less danger of ventral hernia, since the incision does not reach near the symphysis.—*Archivio di Ostetrica e Ginecologia*, March, 1904.

Comparison of the Agglutination of Different Tubercle Bacilli, in Relation to the Origin of the Bacilli and of the Serums.—M. S. Arloing and Paul Courmont conclude that: (1) Certain homogeneous cultures of tuberculosis are not agglutinable by tuberculous serums, even by serums obtained by inoculation of this same culture. The origin of the cultures does not seem to be the cause of the failure of agglutinability. They cannot serve for serum diagnosis. 2) The homogeneous cultures which are agglutinable, are so, whatever be their origin, in contrast to all the tuberculous agglutinating serums. The writers do not refer to the degree of agglutinating power. (3) Reciprocally, the experimental tuberculous serums, whatever may be the origin (human, bovine, or avian) of the infecting tuberculosis, are agglutinating for all the specimens of agglutinable tuberculosis. (4) Practically, the cultures of human tuberculosis are agglutinated by the serums of bovine tuberculosis and the cultures of bovine tuberculosis by the serums of human tuberculosis. The method of serum-diagnosis is then applicable to all kinds of tuberculosis, of whatever origin, on the condition of having a culture that is very agglutinable. (6) The study of agglutination does not allow of establishing very sensible differences between tuberculoses of different origin, especially between human and bovine tuberculosis.—*Lyon Médical*, April 24, 1904.

The Pathological Anatomy of Acute Delirium.—U. Alessi publishes the account of a case of acute delirium with pathological findings and some observations on the case. The patient, a man of thirty-five years, was of peaceful character, and had never indulged to excess in alcohol or tobacco. The onset of the disease was sudden, with acute mania of riches: he became loquacious, irritable and incoherent, unable to recognize his friends. This increased to excitement, motor irritability, insomnia, refusal of food, and a fever of 37° to 42°. This condition went on to extreme debility, coma, and death. A culture made from the blood showed the presence of pure cultures of pyogenes communis, which was also found in the brain. Examination of the cells of the brain showed marked degeneration of the cells, an acute parenchymatous degeneration of the fundamental nervous elements, *i.e.* an encephalitis. The author thinks that the title used for such affections should be based on the pathological conditions found, rather than on the clinical symptoms. Hence such a case should be called an acute parenchymatous encephalitis, rather than one of acute delirium. The cause of such an encephalitis may be a variety of organisms, as the bacillus of Bianchi-Piccinino, of Fraenkel, a streptococcus infection, or one due to pyogenes communis.—*La Riforma Medica*, April 27, 1904.

Rays and Emanations.—P. Schivardi compares the rays derived from the Crookes' tube and those of radium. He says that radium gives forth three sorts of rays: alpha, with slight power of penetration, arrested by aluminium; beta, with strong penetrating power, passing through lead; gamma, identical with the *x*-ray. A radium salt produces heat and light. Radium gives out positive, negative and *x*-rays, like the Crookes' tube, but spontaneously, and not as a result of outside stimulation. It seems to emit a sort of gas, as it were, which attaches itself to various bodies, and gives them radio-active powers; these are the emanations of radium. Another kind of rays come from the Crookes' tube called the *n*-rays, which are invisible, obscure, and yet traverse wood, metals, and the human body. They do not pass through lead or pure water. They do not act on the photographic plate, but they increase the luminosity of phosphoresent bodies, and make the light of a lamp more brilliant. They also increase the sensibility of the retina. These *n*-rays are a vibratory phenomenon of the ether, while the radium emanations are a liberation of a small amount of electricity, expelled from atoms of radio-active substances. A phosphorescent body is increased in brilliancy in the presence of muscular activity, in the neighborhood of the nerve trunks, or the central nervous system. There is a small instrument based on this principle, by which the course of the motor nerves can be followed out. This consists of a simple phosphorescent carbon disk. By means of it the topography of the central nervous system may be mapped out, as well as the psychomotor areas in the cerebral cortex, and the language centers. The human body also emits *n*-rays, increased in power by the functioning of the body. These emanations may serve to explain the phenomena of

telepathy and thought transference. Griffiths found radio-activity in the petals of odoriferous plants, such as the geranium. If a test instrument be placed over the speech center in the cortex, speaking will cause it to become luminous, especially in the presence of a low voice, while when silence supervenes the instrument becomes dark.—*Gazzetta Medica di Roma*, May 1, 1904.

Annals of Surgery, May, 1904.

Stricture of the Œsophagus Due to Typhoid Ulceration.—J. E. Thompson reports three personal cases and has found nine others on record, a résumé of which is given: Case 1 was somewhat relieved by dilatation measures, but finally died from inability to swallow. A similar treatment produced permanent relief in cases 2 and 3. As to the exact nature of œsophageal ulceration in typhoid, we have no definite information. Louis considered them as due not to typhoid infection but rather as a complication due to the extreme malnutrition of the tissues. It is very probable that the ulcers at the lower end of the gullet are due to peptic digestion of the œsophageal mucosa. The ulcers have been observed in many cases of exhausting and long-continued sicknesses. It is noteworthy that out of the twelve recorded cases, eleven occurred in males.

Rhinophyma.—W. W. Keen describes one case of rhinophyma resulting from an acne rosacea. In operating he excised the central portion of the growth from the upper margin of the diseased area down to the tip of the nose by an elliptical incision, the long axis of which corresponded to the bridge of the nose. H then sutured the edges. The pressure of the finger in suturing the lobules of tissue squeezed out from the ducts of the sebaceous glands a number of columns of sebaceous matter, commonly known as "worms." On the alæ of the nose, as it was impossible to obtain a suitable ellipse, he contented himself by simply shaving off all the hypertrophied tissue The hemorrhage was not severe; not a single vessel had to be ligated. A few clamps applied for a few minutes and the sutures checked the hemorrhage almost entirely, and a little adrenalin solution applied on the raw surface where he had shaved it completed the hæmostasis. Between the dressing and skin a bit of gutta-percha tissue was placed, so as to prevent adhesion of the dressing to the wound, which would retard the cicatrization. Recovery was rapid and complete.

Postoperative Pneumonia with Experiments upon Its Pathogeny.—The conclusions of W. L. Chapman are as follows: (1) Prophylaxis. Care in ether giving lessens shock and respiratory irritation, which reach their maximum when an unnecessarily large amount of ether is given. (2) The disinfection of the mouth and oropharynx by peroxide before operation is a rational precaution. (3) Adequate air space is of even greater importance in surgical wards than in medical. (4) A careful auscultation and percussion of the chest should precede every operation, and if there be signs of disease, operations of election should be postponed until the chest condition is more favorable. (5) A complete clinical record of all cases of postoperative pneumonia, together with a record of the previous state of the patient, is most desirable, and such records will in time greatly enrich our incomplete knowledge of the factors which predispose to the complication. (6) It is possible to demonstrate experimentally the lesions produced by suffocation and etherization, and the same philosophy which explains postoperative pneumonitis may be applied to that which occasionally follows poisoning by carbon monoxide and illuminating gas.

Lymphatic Constitution; Care of the Lymphatics During and After Surgical Operations.—F. Gwyer reminds us that infection is most commonly carried through the lymphatics, but that ordinarily the only care we take is to cut cleanly and not tear the tissues. We should exercise the same care in closing all lymphatic vessels and spaces as we do in occluding the blood-vessels. In operating on diseased glands he advises dissection to the point of exit of the vessel, which he then ligates as he would an artery or a vein. An additional value in his experience has arisen from the fact that the arterial supply enters at about the same point as the emergence of the lymphatic, and there has been less hemorrhage than otherwise. Ligation also facilitated the work, in that the vessels, lying usually toward the bottom of the wound, dissection is more difficult, and if bleeding occurs, it is more difficult to control; but if dissection is carried to that point and a ligature is thrown about the pedicle, as it were, much time is saved. In order to close up lymph spaces he rubs over the exposed area sterilized vaselin or iodoform-lanoline. In case of ordinary abscesses he incises, washes out the cavity, swabs it dry, and then fills it with one of the above preparations. The same plan is followed in the after-treatment of infected cases The ointment should be a soluble one. Hence bismuth, zinc oxide, and similar preparations are inadmissible.

Skin-grafting Infected Areas.—By "infected areas" S. F. Wilcox refers to raw surfaces which may or may not have been originally aseptic but which have become infected and from which pus exudes. To successfully skin-graft such areas we must first render them aseptic. The author thus describes his plan of doing this. The night before the operation the ulcerating and surrounding area should be cleansed as thoroughly as possible with green soap and hydrogen peroxide to remove the dried crusts and débris from the granulations. In case of very foul varicose ulcers, more time may be taken, and a compress wet with 50 per cent. solution of peroxide may be applied for a few days until the exudate is removed. After cleansing, the raw surface is covered with a compress saturated with a 1 per cent. solution of formaldehyde (the or inary 40 per cent. pharmaceutical preparation being the unit), and this compress is allowed to remain in place until the patient is on the operating table. When the compress is removed, it will be found that the granulation layer is dry and dark red in color, having an appearance much like smoked beef. This layer is about a quarter of an inch in depth; it is friable, and can easily be scraped off with a sharp spoon from the underlying tissue, which is whitish and bleeds very little. The removal of the granulation layer should be thorough, and what little oozing there is can be easily be stopped by the application of the Esmarch solid rubber band for a few minutes. The use of the rubber is a valuable step in the operation, as the smooth rubber makes equable compression and does not stick to the tissues when removed, but leaves an ideal surface for skin-grafting. The remainder of the operation is the ordinary one for the application of Thiersch's grafts. The after-treatment is the same.

Sialolithiasis.—According to O. T. Roberg, there are a few over two hundred cases of this condition on record. He describes one case occurring in a man of fifty-eight years who presented a condition leading to the diagnosis of calculus in Wharton's duct and probably in the submaxillary gland with suppuration of the latter and with suppurative cellulitis of the neck. An incision was made under local anæsthesia into the mass, and a small amount of thick, curdy pus escaped. One week later the swelling was considerally smaller and pus had ceased to discharge. The patient was then anæsthetized. The nodule in the mouth was incised, and by means of a small curette a concretion the size of a split pea was removed. An incision about three inches long was then made externally, parallel with the lower border of the jaw, and one-half inch below it. By means of blunt dissection through a mass of dense scar tissue the submaxillary gland was exposed and removed. The wound was packed with iodoform gauze, and only partly closed. A second calculus was found lodged in the beginning of the duct. Five weeks after the operation the wound was completely closed. After the operation there was paresis of the angle of the mouth, from which the patient had completely recovered four months later. Concerning the relation of bacteria to the formation of salivary calculi, the author believes that they cause a precipitation of the calcium salts by increasing the alkalinity of the saliva and removing the carbon dioxide. This explanation, however, does not account for the fact that calculi are found far more frequently in the submaxillary gland and duct than elsewhere.

Hæmoptysis.—In the treatment of hæmoptysis, Dr. W. von Bozoky does not approve of too much energy in this direction. The patient should be laid down with neck and chest freed from the pressure of clothing, and the upper portion of the body raised in order to facilitate expectoration. Then the patient should take deep breaths, which tend to restrain hemorrhage by inducing coagulation of blood and thrombus formation. Coughing should be checked, in order that the formation or development of a thrombus may be, as far as possible, promoted. Only a few slight coughs may be permitted, in order to get rid of the blood present in the upper air-passages. A morphine injection may be given with the view of calming the patient. The ice-bag may also have a favorable psychical influence. Ergot is not of much use; it tends to raise blood-pressure, and is not likely to be of avail in hæmoptysis. He does not approve of injections of gentian, which do not seem to have a favorable influence and are also attended by the risk of tetanus.—*Zeitschrift fur Tuberkulose und Heilstättenwesen.*

Book Reviews.

THE GAZETTE POCKET SPELLER AND DEFINER. English and Medical. Second Edition. New York: The Gazette Publishing Co., 1904.

THIS tiny volume of 216 pages is so compactly arranged that it can easily be slipped into any pocket. It is unusually comprehensive for its size. The words in the English section are briefly defined, mainly by synonyms. In the revision of this little volume nearly 700 English and more than 300 medical words have been added without increasing the size or number of pages. It is an extremely convenient little manual.

OBSTETRICS FOR NURSES. By JOSEPH B. DE LEE, M.D., Professor of Obstetrics, Northwestern University Medical School; Obstetrician to Mercy, Wesley, Provident, Cook County, and Chicago Lying-in Hospitals; Lecturer in the Nurses' Training Schools of same. Fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

ALTHOUGH this book is intended by the author to be primarily for nurses, it is nevertheless, full of material valuable to the medical student, who frequently finds in his early years of obstetric practice the work of a nurse devolving upon him. Two main subjects are considered—obstetrics for nurses and the actual obstetric nursing. But the author has so skilfully combined them that the relations of one to the other are natural and helpful. This whole subject is one of such vital importance that a book of this kind, embodying as it does the experience of eight years of lecturing to the nurses of four different training schools, is most welcome to all those interested in obstetrics, whether nurses or physicians. The text is divided into three parts: Anatomy and Physiology of the Reproductive System, Nursing During Labor and in the Puerperium, and The Pathology of Pregnancy, Labor, and the Puerperium. There is an appendix treating of Visiting Nursing in Obstetric Practice, Hospital vs. Home Nursing. The Obstetric Nurse and Dietary. An excellent glossary and an index are appended. The illustrations, which are plentiful, are nearly all original, and were made expressly for this book. The author has taken the photographs from actual scenes, so that the details are true to life. We can warmly recommend this work.

MALADIES DES PAYS CHAUDS. Manuel de Pathologie Exotique. Par PATRICK MANSON. Traduit de l'Anglais par Maurice Guibaud, Médecin de la Marine, Jean Brengues, Médecin de l'Armée Coloniale, et Augmenté de Notes et d'un Appendice par M. Guibaud. Avec 114 illustrations et 2 planches en couleurs. Paris: C. Naud, 1904.

THE interest in tropical diseases has assumed such importance of recent years that a contribution to the subject like this comprehensive work now translated into the French language, is a most welcome addition to this branch of literature. In the introduction the author considers the etiology of tropical diseases. The book is divided into seven sections. In the first, various fevers are considered—malaria, yellow fever, bubonic plague dengue, Mediterranean fever, tropical typhoid, typho-malaria, sunstroke, unclassified fevers, etc. The second section treats of beriberi, epidemic dropsy, and the sleeping sickness. Then follow the abdominal affections—cholera, dysentery, diarrhœa, liver abscess, infantile biliary cirrhosis, etc. Leprosy, ulcerating granuloma of the genitals, and Oriental bubo are then discussed. Diseases due to animal parasites and associated maladies are accorded considerable space, and include such affections as lymphangitis, lymph scrotum, elephantiasis, bilharzia hæmatobia, endemic hæmaturia, craw-craw, trichocephalus dispar, ascaris lumbricoides, ankylostomum duodenale, strongylus, subtilis, tænia and nana, and bothriocephalus mansoni. The section on cutaneous diseases is divided into four parts, non-specific diseases, diseases due to bacteria, those due to vegetable parasites and those caused by animals. The last chapter deals with local maladies of an undetermined nature. One hundred and fourteen illustrations are scattered throughout the text. There are, besides, two colored plates.

A MANUAL OF HYGIENE AND SANITATION. By SENECA D. EGBERT, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia; Member of the Academy of Natural Sciences of Philadelphia; Member of the American Medical Association. Third edition, enlarged and thoroughly revised. Illustrated with 86 engravings. Philadelphia and New York: Lea Brothers & Co., 1904.

THE third edition of this valuable book will receive a warm welcome from the many classes to whom it appeals. The treatment of the subject is so scientific and systematic that the book fills a want not well met by many other volumes on these topics. Since its appearance, five years ago, the text has increased by more than one-third of its original volume. The author has shown in the introductory chapters what practical hygiene and the employment of comparatively recent discoveries in this field are doing for the improvement of this country, the data being derived from the Reports of the United States Census of 1900. The writer calls attention to the fact that improvement of sanitary conditions within ten years has resulted in the lowering of the death rate for almost twenty-nine millions of people, for consumption, 24 per cent.; for typhoid fever, 27 per cent.; for diphtheria, 50 per cent.; and for malaria 54 per cent. The reduction of the general death rate for the same number of people means a saving of almost fifty-two thousand lives, as well as the prevention of an incalculable amount of sickness. The volume deals with personal as well as public health, and is an invaluable addition to the library, not only of the physician but also of the layman.

THE JOHNS HOPKINS HOSPITAL REPORTS. Volume XI. Baltimore: The Johns Hopkins Press, 1903.

THIS volume of the reports contains three monographs: (1) Pneumothorax: A Historical, Clinical, and Experimental Study, by Charles P. Emerson, A.B., M.D. (2) Clinical Observations on Blood-pressure, by Henry Wireman Cook, M.D., and John Bradford Briggs, M.D. (3) The Value of Tuberculin in Surgical Diagnosis, by Martin B. Tinker, M.D. The writer of "Pneumothorax" presents an exhaustive study of this subject. The first chapter gives a history of numerous cases reported by many different writers, going back to the earlier times. In later chapters the history, etiology, and pathology, with the clinical histories of cases, the mechanics of pneumothorax, the symptoms, course, prognosis, diagnosis, and treatment of the disease are discussed. The authors of "Clinical Observations on Blood-pressure," give the history of the principal methods of clinical sphygmomanometry; blood-pressure observations in surgical cases, in obstetrical cases, and in medical conditions. They finally treat of the comparative value of general stimulant measures. In the last paper, the value, dose, harmful use, injection, preparation and reliability of tuberculin in surgical diagnosis are discussed.

THE PRACTICAL CARE OF THE BABY. By THERON WENDELL KILMER, M.D., Associate Professor of Diseases of Children in the New York School of Clinical Medicine; Assistant Physician to the Out-patient Department of the Babies' Hospital, New York; Attending Physician to the Children's Department of the West Side German Dispensary, New York. With sixty-eight illustrations. Philadelphia: F. A. Davis Company, 1903.

THE author has presented his subject in a clear, concise, and interesting manner. He has gone into the explanation of details in a most painstaking fashion. The text is made very clear by numerous illustrations. The proper development, clothing, and feeding of the infant are all discussed. Then follow chapters on the diseases incident to babyhood. Finally, there are sections treating of the Nursery, the Wetnurse, Bad Habits, and Food Recipes. The text is so plain that the book cannot help but be of great value to mothers and nurses as well as to physicians.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPICAL AND CHEMICAL METHODS. By CHAS. E. SIMON, M.D. Fifth Edition, revised and enlarged. New York and Philadelphia: Lea Brothers & Co., 1904.

SINCE its first appearance in 1896 this work has come to be regarded as one of the standards in this country in its particular field. The great strides made in this subject during recent years have necessitated frequent additions to the book in its successive editions, and the present one, the fifth, has attained the dimensions of a large octavo of almost 700 pages, with numerous illustrations. The purpose of the book is well stated in the author's preface, where it is said that exact methods of diagnosis necessarily underlie successful therapeusis, and should therefore be part of the equipment of every physician. Dr. Simon has at tempted to simplify the physician's work and to increase its efficiency by enabling him to eliminate doubt from his diagnosis. Besides a careful revision, this edition embodies much new matter which has appeared during the last few years. The section on the blood has been entirely rewritten and has been enlarged by sixty pages, especial pains having been taken with the chapter on technique. A section dealing with the nature of anilin dyes and the principles of staining has been introduced. For convenience of reference, the subject of leucocytosis has been arranged in such a manner that hyperleucocytosis and hypoleucocytosis are separately considered in connection with the different varieties of leucocytes. A new section deals with the cryoscopic examination of the blood. The chapters on the parasitology and bacteriology of the blood have been enlarged, with separate sections on paratyphoid fever, gonococcus septicæmia, bubonic plague, trypanosomiasis, and spotted fever. Many other additions and changes have also been made in other sections.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held May 19, 1904.

DR. VIRGIL P. GIBNEY, IN THE CHAIR.

The Distinctive Character of the Temperature Curve of Measles, and of Scarlet Fever—the Treatment of Hyperpyrexia in These Diseases.—Dr. H. W. BERG read this paper (see page 1).

Dr. HENRY KOPLIK said that the temperature curve during the enanthemata could not be considered exact as yet, because there had not been enough cases under observation to warrant any conclusion. During the enanthemata there would be apparently a slight rise of temperature, which might fall to normal, rise again and, in two or three days, would rise further with the appearance of the eruption. As to there being anything characteristic about the prodromal stage he hesitated to state; there was in all probability the temperature curve of an infection, same as would appear in an attack of tonsillitis or other infections. Even before the enanthemata there might be a slight rise, the child not being apparently well, running a temperature of one-half or one degree. There it was difficult to say when the temperature curve began or when it ended. With reference to the critical drop in measles he said that Dr. Berg was correct in the chart drawings, but there were uncomplicated cases which did not show this critical drop; in other words, all cases did not conform to this critical drop curve, because there were many cases recorded without any complications, so far as one could tell after the most careful and painstaking examinations, in which the temperature dropped by lysis. He could not, therefore, support Dr. Berg's assumption that uncomplicated cases of measles dropped by crisis. With regard to the statement of Dr. Berg that he had never seen a case of measles without temperature being present, he referred to a baby that was under observation for six days, and he did not know what the matter was. The baby was brought into the hospital with a slight bronchitis, and for a day it was watched carefully. The temperature was normal, being 99.4° by rectum. Soon the child broke out with an eruption, there was a conjunctivitis, the spots were well shown in the mouth, and the case proved to be one of well-developed measles. The baby was transferred to Riverside Hospital. Here was a well-marked case of measles without scarcely any pyrexia.

In regard to the scarlet fever temperature curve, he agreed with Dr. Berg that it acted as depicted by him in normal cases, but he said he had seen cases with temperatures of 103°, 104°, etc., which failed to drop, and when there were no complications. In these cases there was general enlargement of the lymphatic glands and a severe dermatitis. He remembered distinctly just such a case in which he was asked to point out the complication which kept up the fever; he looked for it everywhere but failed to find one. He thought it might be explained by the fact that the desquamation was so marked, and the glandular enlargement and toxæmia so marked that it kept the temperature running a week or two. He would endorse Dr. Berg so far as he had gone. There was nothing so typical as a scarlet fever normal curve, and nothing so varied as measles when the eruption was at its height to predict whether it would show a critical drop or not. There was another class of cases that had not been referred to in which there was no typical temperature curve at all, *i.e.* the malignant cases with temperatures remaining at 105°, 106°. To build a therapy upon the temperature curve he thought would be rather risky, for each case should be studied by itself. If left alone he believed the normal cases of measles would get well; at the same time, if the temperature remained up he did not hesitate to sponge them and adopt mild measures. He did not recommend cold sponging, but luke-warm water, as a rule. The more he saw of scarlet fever the less he felt that he knew of its treatment, and he believed that each case should be studied by itself. Lately he had seen a child, six years old, who was very ill with scarlet fever, and what helped this child more than anything else was placing him in the cold pack and then adding cold water; here no sponging was used. On the other hand, in private practice, he treated his cases of scarlet fever with sponging; some children bear cold sponging well with good reaction, and others bear warm sponging well. Again some children may go to pieces in a bath at 80°, but if the water was raised to 100° it would revive them.

Dr. ALEXANDER LAMBERT said that his experience coincided in the main with Dr. Berg's. Measles was associated with a distinct crisis, but the typical absolute crisis, as depicted on the charts, was the exception rather than the rule. When complications appeared, as a sudden attack of bronchitis, a temperature of 105° may be reached within thirty-six hours. He referred to one girl who had the typical rash, general adenitis, slight throat symptoms, etc. It was a very brilliant rash, and the case went on to complete desquamation at the end of six weeks, and at no time was the temperature above 99°. In another case there was the red and congested throat, the rash, adenitis, and a marked general desquamation and no temperature. He agreed with Dr. Koplik that in cases of scarlet fever, with very brilliant eruptions, in uncomplicated cases, the temperatures may run along for two or three weeks before coming to the normal.

Dr. WM. P. NORTHRUP said that measles, scarlet fever, and smallpox had exact charts, and related an instance in which he predicted what the chart would be in a child who contracted the disease from her sister who was suffering from scarlet fever. The thermometer should not be studied so much but the child's condition. He advocated the use of water inside and out, and said that the old adage, "keep the feet warm and the head cool," was a good one to follow.

Dr. Berg closed the discussion, and said that a great deal hinged upon the question of complications, and sometimes even the most astute clinician would overlook a complication. The question of irregular temperature curve at once raised the question as to the existence of complications. He was interested in what Dr. Koplik had stated regarding those cases which presented no temperatures in measles. He was very skeptical regarding such statements, because every case that he had noted showed a temperature rise of from one-half to one degree above the normal. With regard to scarlet-fever cases he had seen children playing and seemingly enjoying life when they had temperatures of 103.5°. He was skeptical regarding any acute eruptive disease going through its course without temperature. In reference to the malignant temperature curve of measles and scarlet fever he believed the word malignant brought at once before one's eyes the most toxic cases, and the high temperatures depended upon the septic manifestations, and these cases he did not include as being uncomplicated. By studying these curves he said he was able to look for complications which otherwise would have escaped his observation.

In regard to balneotherapy it was his custom to place the patient in a luke-warm bath at 80°, and raise the temperature about 10 degrees, thereby practically giving a warm bath after a cold one; by so doing he got rid of toxins, and the temperature would be lowered even further than if a bath at 60° had been given. He had seen temperature of 105° drop to 99.5° after one of these baths and stay there for nine or ten hours.

A Few Words Concerning Radium.—Dr. H. G. PIFFARD read this paper (see page 999, Vol. 65).

Dr. ROBERT ABBE said that he wished to express his opinion regarding this extraordinary agent, for he believed that there certainly was something in it; it was a very subtle agent, and was similar to the *x*-ray, the ultra-

violet, the Piffard, and Finsen rays. In its efficiency it lay between the *x*-ray and the Finsen light. Dr. Abbe then reported certain experiments that he had made showing the retarding effects of the radium upon the growth of seeds; the results were unquestionable. If twenty seeds were taken out that had been radiumized four days, and twenty more that had been subjected to its influence for two days, and twenty more that had not been radiumized, if these seeds were planted for ten days it would be shown that the seeds unradiumized would have grown seven inches, those that had been subjected to its influence for two days would have grown four inches, and those radiumized four days would have grown only two inches. The retarding influence upon these seeds as a result of the influence of radium was unquestionable. The same retarding effect was noted when the meal-worm was subjected to the influence of radium. Thousands of experiments had been made to show this *retarding influence* in both the vegetable and animal kingdom. Now if radium be laid upon the skin for a few hours it will produce a welt-like urticaria; the next day it will appear like a burn, and continue its effect, producing a dry necrosis, scaling off and leaving a scar with infiltration. A condition of necrosis and destruction of the tissue cells are produced. Under the microscope there will be found a leucocytosis, a thrombosis of the small blood-vessels, the nerves will be infiltrated, the leucocytes will infiltrate the tissues, all this excitation being produced by radium. Dr. Abbe had experimented upon himself and upon others. He found a suitable case for experimentation in the mammary gland which he was to amputate. There were two or three outlying nodes in the skin, and he allowed the radium on the skin for six hours on one place, then on another, etc., doing this for six days, when he had pathological lesions running over a period of six days. He then took a piece of radium and plunged it into the mammary growth, leaving it there for twenty-four hours, and then amputated the breast. The pathologist did the rest, and reported the following facts: For a distance of one-quarter of an inch there was a marked effect of the radium upon the tissues. The nest-cells had begun to be disorganized, and the superficial tissues of the skin necrosed. There was a vascular leucocyte infiltration which was very marked for one-quarter of an inch beneath in the mammary tissue, and at right angles to the line of section; there was a destructive necrosis of these nest-cells. The pathologist said he wanted tissue showing the influence of the radium for a longer period of time. He had another patient with cancer, and by the application of radium nineteen times in a period of three months he reduced its size one-third, and then cut out one of these cancerous nodules and gave it to the pathologist. Microscopically there was shown a fibrous infiltration and a reduction of the cancer cells, and the nest-cells were present, but much smaller in number. It was interesting to note that one could produce practically the same effect with a weak radium with longer applications, as with a strong radium with short applications. Dr. Abbe reported the case of a young man with a giant-celled sarcoma of the lower jaw. Six months ago the gums became swollen around the left lower canine tooth, which became loose. Four months ago he sought advice at St. Luke's Hospital. A soft spongy dark tumor occupied the lower jaw from the middle portion toward the left, and bulged inward under the tongue and outward under the skin. It was so soft that it seemed to fluctuate. It seemed to rise between the teeth. Three teeth were so loose that they could be lifted from the sockets. A radical operation was impossible without great deformity, and with a surety that the growth would recur; therefore he decided to try the influence of radium upon it, and this was applied over the growth within the teeth for one-half to one hour daily, a lead shield protecting the tongue. He next attacked the outer portion of the tumor by laying the tube between the lip and the tumor; this so blistered the mucous membrane that he decided to penetrate the tumor; he penetrated the tumor in its various parts, leaving the radium imbedded for two or three hours at a time. The growth was not only arrested, but there was an appreciable shrinkage in its bulk of about one-third its size. The boy to-day was in apparent perfect health. One week ago he took a trocar and removed a cylinder of tissue from the tumor, and examined it microscopically, and it still showed that it was a giant-celled sarcoma, but merely a shell. Dr. Abbe had the influence of the radium upon the seeds, and the meal-worms in his mind all the time, and he believed that he had greatly retarded the growth. This was a vast problem; he believed that, although the cells develop they can be held in check by radium, and he said what a tremendous contrast was presented in this patient with what would have happened if the growth had been unradiumized. Lupus and other conditions can be cured by radium, and those using this agent were having successes in various other conditions. A wart was a typical hypertrophy of one of the layers of the skin, and practically a tumor. He had a patient with warts upon both hands; on one hand he tried radium, and on the other monochloracetic acid; the warts disappeared from the hands at the same time. Radium had an extraordinary effect in producing a retrograde metamorphosis.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fifth Annual Meeting, Held in Atlantic City, N. J., June 7, 8, 9, and 10, 1904.

(Special Report to the MEDICAL RECORD.)

(Continued from page 1065, Vol. 65.)

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Third Day—Thursday, June 2, 1904.

The Surgical Treatment of Bilocular Uterus and Bifid Vagina.—Dr. H. W. LONGYEAR of Detroit referred to the meagre literature on this subject, and called attention to the fact that as the malformation was easy of correction, it should be operated upon as soon as discovered, so as to avoid the accidents of pregnancy and parturition which are liable to attend this anomaly of development. Before operating care was necessary in making a differential diagnosis between uterus duplex and uterus bicornis. The treatment recommended consisted in dividing the septum which separated the two uteri and vagina, and creating one cavity. The septum was grasped between clamps and cut with scissors, after which the Pacquelin cautery was applied to the cut edges, and the cavity packed with gauze. In the two cases which he reported, dysmenorrhœa was a marked symptom, but was relieved after operation, although in one of the cases an oophorectomy had to be done subsequently.

Dr. DUNNING of Indianapolis stated that he had seen two cases of bilocular uterus and vagina. During labor the septa were torn through. One was thin and offered little obstacle to the progress of the presenting part; the other was somewhat thicker. There was but light hemorrhage. Both cases did well, and he doubted whether an operation was necessary, as a general thing.

Dr. JOHNSON of Washington had seen a case in which, if operation had been done, much annoyance could have been avoided. The woman had been curetted for an apparent miscarriage and five months later was delivered of another fœtus. The condition was then found to be a double uterus with a pregnancy in each.

Dr. CARSTENS of Detroit reported two cases with septum which he divided, and although previously there had been miscarriages, full term pregnancy resulted. To prevent adhesions, he recommended the application of carbolic acid to the interior of the uterus after operation.

A Plea for More Thorough Examination of Doubtful Specimens of Ectopic Pregnancy.—Dr. J. W. BOVEE of Washington stated that many cases of ovarian and tubal hemor-

rhage have a symptomatology precisely similar to disturbed tubal or tuboovarian pregnancy, particularly tubal abortion. Specimens from such cases usually do not receive precise examination and are considered as pregnancy. For the sake of more reliable statistics, he thought that more careful histological examinations should be made. He reported ten cases in which the history indicated tubal pregnancy, but this diagnosis was not confirmed by microscopical examination. In two, malignant ovarian tumors were found.

Some Cases of Ectopic Gestation with Atypical Symptoms.—Dr. W. B. Dorsett of St. Louis called attention to the fact that many cases were occasionally found which did not present characteristic symptoms. Thus a right-sided tubal pregnancy might be mistaken for appendical inflammation. He had operated on forty-one cases with a mortality of six, and in some of these no diagnosis had been made, but other indications were present calling for surgical interference. He believed that the general condition of the patient should be made the guide for surgical intervention and not alone the history of the case.

Dr. Carstens of Detroit said that he had a case of supposed appendicitis, without fever or increased pulse rate, which turned out to have been a right-sided ectopic. He claimed that it was right to operate first and decide the pathology afterward.

Dr. Massey of Philadelphia entered a plea for more conservative measures in dealing with ectopic gestation, as in many cases nature had already begun the process of obsorbing the mass when operation was undertaken. He advocated the destruction of the fœtus by the electric current, where practicable, as an aid to this process.

Dr. Goldsohn of Chicago thought that the only difficulty lay in diagnosing the cases before rupture. In some cases microscopical evidence of the existence of a pregnancy could only be found in the cavity in the center of the blood-clot. He considered that the idea of the digestive function of the peritoneum was far-fetched.

Dr. Humiston of Cleveland said that after rupture he did not wait for subsidence of shock before undertaking operation, but after injecting saline solution under the breasts, he proceeded to carry it out immediately.

Dr. Dudley of New York considered that it was not necessary to remove the entire tube for non-septic conditions. After the fœtus was turned out, the ovary and tube could be dropped back, all occlusions, etc., having been corrected.

The Influence of Ovarian Implantation on Menstruation in Women.—Dr. A. P. Dudley of New York presented the following points for discussion: (1) Is the operation justifiable as a surgical procedure? (2) Is it worth the effort from a physiological standpoint? (3) Will the transplanted eventually resemble the fibroid in its action? (4) Is it possible that pregnancy may ultimately take place? (5) and provided it does, what is the prospect for normal delivery? Thus far he had done this operation in seven cases, all of which subsequently menstruated but at irregular intervals, and no physiological changes or nervous manifestations resulted. One of his last cases he reported in full. The patient had had both tubes and one ovary removed, and for the relief of her symptoms, hysterectomy had been advised, but to which she would not consent. Operation was undertaken and the ovary freed from its adhesions, but left attached by the ovarian ligament, was implanted directly in the uterine cavity in a space previously gauged out in the muscular substance. Primary union resulted and the woman menstruated three months after the operation, and then, at intervals, every three months. Eighteen months later she developed a severe menorrhagia, and hysterectomy had finally to be done three years after the first operation. Examination showed that the ovarian and uterine tissues had become merged, with Graafian follicles present. He was at a loss to account for the hemorrhages. The specimens obtained from this case were presented at the meeting. The reader doubted the extended applicability of the method, but believed that it might be advantageously employed in isolated cases.

A Plea for Conservative Operations on the Ovaries, from a Neurotic Standpoint, with a Report of Cases.—Dr. J. W. Cokenower of Des Moines read this paper, in which he called attention to the necessity of making a better diagnosis in those cases in which the symptoms presented were ascribed to ovarian disorders. In many instances it was questionable whether the trouble was really due to the ovary. It was much more likely to be an intoxication traceable to the intestinal canal, of which the pelvic disease was the result, rather than the cause. Neurotic cases were rare in which the symptoms were wholly dependent on the sexual organs. It was important to recognize when to conclude medical treatment and institute surgical measures. The consensus of opinion of many observers rather than the statistical reports of a few, should be given preference. Negative results for conservative ovarian operations for the relief of neurotic conditions were common, and between the two extreme views as to the advisability of operating, an intermediate view was the best. He reported four cases in which single or double oophorectomy and hysterectomy had been done, with disappointing results. He thought that in many cases we operated when we should not have done so.

Dr. Morris of New York opened the discussion on Dr. Dudley's paper. He discussed the advantages of the procedure and the respective value of homoplastic and heteroplastic transplantation. He had made numerous experiments on rabbits, and the latter method was unsuccessful. He thought that it was well to save the ovary in a case of pyosalpinx, and he found that the organs could be kept in hot saline solution for several hours without injury, before being transplanted and while the remaining operative procedures were being completed. In discussing Dr. Cokenower's paper, he called attention to the fact that it was essential to carefully differentiate fundamental psychoses from neuroses.

Dr. Goldspohn of Chicago opened the discussion of Dr. Cokenower's paper. He thought the question might be solved by distinguishing between psychical and actual pain. Every other part of the body should be examined before the pelvis. He had also invariably found that pelvic lesions were aggravated by the erect posture or anything else that favored congestion.

Dr. Humiston of Cleveland found that frequently the pelvic organs were normal and other organs accounted for the neuroses. In discussing operative measures, he stated that he only attained good results from the complete operations.

Dr. Bacon of Chicago thought that the site of implantation was not favorable, as the implanted ovary might be washed away by the uterine discharges. He believed that the chief object was to secure the advantages of internal ovarian secretion, rather than the possibilities of pregnancy.

Dr. Massey of Philadelphia considered that in many cases it was necessary to remove the inflammation rather than the organ itself, and in this connection he believed that kataphoresis with the mercuric ions valuable.

Dr. Carstens of Detroit thought that occasionally in young women a favorable case for the Dudley operation might be found, but that in older women it was best to remove the ovaries if the symptoms were bad.

Dr. Craig of Boston had observed that the normal ovary became scarred during middle life from cicatrization of the continually rupturing Graafian follicles, and that many so-called cystic ovaries, without clinical symptoms, contained merely enlarged Graafian follicles. As it was an essential thing to keep up the internal ovarian secretion, he believed that under the proper circumstances, Dudley's operation was favorable.

Dr. Chandler of Philadelphia thought that Dudley's

operation presented many advantages and but few objections. Among the latter were the remote possibility of sepsis, the death of the ovary, the production of malignancy, and the action on the fœtus. The main advantage he considered to be the postponement of the menopause.

A Series of Mistaken Gynecological Diagnosis.—Dr. T. S. Cullen of Baltimore reported the following interesting cases: (1) Was diagnosed as a large multilocular ovarian cyst, which at operation was found to be a pedunculated fibroid, partially parasitic The omentum was markedly atrophied and ascites was present. The latter is extremely rare with fibroid conditions. (2) Here the uterus was enlarged, globular, with apparently two subperitoneal nodules. On account of the general history no examination of scrapings was thought necessary. At operation an advanced adenocarcinoma of the corpus was found. (3) Here a globular mass projected from the right side of the uterus and from the vicinity of the right cornu a subperitoneal nodule. Both uterus and nodules were movable and a diagnosis of intraligamentous and subperitoneal myomata made. At operation the subperitoneal nodule proved to be a tense and kinked hydrosalpinx, the intraligamentary growth an adenocarcinoma of the ovary invading the bladder wall. (4) This patient, aged sixty, presented temperatures from 100 to 103°. There was marked pain in the pelvis and slight discomfort in defecation. In the vaginal vault, and apparently attached to the posterior surface of the uterus, was a slightly irregular but globular mass. The diagnosis was between adhesions of subperitoneal myoma glued to the pelvic floor and pelvic abscess. Operation showed an irregular globular tumor involving the sigmoid flexure. This had dropped over to the right side and become adherent to the pelvic floor. Diverticulæ were filled with fecal concretions, and between the floor and the growth was a small abscess due to rupture of a diverticulum from the intestine. The tumor was benign. (5) A case of adenocarcinoma of the kidney had been well for sixteen months after operation. Then a rapidly growing tumor was noticed in the hepatic region, which turned out to be a neoplasm involving the lower half of the liver, but was not a metastatic growth.

Injury to the Rectum in Gynecological Examinations.—Dr. H. A. Kelly of Baltimore called attention to the importance of the rectum as an avenue of investigation and the obstacles encountered by this route. A rough examination might readily rupture cystic structures and spread their contents over the abdomen. He had also seen several cases in which the finger was pushed through the rectum and entered the abdominal cavity, necessitating repair by laparotomy. In one instance it was found that a large ovarian cyst had been punctured. The accident depended not so much on the rough handling or carelessness of the examiner, as on the soft and friable character of these tissues. In making a rectal examination, it was always well to recognize, but not to invaginate the ampullæ and to get the finger beyond what might be called the third sphincter of the rectum. During an examination it was most essential that the arm be perfectly relaxed, and the wrist not held stiffly. Distending the bowel with air also greatly facilitated the examination. When injured, the rectum might be repaired through the posterior cul-de-sac, or, if advisable, by the abdominal route. He asked that cases of this kind be put on record.

Dr. Wetherill of Denver called attention to the possibility of injuring the rectum during the conduct of a labor, when the operator's finger was inserted into the rectum to support the advancing fetal head. Dr. Cullen of Baltimore reported two cases in which the rectum had been injured. Dr. Shoemaker of Philadelphia mentioned an instance in which an appendical abscess had been ruptured by the hydrostatic pressure of an enema, and Dr. Noble of Philadelphia also reported a case of pelvic abscess ruptured by rectal examination.

Some Further Observations on the Use of the Stem Pessary for Scanty and Painful Menstruation.—Dr. J. H Carstens of Detroit stated that in a certain class of cases these conditions could only be ascribed to lack of exercise of the uterine muscle. He thought that the organ could be sufficiently well developed by the introduction of a foreign body which the uterus would constantly endeavor to expel. In another class of cases, dysmenorrhœa comes on later, after normal menstruation for years, in which the uterus, and especially the cervix, had undergone premature atrophy. All these cases might be relieved by the introduction of a stem pessary. In one of his cases the stem had been in place for two years, but after removal a gradual return of her symptoms took place, which was finally relieved by the reintroduction of the instrument. In another case of sterility of five years' standing, pregnancy came on after the use of the stem for a few months.

The Propriety, Indications, and Methods for the Termination of Pregnancy.—Dr. F. A. Higgins of Boston believed that there were evidences of broadening of the indications for the termination of pregnancy, and the wisdom of this could not be questioned. The question remained whether this would lead to ill-advised abortion, but he felt safe in stating that he did not think it would. He discussed in detail the influences exerted by the various acute and chronic diseases. An acute disease was not usually an indication, but if labor comes on, it should be hastened. The religious question was also touched upon.

As for the methods, he considered bougies favorable in certain cases, but thought it better to employ two than one. He recommended, however, the Vorhees bag and the colpeurynter. Manual dilatation was accompanied by the danger of rupture. Instruments, he claimed, were under more complete control, and therefore more secure. The dilatation in each case depends on the amount of stretching which the cervix will endure. The Bossi dilator was shown and discussed, and the author's newly modified instrument presented. This was more compact than the Bossi and claimed to be less dangerous. It might also be used for dilating the cervix before ordinary curettage.

Dr. Hall of Kansas City said that he thought it was more honorable to suggest methods of preventing pregnancy in questionable cases rather than to devise methods of abortion. He believed that the effect of such a paper might be bad on the public mind. Where the necessity existed, he considered that the instrument was preferable to the use of the fingers.

Dr. Bacon of Chicago claimed that the social condition of the patient should be largely taken into account in deciding the advisability of abortion. In the case of hydramnion and twins, he advised rupture of the membranes, and the bag, when used, should then be placed within the egg sac. In his opinion, vaginal cæsarean section was to be preferred to the use of instruments.

Adherent Uterus as a Complication of Labor.—Dr. J. C. Applegate of Philadelphia discussed the circumstances under which the pregnant woman with adherent uterus should be allowed to go to full term, and the best method by which such complications could be treated. He found that the round ligament suspensory operations had no effect, but that labor quite fully destroyed the results of the previous operation. Peritoneal suspension was dangerous from possible rupture of the uterus. Ventral fixation was unjustifiable before the menopause, except under rare circumstances. Before attempting the latter operation, amputation of the cervix should always be done. In vaginal fixation he believed that labor should be induced. With ventral fixation, pregnancy to full term depended on the mobility of the uterus; if the cervix failed to enlarge and rose posteriorly, labor should be induced. The safest thing for these cases, however, was considered to be cæsarean section. In the reader's estimation the best method of suspending the uterus was by sutures introduced in front of the origin of the tubes instead of to the fundus. Two cases were reported, in one of which the

adherent uterus was the cause of pernicious vomiting, and mechanical intestinal obstruction. Labor was induced at seven months, and was accompanied by uterine inertia and post-partum hemorrhage. The cause of the adhesion had been parametritis following a previous abortion. In the other case there was an adherent uterus following ventrofixation, perineorrhaphy, and amputation of the cervix, thirteen months previously.

Dr. DUNNING of Indianapolis stated that he had done suspensory operations in 165 cases, eight of which became pregnant and terminated the same without complications. He suspended the uterus by three sutures, which formed one band between the organ and the anterior abdominal wall.

Dr. FRY of Washington had 150 cases, with fifteen cases of pregnancy, without complications and without any subsequent return of the prolapse. He thought the Alexander operation unsuitable, as it was apt to be followed by dragging on the round ligaments.

Membranous Endometritis.—Dr. F. F. LAWRENCE of Columbus referred to unsatisfactory results obtained from local treatment in this condition and proposed more radical measures. In forty-two cases seen he noted that tubal or ovarian disease were almost always present. In a considerable number the ovarian disease appeared to have followed the exanthemata. He believed that membranous endometritis was probably a secondary trophic disturbance due to the presence of an intercurrent pelvic disease, and suggested that when the condition of the tubes and ovaries was not due to infection, a cure of the endometritis might be secured by removing the diseased structures without in any way treating the uterus itself. He had successfully accomplished this result and recommended further and more extended trials. In all cases of membranous endometritis, which he considered a more appropriate term than membranous dysmenorrhœa, a careful examination should be made with these points in view.

Dr. FISCHER of Philadelphia thought the expulsion of shreds only not sufficient evidence to warrant the diagnosis of membranous endometritis, and said that among a large number of cases he had only observed two instances of this disease. He marvelled at the large number of cases observed by the writer.

Dr. Lawrence said that he did not propose this as an absolute recommendation, but offered it as a suggestion which had been borne out by facts. Many of his cases had expelled complete casts; but even the presence of shreds, he claimed, was sufficient to stamp the condition as a true membranous endometritis.

Management of the Acute Infective Stages of Abdominal Inflammation.—Dr. G. E. SHOEMAKER of Philadelphia read this paper, which might be summarized as follows: in some acute abdominal inflammatory types of disease, operate radically unless there is good reason for the contrary. As an example of this, he quoted appendicitis. In other types do not operate radically in the acute stage, unless there is good reason for the contrary, but operate in subacute or the chronic stage. Example of this was gonorrhœal salpingitis. Individual cases of all types of disease should be watched by a trained eye, as disaster was apt to follow any fixed rule. He concluded by noting the signs which point to operation and also measures useful in non-operative cases.

The officers of the section for the ensuing year, as selected by the Committee on Nominations, were as follows: *Chairman*, Dr. C. L. Bonifield of Cincinnati; *Vice-Chairman*, Dr. F. F. Lawrence of Columbus; *Secretary*, Dr. Manton; *Delegate*, Dr. J. W. Bovee of Washington.

SECTION IN SURGERY.

Third Day—Thursday, June 9.

The Anatomy of Inguinal Hernia; Andrew's Operation for Radical Cure.—Dr. D N. EISENDRATH of Chicago dealt with the general considerations on the anatomy of this subject, which he demonstrated by a very ingenious model explaining the objects to be accomplished by a radical cure. He gave his experience with the Andrew's operation and freely illustrated his paper by models and charts.

Three Years' Experience with the Autoplastic Suture for Hernia.—Dr. L. L. MCARTHUR of Chicago gave a final report of his experience with this suture, and stated that three years' experience with its use in inguinal herniæ encouraged the continuance of its employment. As a result of trying it in ninety-three cases and as judged by the histological findings in experimental work, he was justified in claiming that the transplanted tendon lived. He demonstrated this fact by an examination of the scar of a patient dead of a subsequent appendicitis a year after having an autoplastic suture.

Surgery of the Trifacial Nerve and Its Ganglia.—Dr. JOHN B. MURPHY of Chicago went very fully into this subject, which he divided into five stages: (1) Resections of branches down to the cranial foramina. (2) Division of branches within the cranium, with efforts to occlude the foramina. (3) Removal of the Gasserian ganglion, with intracranial segments of nerve. (4) Extraction of sensory root, and (5) intraneural injections, and made clinical reports with the result in eleven cases

Intracranial Neurectomy for Trigeminal Neuralgia, Cases and Comments.—Dr. HARRY M. SHERMAN of San Francisco gave a brief report of five operations on four patients, in three of which uneventful recoveries from the pain were secured. He mentioned some slight modifications in the incisions of the soft parts and of the bone, and recommended the pouring of salt solution into the skull before the suture to fill all vacant spaces and exclude the air.

Summary of the Final Results of Four Cases of Division of the Sensory Root for Tic Douloureux.—Dr. CHARLES H. FRAZIER of Philadelphia spoke of the theoretical advantages of this method over operative procedures and showed the immediate results obtained. He claimed to have had no evidence of recurrence, one, two, and three years after operation.

Dr. CHARLES K. MILLS of Philadelphia, Dr. WALTER G. SPILLER of Philadelphia, Dr. ROBERT F. WEIR of New York, Dr. J. SHELTON HORSLEY of Richmond, Va., Dr. CUSHING of Baltimore, and Dr. JOHN B. MURPHY of Chicago discussed these papers from various points of view, the general conclusions being that the relief of the condition was not as yet an assured fact by any of the methods mentioned, and Drs. Sherman, Murphy, and Frazier closed the discussion.

Laminectomy: A Further Contribution.—Dr. JOHN C. MUNRO of Boston reported from twenty-five to thirty cases of laminectomy and pleaded for the simplification in the technique as being important in reducing the severity of the operation.

Dr. LUND of Boston and Dr. CUSHING of Baltimore complimented the author on his excellent results and heartily endorsed the points he made.

Treatment of Cold Abscesses and Sinuses in Tuberculous Disease of Bone.—Dr. V. P. Gibney of New York took up the routine surgical treatment of the day and dwelt extensively on the orthopedic treatment, bacteriologic findings, value of asepsis from beginning to end, and comparative results of the methods employed.

Old Unreduced Dislocations.—Dr. DE FOREST WILLARD stated: (1) Early immediate diagnosis was the most important element in the prevention and treatment of all dislocations. With ether, the *x*-ray and anatomical and surgical knowledge, the displacement should always have been discovered by the surgeon. His only excuse for non-recognition would have been extreme injury in other portions of the body. (2) An unrecognized or unreduced dislocation should have been carefully examined under ether to discover the extent of adhesions and the possibility of affecting reduction without measures; failing in this,

continuous extension in bed should be practised for several weeks; the second attempt, without the application of extreme force, should be made, the permission of the patient having been previously obtained to permit of open operation if deemed necessary. (3) Open section should include the division of all muscular, tendinous, capsular, and bony obstacles to reduction. When the socket is filled up with dense fibrous tissue, such tissue should be excavated and the head of the bone displaced *in situ*. (4) Partial or complete excision of the head and of fragments in case of fracture, was frequently necessary. (5) In cases that had existed more than a year, or in which the original injury had been extreme, operation should be avoided unless pressure upon nerves or blood-vessels was seriously impairing the usefulness of the limb or giving pain. Resection should be reserved for bad late cases with pain and serious nerve symptoms. Sepsis was frequent on account of the severity and length of the operation. (6) Pain and disability were the two most important measures in arriving at a decision concerning operation. When a limb was useful in its new position, gave no pain or difficulty, it should be left alone. (7) In the after-treatment, muscular gymnastics, electricity, and massage were very important measures and should be persistently employed.

Conservative Perineal Prostatectomy: Report of Fifty Cases.—Dr. Hugh H. Young of Baltimore called especial attention to the absence of mortality and the simplicity of the procedure, many of the patients being over seventy-five and some over eighty years of age, and laid stress on the importance of cystoscopy and careful preliminary treatment.

Prostatic Obstruction.—Dr. Parker Syms of New York read a fully illustrated paper on this subject.

Prostatectomy in General, Especially by the Perineal Route.—Dr. George Goodfellow of San Francisco gave the indications for his adherence to the perineal route, described his method of operating, referred to the mortality in seventy-five cases operated upon by this method, and gave the ultimate results of each.

Is It Wise to Try to Make Any One Operative Method Apply to All Prostatectomies?—Dr. Eugene Fuller of New York read a paper so entitled, which he opened by stating that the results obtained by prostatectomy had put the operation on a firm footing. Numerous surgical makeshifts were brought forward, when the operation was first introduced, to compete with the radical operation. Most of these had now been discarded, owing to the unsatisfactory results attending them and to the increasingly better results following prostatectomy at skilled hands. The criticism was made that most of the present writers on the subject concerned themselves only with the problem of operative removal of the prostate, the questions of after treatment and general management receiving little or no attention. All prostatectomies were grouped under three headings: (1) Where the hypertrophy is removed through the employment of a suprapubic cystotomy; (2) where it is removed through the employment of a perineal cystotomy; and (3) where it is extracted along the path of a perineal dissection, the aim of which is to avoid opening the urinary tract or the rectum. As far as the mere removal was concerned, he stated that it could be done by any one of the three methods, and then discussed the pros and cons of the different methods, but few cases were found in which the third method seemed advisable. When performed according to Dr. Fuller's ideas the second method was advocated for most cases in connection with which there existed good expulsive force to the bladder. Where this was impaired and where serious lesions of the urinary tract existed the suprapubic operation was the one usually chosen. He called attention to the fact that most writers showed a strong tendency to try to make some special form of the perineal operation apply to all cases and to entirely discard the suprapubic operation on the ground that it was either unnecessary or operatively extrahazardous. These objections were ably met. The suprapubic operation, it was asserted, should in itself give no extra mortality if certain rules were observed in its performance, if the incision was properly sutured and drained, and if the surgical supervision of the after-treatment was efficient. The value of the suprapubic vesical drainage vent, a feature connected with the suprapubic operation, was especially dwelt upon. The establishment of such a vent, Dr. Fuller stated, decided him to choose the suprapubic operation in a certain class of cases. In conclusion, a protest was entered against classing as true prostatectomy cases of middle-aged or even younger men which represented simple inflammatory effusions in connection with the prostate or its periphery. In such cases an operator attempting prostatectomy would find nothing to enucleate, or for that matter to remove.

Dr. Orville Horwitz of Philadelphia, Dr. Robert H. M. Dawbarn of New York, Dr. John C. Munro of Boston, Dr. Martin B. Tinker of Cornell, Dr. D. N. Eisendrath of Chicago, and Dr. Archibald McLaren of St. Paul freely discussed these papers and endorsed most of what had been said, the authors closing.

Kidney Stone; Diagnosis and Treatment.—Dr. Arthur D. Bevan of Chicago took up the question of etiology, symptoms, differential diagnosis, prognosis, technique of operative procedures, and the question of recurrence after operation.

Fourth Day—Friday, June 10.

The Treatment of Fractures of the Patella by Lateral Sutures.—Dr. Jos. A. Blake of New York dwelt fully on the anatomy of this subject and reported the results of eighteen operations both as to union and as to function according to his method.

Surgical Treatment of Certain Cases of Arthritis Deformans.—Dr. Martin B. Tinker of Ithaca, N. Y., presented this paper and stated before beginning a discussion on this subject that it was necessary to keep in mind the exact character of the disease under consideration. He said the condition was not a subacute or chronic rheumatism or tuberculosis, but a distinct diseased condition characterized by its long course, with progressive involvement of many joints, which lead eventually to absolute disability from ankylosis. Many interesting suggestions, he stated, had been made as to the etiology of the affection. In some cases it followed severe nerve-strain, and the nervous element was no doubt an important factor. Disturbance of metabolism, he stated, was also always present, but these were probably only contributing factors. The infectious origin seemed most probable, as several cases had been observed in which the disease had developed directly after a severe infection. He stated pain, swelling, and stiffness of the joints were the most important symptoms; the pain gradually ceased as the joints became fixed. The swelling at first was from effusion, but this would soon disappear, and later the enlargement was from bony or fibrous thickening. He stated that the use of tuberculin was of great value in the diagnosis in distinguishing it from tuberculosis, a condition with which it might be confused. He stated that in the treatment both palliative and operative measures should be considered; as a rule, the general principle followed in the treatment of joint trouble, to put the joint at rest, was reversed, for if the joint was kept quiet, stiffening was certain to occur at once. Gymnastics, massage, and passive motion were to be judiciously employed; baking at from 280° to 350° Fahrenheit was of value, as were also the use of various forms of baths; general hygienic measures were also of importance. In the operative treatment forced motion under anæsthesia was condemned, for the stiffness was not from adhesions, but from bony deposits and change of the contour of the bones affected. Arthrotomy and excision of osteophytic deposits might be employed where the stiffness of the

joint was dependent upon the pressure of only one or two such bony prominences that lock the joint and where the acute symptoms had entirely subsided. Excision of the joint was indicated in cases of complete ankylosis, to restore motion, and often enabled the patient to feed and dress himself and perform other necessary duties impossible with an ankylosed joint. He stated that operative treatment was limited to a comparatively few cases of this kind. The condition was generally a most pitiable one and the general condition was incurable.

Impacted Fractures of the Neck of the Femur.—Dr. Le Moyne Wills of Los Angeles reported two interesting cases, which he illustrated with radiographs. He laid particular attention on the marked difference in treatment in each case and to the good results obtained.

Fat Embolism of Lung, Following Fracture, with Report of Two Cases.—F. Gregory Connell, M.D., of Leadville, Col., reported two cases of fat embolism of the lung which followed fractures of the long bones, both of which recovered. In a study of the history of the subject he found that about 250 cases had been reported, and of these not over a dozen had been contributed by American writers. The anatomy of the parts involved was reviewed, and among the causes other than fracture are enumerated orthopedic operations, open operations upon bones and joints, surgical operations on structures other than bone, inflammation of bone or periosteum, laceration, bruising or suppuration of the fat containing soft parts, or extensive burns or scaldings, rupture of fatty liver, and also causes that had arisen within the circulation, such as atheromatous changes of the vascular wall, fatty changes of the thrombi of various origin and location, diabetes, icterus, etc. The symptomatology was considered at length; the milder form was rarely diagnosed, and was of little import; the acute and rapidly fatal form was rarely differentiated from shock, and was often unsuspected. The ordinary form of fat embolism, that was recognized as such, usually presented the following symptoms: An interval of euphoria; lipuria or fat in the sputum; extreme debility, anxiety, malaise, somnolence, pallor, cyanosis; respiration, rapid and irregular, with dyspnœa, cough, pain, hæmoptysis, râles, œdema, or consolidation; pulse, feeble, irregular, and rapid; temperature unreliable; loss or diminution of sensibility, and of the reflexes, pupils contracted, Cheyne-Stokes respiration, spasm, convulsion, vomiting, paralysis of coma. Each of these are considered pro and con, but the temperature, which was perhaps the most perplexing and unsettled symptom of fat embolism, was gone into at length, and it was concluded that the temperature might be high—in thirty-seven cases in which the temperature was given, that were collected from the literature, twenty-nine had an elevation of the temperature, while in the eight the temperature was mentioned as being either normal or subnormal. The diagnosis during life was first made by Lucke, and in the same year, 1873, by Bergman; the first in America to diagnose the condition during life, was the late Christian Fenger, in 1879. Among the conditions more likely to be confused with fat embolism might be mentioned: Shock, septicæmia, pulmonary embolism, and less commonly, the effects of anæsthetics, congestion of the lungs or kidneys, cerebral hemorrhage, concussion of the brain, atheroma of the coronary arteries. The prognosis was most uncertain, owing to the fact that the frequency of the condition was unknown. Fat embolism of a greater or lesser degree followed practically all fractures, but it gave rise to serious symptoms comparatively seldom. The fat in the circulation had no deleterious effect upon the blood; its sole action was a mechanical one, in obstructing the capillaries. The treatment was unsatisfactory—in fact, it might be said that there was no treatment. Prophylaxis would consist of gentle handling of the limb, so as to rupture as few fat cells as possible, and then immobilization. After the symptoms were present, drainage, as it lessens the tension at the site of the injury, might be of advantage. But the closest attention should have been given to the heart, and as the bulk of the fat was eliminated through the kidneys, attention should also have been given to these same organs.

Cincinnati Academy of Medicine.

At a regular meeting of the Academy, held on April 18, Dr. B. Merrill Ricketts presented four cases. A case of excision of the elbow-joint for ankylosis with an excellent result and three cases of hernia, one a double inguinal hernia with perfect result and two cases in which three operations had been necessary before a good result was secured. Dr. Ricketts laid the failure of the first two operations in each case to the use of faulty sutures. Dr. Edwin Ricketts showed a tube and ovary removed from a woman in the child-bearing period. She had had several attacks of severe pain with some bloody discharge from the uterus. On removal, the tube was found distended with blood and was believed to be an extrauterine pregnancy. Microscopical examination had not yet been made.

The paper of the evening was read by Dr. John E. Greiwe entitled, "Aortic Lesions." He said in brief:

Our greatest advance in the comprehension of aortic lesions has come from the study of their etiology, and we will do most good by using this knowledge in their prophylaxis and treatment. Lesions of the aortic orifice are always of grave importance and are always very difficult to manage. The increase of blood pressure in the left ventricle with the necessary increase of labor involved the tendency to degeneration of the muscular wall, the greater danger of cerebral involvement and the frequent involvement of the mouths of the coronary arteries are some of the special dangers of these lesions. In these cases we must study not the heart alone but the condition of the whole circulatory system and the remote organs. Of 854 autopsies at the Cincinnati Hospital, 160 showed well-marked heart lesions, 43 involved the mitral valves alone, 42 the aortic valves alone. In 38 both mitral and aortic valves were diseased. In two cases the tricuspid valves were diseased in combination with disease of the mitral and aortic valves. Sixteen cases showed pericarditis, 10 with adhesions; of these 10, five were associated with aortic disease and two with mitral. The remaining 19 cases showed muscular change or disease of the coronary arteries. These figures show the relative frequency of aortic and of combined lesions.

Known causes of aortic lesions are acute infections, especially acute rheumatism and scarlet fever, alcoholism, syphilis, gout, hard manual labor, sudden severe strain, lead poisoning, nephritis, excessive use of coffee and tobacco, chronic intestinal autointoxication, and last but not least, conditions that give rise to long continued and oft repeated high tension in the circulatory apparatus. Chronic poisoning from whatever cause destroys the elasticity of the blood-vessels, hard labor and long continued stimulation by coffee, tea, and tobacco cause high tension and later impair the elastic coats of the vessels. Sudden strain may cause rupture of valves with regurgitation and sudden collapse. Of all causes or associated conditions, nephritis is most important, and of 160 cases, 89 showed marked kidney change, mostly interstitial, but parenchymatous changes and pyelonephritis were not uncommon. The importance of uranalysis in these cases and the good effects of diet and eliminative treatment are well known.

In regard to long continued and oft repeated high tension, there can be little doubt that the heart responds to all the emotions of the central nervous system, and the writer believes that profound emotions, such as are almost constantly present in cases of hysteria, neurasthenia, melancholia, etc., are frequently, by raising the blood pressure, responsible for disturbances which at first may be purely functional, but later may produce organic changes in the blood-vessels and secondarily in the heart itself.

The real etiology and pathology of these cases is still uncertain, but it is certain that long continued high tension leads to a loss of elasticity in the middle coat of the arteries with changes in the intima and tremendous backdamming on the aortic valves. No fruits may be present for a long time, but the second aortic tone is much accentuated and tachycardia is frequent.

The writer has taken sphygmographic tracings and measurements of blood pressure in a number of these cases. Miss C., thirty-four years, suffering from neurasthenia, has very high blood pressure with the Riva Rocci instrument, 228; Gaertner, 200; and Basch 215. Pulse 88, second aortic tone much accentuated. Elastic waves are poorly marked in the tracing, showing loss of elasticity. Miss S., age thirty, also suffering from neurasthenia with high tension. Pulse 116, Riva Rocci 133, Basch 120, and Gaertner 110. In this case the first aortic tone was roughened and the second accentuated, the elastic waves of the tracing were diminished. The patient is subject to attacks of tachycardia with semi-consciousness and lividity. Both tracings show the "pulsus tardus" of high pressure. Other sphygmograms from aortic lesions were shown, showing well-marked "pulsus tardus," and in one instance "pulsus rotundo tardus" due to high tension and loss of elasticity in the blood-vessels. In one tracing a well-marked "water-hammer pulse" was shown.

As regards treatment, prevent the trouble as far as possible by treating the predisposing conditions. When the trouble has begun prevent further damage by attention to diet, hygiene, medication, and regulation of the work to be done. Avoid strain, physical and mental. As said above, high pressure is often responsible and should be relieved by attention to the kidneys, and often the intestinal tract will be found to be the exciting cause.

Venus stasis should be relieved by mild exercise or passive movements, and systematic breathing exercises should be carried out. The Nauheim treatment relieves high tension by bringing about a freer flow through the capillaries, and can be carried out at home by the use of a powder prepared for the author in this city.

Following the paper, Dr. Greiwe demonstrated a number of pathological specimens from the Cincinnati Hospital Museum and several instruments for measuring blood pressure.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

BEITRÄGE ZUR KLINIK DER TUBERKULOSE. Herausgegeben von Dr. RUDOLPH BRAUER. Band 2, Heft 4. 8vo, pp. 251-364. A. Stuber, Wurzburg, Germany.

OBSTETRICS AND GYNECOLOGIC NURSING. By EDWARD P. DAVIS, A.M., M.D. Second edition, revised. 12mo, 402 pages. Illustrated. Muslin. W. B. Saunders & Company, Philadelphia. Price, $1.75 net.

EPILEPSY AND ITS TREATMENT. By WILLIAM P. SPRATLING, M.D. 8vo, 522 pages. Illustrated. W. B. Saunders & Company, Philadelphia, Pa. Price, cloth, $4 net.

AMERICAN EDITION OF NOTHNAGEL'S PRACTICE: TUBERCULOSIS AND ACUTE GENERAL MILIARY TUBERCULOSIS. By Dr. G. CORNET. Edited, with additions, by WALTER B. JAMES, M.D. 8vo, 806 pages. Muslin. W. B. Saunders & Co., Philadelphia, Pa. Price, $5 net.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. CARL VON NOORDEN. Part V. 12mo, 92 pages. Muslin. Edited by BOARDMAN REED, M.D. E. B. Treat & Company, New York.

BEITRÄGE ZUR PATHOLOGIE UND THERAPIE DER PANKREASERKRANKUNGEN MIT BESONDERER BERÜCKSICHTIGUNG DER CYSTEN UND STEINE. Von Privatdocent Dr. PAUL LAZARUS. Band 51 und 52. 8vo, 208 pages. Illustrated. August Hirschwald, Berlin.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 25, 1904:

	Cases	Deaths
Measles	464	31
Diphtheria and croup	455	35
Scarlet fever	181	21
Smallpox	1	...
Varicella	57	...
Tuberculosis	370	171
Typhoid fever	53	7
Cerebrospinal meningitis	...	...

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S Marine Hospital Service, during the week ended June 25, 1904:

SMALLPOX—UNITED STATES.

		Cases	Deaths
Colorado, Denver	Apr. 16–May 28	14	..
Delaware, Wilmington	June 11–18	1	..
Florida, Jacksonville	June 11–18	1	..
Georgia, Macon	June 11–18	2	..
Illinois, Chicago	June 11–18	5	..
Louisiana, New Orleans	June 11–18	2	..
Maryland, Baltimore	June 11–18	1	..
Michigan, Detroit	June 11–18	1	..
Missouri, Saint Louis	June 4–18	15	1
Nebraska, Omaha	June 11–18	2	.
South Omaha	June 11–18	1	..
New Hampshire, Manchester	June 11–18	7	..
New York, Buffalo	June 11–18	1	..
Ohio, Cincinnati	June 3–17	10	..
Dayton	June 11–18	4	..
Hamilton	June 7–14	2	..
Pennsylvania, Altoona	June 11–18	2	..
Philadelphia	June 11–18	5	1
South Carolina, Charleston	June 11–18	1	..
Tennessee, Memphis	June 11–18	5	..
Nashville	June 11–18	5	..
Wisconsin, Milwaukee	June 11–18	8	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	April 30–May 7	2	3

SMALLPOX—FOREIGN.

Austria, Prague	May 21–28	13	..
Belgium, Antwerp	May 28–June 4	2	..
Brazil, Pernambuco	May 1–15	..	33
Rio de Janeiro	May 8–22	228	106
Canada, Vancouver	May 1–31	8	1
France, Lyons	May 14–28	.	4
Paris	May 28–June 4	18	.
Gibraltar	May 22–29	1	.
Great Britain, Birmingham	May 28–June 4	2	..
Bradford	May 28–June 4	5	.
Bristol	May 28–June 11	3	.
Cardiff	May 28–June 4	2	.
Dundee	May 28–June 4	2	.
Edinburgh	May 28–June 4	5	..
Glasgow	June 3–10	12	2
Hull	May 28–June 4	4	..
Liverpool	May 28–June 4	2	..
London	May 28–June 4	10	..
Manchester	May 28–June 4	5	..
New-Castle on-Tyne	May 28–June 4	5	..
Nottingham	May 28–June 4	3	..
India, Bombay	May 17–24	..	1
Calcutta	May 14–21	..	1
Karachi	May 15–22	3	2
Italy, Milan	April 1–30	1	..
Palermo	May 14–June 4	10	2
Japan, Nagasaki	May 11–20	18	6
Mexico, City of Mexico	May 28–June 5	6	4
Vera Cruz	May 28–June 4	1	Imp'ted
Netherlands, Amsterdam	June 4–11	1	..
Panama, Panama	June 5–12	1	..
Russia, Moscow	May 21–28	8	9
Odessa	May 28–June 4	3	1
Warsaw	April 30–May 14	..	40
Turkey, Constantinople	May 27–June 5	..	3

YELLOW FEVER.

Brazil, Rio de Janeiro	May 8–22	19	5
Mexico, Merida	June 5–11	1	.
Tehuantepec	June 5–11	5	2
Vera Cruz	May 28–June 4	3	.

PLAGUE—INSULAR.

Hawaii, Honolulu	June 10	1	..
Philippine Islands, Manila	April 30–May 7	6	5

PLAGUE—FOREIGN.

Egypt	May 14–21	36	26
India, Bombay	May 18–24	..	160
Calcutta	May 14–21	.	134
Karachi	May 15–22	87	79

CHOLERA.

India, Calcutta	May 14–21	..	111
Madras	May 14–20	..	1

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Original Articles.

ILLUMINATING GAS POISONING: A CLINICAL STUDY OF NINETY CASES.*

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IN view of the frequency and seriousness of poisoning by illuminating gas, it is a surprise that the condition has not received more attention in medical literature, for it presents a number of interesting phenomena, such as an eccentric fever, a high degree of leucocytosis, and a large group of nerve symptoms, besides various practical problems. It has been my experience to meet with three fatal cases and a number of others in private practice besides many in hospital service. The conclusions herewith presented are based upon a study of ninety cases, a large proportion of which were treated at the Presbyterian Hospital in the service of my colleagues or myself. This series of ninety cases includes twelve in which autopsies were performed. None but comatose cases have been included, and of the ninety cases only seventeen, or 18.8 per cent., were fatal.

The lack of systematic nomenclature and coöperation in methods of securing the data of Health Board statistics in the large cities of this country is strikingly illustrated in an attempt to secure such data for this article, thus the condition under discussion is variously classed under such titles as "coal gas poisoning," "asphyxia," "illuminating gas poisoning," "poisoning by noxious gases," etc. For example, in the Philadelphia Health Board Annual Report for 1900, I was surprised to find only one case under the heading "poisoning by illuminating gas," until I unexpectedly discovered in the same document five more cases under the somewhat indefinite heading "suffocation by gas." There were doubtless other cases similarly diagnosed. In Boston there have been as many as forty-three fatal cases in a year. In the Baltimore Health Board report for 1900, eleven cases are recorded under the title "asphyxia" from gas inhalation and sixteen more under "noxious gases," presumably illuminating gas in most instances. In Chicago, in 1898, the Health Board reported forty-five deaths from asphyxia by gas, and there were a few more probable cases under dubious headings. This inaccuracy of reports makes impossible any attempt to secure accurate data upon a large scale. In New York City, in 1901, the Health Board reported ninety-nine suicidal (forty-two females, fifty-seven males), and 189 fatal, non-suicidal cases of illuminating gas poisoning, making the important total of 288. In Bellevue Hospital alone, during the first three months of 1904, thirty-two cases were treated, with six deaths. If the mortality ratio represents a fair average, there must be little short of 2,000 cases in all occurring each year in New York City, a number which emphasizes the importance of more thorough study of the condition than it often receives. This great preponderance of cases in New York City is readily explained by the prevalence of cheap gas fixtures and gas stoves in the tenements, and by the large annual arrival of ignorant pauper foreigners who have never used gas or who, through poverty and nostalgia, become despondent and suicidal.

In 1900 W. Sachs,[1] in an important monograph, collected from the entire literature references to 420 articles published up to that date upon illuminating gas poisoning, to which Alexander Panski[2] added six more, bringing the list up to March 16, 1902. Many of these articles, however, are reports either of isolated cases or of purely experimental research. A few small series of cases have been published, but, in so far as I am aware, the present series is the most extensive from which an attempt has been made to draw comparative clinical deductions.

The chief difficulty in the study of this type of poisoning lies in the impossibility of estimating the quantity of gas inhaled and the degree of its dilution, as well as the duration of the inhalation.

The majority of hospital cases are brought to the hospital during the early morning hours. An ignorant, careless, or drunken person goes to bed at night in a room in which there is a gas stove or gas jet with a loose cock or leaky pipe, the danger of which is unrecognized. Falling into a sleep, made heavy by fatigue or drunkenness, the patient, without awakening, becomes gradually asphyxiated, at first with a well-diluted mixture of gas and air, and later by almost undiluted gas. As coma deepens, the loud sterterous breathing of the patient, or the odor of gas escaping beyond the room, attracts the attention of some early riser, who gives the alarm and sends the patient to the hospital. Hence it happens that a majority of the hospital patients are those who have been inhaling gas for six or eight hours in increasing strength, and who have probably already been in coma for at least four or five hours.

In several instances the careless flinging of a towel or coat over the gas-bracket just before the patient got into bed, caused a reopening of a gas-cock which had been turned off. Some of the most serious cases arose in connection with the use of gas stoves, the pipes of which usually discharge much more gas than those of single illuminating burners. There are a few other cases in the series among workmen who have been suddenly asphyxiated by almost undiluted gas, or among those who, with suicidal intent have deeply inhaled the gas from a tube and have thus been suddenly overcome by it.

Although, as stated, it is difficult to estimate the volume of gas inhaled in the series of cases reported, enough had been taken in almost every instance to render the patient comatose for at least an hour, if not much longer, after discovery. The minor effects of chronic gas poisoning in slight degree, such as anæmia, vertigo, various forms of indigestion, muscular weakness, etc., will not be dealt with in this discussion.

Among the ninety cases of the series, twelve pa-

*A paper read at the meeting of the Association of American Physicians, May 10, 1904.

tients were definitely known to have attempted suicide, and there were probably as many more who, upon recovery, were unwilling to acknowledge it. This is rendered the more probable from the preponderance of young women among the patients. The patients comprise fifty-three females and thirty-seven males, and their ages ranged from four months to seventy years.

In most of the cases of this series ordinary illuminating gas was inhaled, containing certain volatile hydrocarbons, besides from 5 to 10 per cent. of carbon monoxid, but in some cases water-gas was inhaled, containing from 20 to 30 per cent. of CO. It has been shown experimentally that one-tenth of one per cent. of CO, when inhaled, causes discomfort, restlessness and dyspnœa, and between 1 and 2 per cent. may be fatal. It is well known that the gas forms a relatively stable compound with the hæmoglobin of the blood, thus markedly interfering with the oxygen-carrying power of the red corpuscles, but it also possesses a second, more important, direct toxic effect upon the central nervous system of the nature of a narcotic and depressant.

That it causes a displacement of the nascent oxygen of the red cells, and thereby deprives the tissues and nerve centers of the body of oxygen, is not a sufficient explanation of the clinical phenomena of illuminating gas poisoning. These phenomena, especially those emanating from the nervous system, are too complex to be accounted for otherwise than through some specific toxic influence of the gas itself upon the central nervous system. Moreover, these symptoms appear in cases in which there is still a large percentage of red cells unaffected by CO, and they often persist long after all CO has left the blood. For example, in Case 43, the red cells on the sixth day numbered 5,440,000 and the hæmoglobin was 95 per cent., yet the patient died two days later with apparently normal lungs, as well as normal blood.

In Case 46, on the eighth day, the red cells numbered 5,400,000 and the hæmoglobin was 95 per cent. On the twenty-first day the red cells were 4,944,000 and the hæmoglobin was 100 per cent., but the fever, leucocytosis (18,200), and a feeble state still existed. That the hæmoglobin at this date was normal was proved by spectroscopic examination.

The *leucocytosis* is a very important symptom. Most of the cases came under observation before the value of differential counts was appreciated, and some of them before even a general leucocyte count was in vogue, hence I am unable to offer differential counts. A general count was made in twenty-nine cases, in all but two of which a considerable increase above the normal was observed. In eighteen of the twenty-nine cases a leucocytosis above 18,000 was determined. Among adults the highest non-fatal cases registered respectively 44,000, 32,000, and 31,000. In the mild case of an infant of four months, the count was 52,000, but it is naturally high in infancy.

It is an interesting fact that in every fatal case in which a leucocyte count was made, it exceeded 18,000, the two highest counts being each 50,000.

The maximum leucocytosis is usually attained within the first twenty-four hours, but sometimes not for forty-eight hours. Afterward it subsides slowly, and in the more severe cases it persists more than a week and outlasts the coma and many other symptoms. A leucocyte count above 18,000 or 20,000 is always a symptom of grave import, although it does not make the prognosis necessarily fatal, and even in fatal cases there may be a gradual subsidence of the number of white cells, as illustrated by Case 58, in which the leucocytes on succeeding days were counted as follows, commencing with the first: (1) 50,000, (2) 38,500, (3) 14,300, (4) 14,200, (5) 13,800, (6) 13,800. This patient died on the sixth day from bronchopneumonia. The following cases are cited in support of the above statements:

Case 33.—Admission count, 22,000. Six days later leucocytosis (11,300), yet the coma lasted only eight hours and the temperature did not rise above 101.5.

Case 46.—Leucocytosis lasted twenty-one days, during which time the patient remained either comatose or delirious, and the maximum temperature was 103° F. The maximum leucocyte count was 21,800 and the minimum 13,800. The red cells and hæmoglobin percentage, first estimated on the sixth day, remained normal.

Case 45.—The admission count was 14,600. The following day it fell to 7,700, and the patient recovered.

Case 4.—The admission count was 44,000; two days later it fell to 15,000; coma lasted only one day, and the temperature did not exceed 101.5. On the sixth day the patient recovered.

Case 62.—This patient was comatose for only three hours after the time of first exposure to the gas, yet the leucocyte count was 14,000. A differential count showed: polymorphonuclear cells 92.3 per cent., lymphocytes 3.3 per cent., large mononuclear cells 4.1 per cent., eosinophiles 0.3 per cent.

Case 31.—The admission count was 13,500; the following day it rose to 21,200, and the patient died in coma on the fourth day.

In explaining the leucocytosis, no doubt some allowance should be made for the stasis in the peripheral vessels accompanying cyanosis, but that this is not the sole cause is demonstrated by the fact that leucocytosis is observed in mild cases with vigorous pulse and no cyanosis, and in other cases it persists after cyanosis has disappeared. It certainly does not accompany, as in hemorrhage, a numerical loss of the red cells, for they remain normal in number, and, moreover, it often exceeds in degree the leucocytosis of that condition. It would appear to be a justifiable conclusion that it is due to some specific action of the gas, such as may occur in ptomain poisoning. (In a case of the latter toxæmia I have records of a leucocytosis exceeding 15,000.)

I am indebted to Dr. Herbert S. Carter for an analysis of the chlorides and urea of the blood in five non-fatal cases. According to Halliburton[3] the average percentage of chlorides in normal blood is: sodium chloride 0.27, potassium chloride 0.205: total chlorides 0.475. In Carter's cases the total percentage was as follows: (1) 2.5, (2) 1.4, (3) 1.01, (4) 0.62, (5) 0.57, showing a considerable increase in several instances.

According to Halliburton, the urea percentage of normal blood lies between 0.02 and 0.04, whereas in four of Carter's cases the analyses gave (1) 0.063, (2) 0.057, (3) 0.05 and 0.037 respectively.

The *temperature* of the body is elevated in almost all the unconscious cases, and fever lasts from one day to a week or more, the average duration being about three days. The temperature does not afford a definite index of the severity of the case, for there may be a low temperature with coma, as in Case 6, in which the temperature did not rise above 100° F., although the patient remained unconscious four hours after being brought to the hospital, or there may be a high temperature with normal consciousness.

In eight cases there was a preliminary fall before

the rise of temperature, as shown in the following group:

Case 6.—The admission temperature was 97° F., but the pulse was 120 and respiration 28. Subsequently the temperature rose to 100°F., with the same rate of pulse and respiration.

Case 8, in which the patient's admission record was temperature, 96.4°F.; pulse, 126; respiration, 30. In this case the maximum temperature, 101.5°F., was attained on the second day, but the pulse rate fell to 84, and the respiration to 20. Unconsciousness lasted one hour after admission.

In Case 9, although deep coma lasted for ten hours, the admission record was, temperature, 99°F.; pulse, 150; respiration, 30, and the maximum temperature, attained on the evening of the first day, was 100.2°F.

Case 18.—The admission temperature was 96.5° F., pulse, 92; respiration, 26. Within six hours the temperature rose to 101.5° F.; pulse, 140; respiration, 40; and the next morning the temperature became subnormal.

Case 25 was that of an infant of four months. The child's nurse was playing with it when she discovered a strong odor of gas and fell unconscious; she soon recovered, but the infant continued unconscious for about half a day. The temperature remained at 98° F., but the leucocyte count was 52,000, somewhat above the normal for an infant. Recovery was prompt.

In Case 50 the admission temperature was 96.5°, and within twenty-four hours it rose to 102.8° F. After convalescence from the gas poisoning, neuritis and erysipelas developed.

Case 58.—The admission temperature was 95° F.; pulse, 98; respiration, 28. During the day, and following phlebotomy and infusion, the temperature rose rapidly to 102° F. with the same rate of pulse and respiration. The temperature continued to rise for five days when just before death it reached 107° F. The patient had been exposed all night to the gas, and remained comatose throughout.

Case 60.—The admission temperature was only 96° F., although the respirations were 40 and the patient remained five hours in coma before death. Possibly subnormal initial temperature would be more often found except for the fact that most patients have been unconscious for several hours before discovery. The character of the temperature varies so much that it is difficult to construct a typical curve. Thus the maximum, usually attained on the first day, may be postponed for one or two days, and a day of normal temperature may intervene between two febrile days. Usually the temperature is remittent and the subsidence is by lysis, and in about one-third of the cases, during convalescence, it becomes subnormal, often falling as low as 97° or 96° F. In Case 15 the temperature, after reaching 96° F., remained for five days at 97° F.

Case 56.—Illustrates two causes of modification in temperature which may affect the ordinary toxic fever of gas-poisoning, namely infusion and pneumonia. The patient was admitted with a temperature of 101.8 F., pulse 120, respiration 48. After a phlebotomy of 8 ozs., and infusion of 1,000 c.c., the temperature rose to 105.5 F., without alteration in the rate of pulse or respiration. A chill accompanied this elevation of temperature. The latter fell very rapidly 6.5° F., so that the next morning the record was 99° F. with pulse and respiration unchanged. The second day the temperature rose again to 105° F. and the patient died on the fifth day of pneumonia.

Case 19.—This patient, an ignorant foreigner, blew out the gas on retiring, being unfamiliar with its effects. He had one of the most protracted fevers of any of the uncomplicated cases recorded in this series: for nine days the temperature ranged between 100° and 102° F., for four days more it reached 100°, and then for two days remained subnormal, falling to 97° F. On the first day, a temperature of 102° F., which would have been apparently the limit of toxæmia temperature, was interrupted by the chill and elevation of temperature to 108° F., following phlebotomy (8 ozs.) and infusion (1,000 c.c.). The corresponding pulse was 160, and respiration 56, and leucocytosis 24,300. Recovery.

The vagaries of temperature are, I think, explainable on the ground of disturbance in the normal chemical processes of the body, and circulatory unbalance consequent upon the altered pulse and respiration, rather than by the assumption of any specific thermogenetic action of the gas. Other gases and vapors inhaled, like the anæsthetics, do not produce fever, nor do chemical poisons as a general rule, unless they give rise to inflammation, although there are some exceptions to the latter statement, as, for example, the case of a child of two years who was admitted to the hospital within half an hour after accidentally drinking kerosene. The admission record in this case was: temperature 102.5° F., pulse 160, respiration 60. The following day the temperature was 103° F. and the patient was drowsy and feeble, but finally recovered.

The maximum temperature recorded in any of this series (excepting Case 19) was 107° F., and this case terminated fatally. The maximum record in any non-fatal case (excepting Case 19) was 104.8° F. (Case 42). The maximum duration of elevated temperature in any non-complicated case was twenty-two days.

An interesting case with hyperpyrexia is reported by William A. Steel of Philadelphia (*Philadelphia Medical Journal*, February 16, 1901). The patient was a girl eight years of age. The temperature rose rapidly after coma began, and within eight hours reached 110° F. with heart-beats of 215, the pulse being imperceptible. After the use of oxygen, hypodermoclysis, a cold plunge and vigorous hypodermic stimulation, the child recovered and was discharged cured from the hospital on the fifth day.

The *pulse* is markedly accelerated, and usually out of all proportion to the temperature and respiration. It is seldom below 120 nd frequently reaches 136 or 140 during the coma. For example, in Case 24 the pulse rate was 150 while the respiration rate was 30 and the temperature only 100.2° F. during coma. The pulse is usually, but not invariably, much weakened, but remains regular in rhythm. In other words, the pulse conveys the impression that the heart is being irritated directly or through its nerves by some specific form of poison. The acceleration is certainly not secondary to any changes in the lungs, for it is observed in many cases in which the physical examination of the lungs is entirely negative, as in Case 11, with a pulse of 142, nor is it due exclusively to the deprivation of the blood of oxygen, as it exceeds in degree what would be expected under those circumstances.

The maximum pulse rate observed in any of the non-fatal cases among adults was 150.

The *respiration* is accelerated irrespective of the condition of the lungs. It averages about 30 but I have records of 12 cases in which it reached 36 or more, although physical examination of the lungs was entirely negative. It is apt to be labored or jerky in type, and with profound coma it may be-

come of Cheyne-Stokes irregularity. This type of dyspnœa occurring independently of pulmonary œdema or congestion is necessarily of central origin, due either to the lack of oxygen at the medullary center or probably to the direct toxic irritation there of CO or some other ingredient of the illuminating gas.

The maximum rate of respiration observed in any non-fatal case of the series was 62, although it reached 80 in a fatal case.

In not a few cases artificial respiration was maintained for a long time with the effect of prolonging life to recovery. In the two following cases the respiration rate was extremely slow for some time after admission:

Case 27.—The patient, designing suicide, took the tube of a gas stove in her mouth and inhaled the gas for ten minutes. She was found pulseless, with respirations of only five per minute. Artificial respiration was performed, and hypodermic stimulation was given; she became conscious in fifteen minutes and recovered without fever, although the pulse reached 120.

In Case 42 the respiration on admission was only two or three per minute, and artificial respiration was maintained for an hour. Phlebotomy and infusion were performed and the breathing improved, the rate rising to 32. (Recovery.)

Digestive disturbances are observed but are not severe or characteristic. Constipation is the rule, and vomiting sometimes occurs, more often in the mild cases or during convalescence from coma; it became severe in eight cases of the series.

Extreme dryness of the mouth, and congestion, redness, and dryness of the pharynx were observed in many cases.

Several patients experienced excessive *perspiration.*

The *urine* presents no special peculiarities. It is often of high specific gravity, 1,025-1,032, and the proteid waste is usually somewhat increased. A heavy deposit of uric acid is common. Albuminuria was noted in twenty-six cases of the series. In many the albumin was represented by a mere trace, in others there was 10 per cent. by volume, with hyaline and granular casts. As many of these cases occurred among the alcoholic or those of advanced years, it is probable that the gas has no direct influence in producing albuminuria, although it was observed in an infant of four months.

Case 55.—In this fatal case, methæmoglobin was found in the urine on the first day and again on the third. In several other cases in which it was searched for, it was not present.

In many cases there was retention of urine and catheterization was often necessary, even after consciousness was regained. In the majority of cases constipation was obstinate, and repeated doses of cathartics and enemata were required. In eight cases there was incontinence of both urine and fæces, in some instances persisting three or four days, and outlasting the stage of coma by two or three days. In a few more cases there was incontinence of urine alone.

The *pupils* present such varied appearances that there is nothing typical about them. In fully one-fourth of the cases they appeared normal and reacted normally. In twelve cases they were distinctly enlarged, sometimes with, sometimes without reaction to light. In a half dozen cases they were diminished, twice they were unequal in size, and in two cases there was temporary nystagmus, one presenting also lateral deviation of the eyeballs.

In one or two cases a sensation of fulness and ringing in the ears was complained of, and in one instance deafness persisted for a day in one ear.

As stated above, the *nerve symptoms* are so varied as to force the conclusion that illuminating gas acts as a direct poison to the central nervous system, for they cannot all be accounted for upon the theory that the gas acts alone by depriving the red blood corpuscles of their ability to transport oxygen. These symptoms are: tremors, muscular twitching, convulsions, rigidity, opisthotonos, anæsthesia, increased reflexes, headache, and coma.

The nerve symptoms vary with the mode of poisoning. When the patient is awake, and inhales the gas slowly or well diluted, he experiences headache and vertigo, often accompanied by nausea and vomiting with muscular prostration. Evidence of vasomotor paralysis appears in burning sensation in the skin, especially of the face, and in redness of the cutaneous surface. Later the lips and extremities become bluish, although, owing to the peculiar cherry-red color imparted to the blood by CO, the ordinary duskiness of extreme cyanosis for some time may remain absent. It is important to note that the degree of cyanosis is independent of any changes in the lungs, such as congestion, œdema, etc., and is often extreme, while the lungs remain normal.

The patient meanwhile experiences visual disturbances, confusion of ideas, and becomes drowsy, perhaps delirious, anæsthetic, and finally comatose.

In cases in which the patient is poisoned while asleep or under the influence of alcohol, or in cases in which a large quantity of the concentrated gas is at once inhaled, the preliminary nervous phenomena above mentioned are absent, and the patient passes at once into coma without wakening. The coma, which is always profound, is usually accompanied by loud stertorous breathing, and sometimes by dilated pupils, and involuntary evacuation of fæces and urine. In some cases, after hours of unconsciousness, the patient may be partially aroused to take nourishment only to relapse again. The coma may last from half an hour to many days, and it is usually accompanied, as stated above, by elevation of body temperature and a rapid feeble pulse, but there are afebrile cases of coma, as there are cases in which it is the chief and almost the only symptom. In Hewetson's case the coma lasted nine days and was fatal. In Case 46 it lasted ten days.

As the patient slowly regains consciousness, he may suffer for days from mental weakness, dulness, and confusion with loss of memory. Paresis or spasm of the extremities may persist for several days after coma with muscular weakness, but in the majority of cases complete recovery is fairly prompt without sequelæ.

A large number of cases have been reported in recent years in which there were interesting symptoms referable to the brain, cord and peripheral nerves, symptoms which can be well explained after a review of the reported autopsies which follow (p. 45):

Bruneau[5] reported a case of hemepligia following gas poisoning. Frinkelstein,[6] one of dementia, and A. Scott,[7] one of acute mania with recovery, after ten days. Zeiler[8] reported a case of leptomeningitis serosa. Bruns[9] reported a case of disseminated encephalomyelitis, and Alexander Panski,[10] another in which the patient was ill for months with paralysis of the legs and arms, sensory and speech disturbances, anæmia and mental weakness. Becker[11] reported a case with multiple sclerosis. Cases with multiple neuritis have been reported by Glynn,[12] Meczkowski[13] (three cases), Skowrouski,[14] Brugman and Gruzewski[15] (six cases), and others.

The only occasional sequelæ apart from those above described referable to the nervous system, are bronchitis, bronchopneumonia, and lobar pneumonia. Small mentions diabetes as a possible sequel; it was not noted in any of the cases of my series. Pleurisy was observed once. Tuberculous patients did not appear to suffer more than those with normal lungs.

The assertion is made by Small (XX Century Practice of Medicine, Vol. III, p.589) that the chance of recovery lessens with the duration of exposure to the gas, and that after eight hours of coma there is very little chance of recovery, yet this is by no means an infallible rule—for example, Hewetson reported, in the Johns Hopkins Hospital Bulletin for 1893, the case of a man who was exposed for the very brief period of three minutes to the inhalation of gas in an open trench. On immediate removal he was insensible; coma with repeated convulsions lasted for nine days when the man died. This case is also opposed to another assertion of Small (*loc. cit.*, p. 588) that when the onset of coma is sudden, it is less likely to be either profound or prolonged. It does not appear from my cases that the mode of onset of coma is of much prognostic significance. The following cases are cited in illustration:

Case 3.—Male. German, forty-five years old; became despondent through loss of work and, having complained all day of headache, put an open gas pipe in his mouth, and was found unconscious a few minutes after, by his wife. In the hospital he exhibited profound coma, a feeble, irregular pulse, and a chest full of large sonorous moist râles. Respiration was of Cheyne-Stokes type, and the exhaled breath smelled strongly of gas for twelve hours. The evacuations of urine and fæces were involuntary. The chest was cupped, phlebotomy was performed (℥viii) followed by infusion (c.c. 1,000). Slight improvement resulted, but profound coma persisted for four days, when the patient could be aroused to take nourishment. His maximum temperature was only 100.5°; pulse, 104; respiration, 24, and leucocytes, 10,400. On the eleventh day the patient was discharged cured, although the persistence of melancholia should remind one that in suicidal cases, melancholia during convalescence might be mistaken for a remaining symptom of poisoning.

This case is interesting on the following grounds: (*a*) The sudden onset of profound coma; (*b*) the predominance of coma over all other symptoms, notably the nearly normal pulse, respiration, and temperature; (*c*) the final recovery after four days of deep coma.

Cases 43, 44, 45, and 46 belonged to a series of five patients all sleeping in one room into which water-gas, containing 20 per cent. of carbon monoxid, escaped for about ten hours. All were equally exposed: one died after eight days, two recovered in four and five days respectively, and one remained either comatose or delirious and stupid for three weeks, with a continued fever, but without pneumonia; he was finally taken home, when nearly well. (The fifth patient was not brought to the hospital.)

E. H. Bartley states (Wood's "Reference Handbook of the Medical Sciences," Vol. II, p. 215) that "when entire unconsciousness has occurred recovery is very unusual." This is, to say the least, a pessimistic view, for of the 90 cases of this series in which coma was profound 73 resulted in recovery. In 39, or more than one-half of the non-fatal cases, coma lasted one day or longer, and in 12 more it lasted half a day (12 hours). Among the longest non-fatal coma records are the following: 1 case of 10 days' duration, 1 of 4 days; 4 of 3 days, and 4 of 2 days.

Rigors may be present, but more common are general muscular tremors and twitching or spasm, which latter may finally result in violent convulsive seizures and opisthotonos. Repeated convulsions have been known to last for days. In Hewetson's case they persisted for nine days; in some of my cases for three or four days. In eight cases they were very severe. One patient had convulsions on the third day for the first time, but she gave a history of epilepsy, and they were apparently of that origin. She recovered.

Rigidity of a part, or of all of the skeletal muscles, was very persistent in a half dozen cases, and in one it lasted in some degree for three weeks, and was often accompanied by twitching or convulsions. (Recovery). The major reflexes present considerable variation. In many cases they were normal, and when altered, in about equal number they were increased or diminished. During convalescence patients often complain of stiffness of the muscles and sometimes appear dazed when first attempting to walk.

A patient of Broadbent's (*British Medical Journal*, May 13, 1903) improved for ten days, when rapid muscular atrophy ensued, and the asthenia culminated in death on the nineteenth day.

Phlebotomy, followed by venous infusion of normal salt solution, should be performed in every case in which the patient is unconscious and the pulse is vigorous. Infusion alone should be performed in every unconscious case in which the pulse is too feeble to justify phlebotomy. If these operations are done at all they should be thorough. It is better to withdraw 15 or 18 ounces of blood than 8 or 10 whenever the pulse strength permits, and at least 1500 c.c. of saline solution should be infused. The latter process may be repeated upon the opposite arm, or hypodermoclysis and saline enemata may be given. The objection sometimes raised against saline infusion, that it may produce pulmonary œdema, is not sustained by the evidence of the series of 41 cases in which it was employed, for in no one of them did it give rise to the physical signs or the post-mortem finding of œdema of the lungs, but, on the contrary, often relieved this condition when already present. Whether the phlebotomy and infusion act by removing a small portion of the poison, by diluting the blood, affecting the vascular pressure, by the influence of the salt infused, by stimulating the formation of new red blood cells, or in some other manner, the clinical fact remains that these measures are beneficial. They do not immediately restore consciousness, but in the bedside notes of the cases herein reported it is almost invariably stated that immediately after infusion the pulse grew stronger, respiration was of better character, muscular twitching disappeared, rigidity lessened, and the general condition of the patient improved. Of course there are many cases in which a very large dose of the gas renders all curative efforts futile, but in a considerable proportion the improvement which follows phlebotomy and infusion ultimately results in recovery.

Pathological Findings.—In the succeeding twelve cases, in which autopsies were performed, I shall merely quote the records in so far as they concern the heart, lungs, and brain, as nothing distinctive was observed in the kidneys or any other organs. For these records I am indebted to the pathologists of the Presbyterian Hospital, and (for one case) to Dr. W. J. Elser.

Case 54.—*Heart* muscle pale and flabby; left

pleura adherent to thorax throughout; *lungs* on section both show congestion and œdema throughout; *brain* appears normal.

Case 86.—*Heart* presents lesions of chronic endocarditis and myocarditis; the mitral valve is irregularly thickened, and there are numerous calcareous vegetations on the aortic valve; *lungs* pale but otherwise normal; *brain*, a calcareous embolus is found lodged in the internal carotid artery, at the origin of the middle and anterior cerebral arteries. The lodgment of this embolus explains an attack of partial hæmiplegia which the patient had three months before death, and did not appear to be in any manner connected with the cause of death; the brain otherwise appeared normal.

Case 78.—*Heart* presents fibrous patches on the endocardium and fatty degeneration of the papillary muscles; *lungs*, the right lower lobe of the lung is congested and the left lung is œdematous anteriorly; areas of bronchopneumonia involve the right upper lobe and posterior part of the left lower lobe; the *brain* exhibits atheromatous nodules in the left middle cerebral artery, and congestion of the vessels of the pia, corpus callosum and corpus striatum.

Case 80.—*Heart* soft and flabby, but not dilated, filled with fluid and clotted blood; *lungs* are both slightly œdematous, otherwise normal; *brain*, evidence of chronic meningitis is present; the dura mater is adherent to the calvareum, and both meninges and brain substance are much congested; the lateral ventricles contain a small quantity of bloody serum.

Case 55.—*Heart* normal; *lungs:* left pleura presents patches of fibrous thickening near the base of the lung, and a few petechiæ over the posterior part of the left upper lobe, the latter is œdematous and congested; the left lower lobe is dark red and its posterior portion is atelectatic; the right pleura is here and there adherent, the right lung is emphasematous anteriorly, but posteriorly it is congested and œdematous, with areas of partial atelectasis; the *brain* substance, arachnoid and pia are all mod erately congested.

Case 56.—*Heart* muscle and pericardium are of a dark reddish or purple hue; the heart is otherwise normal; *lungs:* the left upper lobe of the lung is tuberculous, the left lower lobe is congested; the right lung shows areas of emphysema, congestion and bronchopneumonia; the *brain* substance and arachnoid are congested.

Case 57.—*Heart* normal, excepting slight atheroma of the coronary arteries; *lungs:* the entire pleura is everywhere adherent, and the left upper lobe of the lung presents a chronic miliary tuberculosis; miliary tubercles are also scattered throughout the right lung; congestion and œdema are absent; *brain* not examined.

Case 58.—*Heart* muscle flabby, but the organ is otherwise normal; the right *pleura* is somewhat adherent, the *lungs* are normal; *brain* not examined.

Case 59.—*Heart* normal; pericardium dry, but non-adherent; *lungs:* few petechiæ on entire pleura; posterior portion of left upper lobe of the lung is dark and somewhat atelectatic, right upper lobe is congested posteriorly, emphysematous anteriorly, right lower lobe somewhat atelectatic posteriorly; trachea and larynx are deeply congested; the *brain* is much congested throughout.

Case 85.—The *heart* muscle is pale and flabby, the left ventricle is slightly dilated; the *lungs* are both deeply congested, and show slight emphysema anteriorly; the pleura is adherent over the right upper lobe; *brain* not examined.

Case 60.—*Heart* shows advanced stage of chronic endocarditis with calcareous deposit in and vegetations upon the aortic cusps, a thickened mitral valve and retracted chordæ tendineæ; the heart muscle is pale and hypertrophied; the *lungs* are congested and œdematous and the pleura is adherent over the right upper lobe; the *brain* tissue appears normal but the cerebral vessels are highly atheromatous.

Case 61. The *heart* is slightly hypertrophied and filled with partially clotted dark red blood. The myocardium is of a pale red, somewhat cloudy appearance; in the coronary vessels and aortic arch is a moderate grade of atheroma; the valves are normal. The *lungs* present a moderate grade of congestion and œdema, and in the lower lobes are foci of aspiration pneumonia; the bronchi are congested and contain an abundant serous exudate; in the pleuræ on both sides are about 100 c.c. of clear serous fluid. The *brain* substance is soft and œdematous, the convolutions are flattened and the meninges congested; the ventricles contain much fluid; the anterior internal portion of the left ventricular nucleus, and the adjoining portion of the internal capsule exhibit an area of softeningabout three-quarters of an inch in diameter, which contains a number of minute capillary hemorrhages; the basilar vessels are normal.

[The notes of this autopsy were furnished by Dr. William J. Esler, from the clinic of Dr. G. L. Peabody, at the New York Hospital.]

It is of some interest to note that in no one of these twelve fatal cases was there entire absence of some serious chronic lesion in heart, lungs, or brain, despite the fact that many of the patients were young. Thus chronic endocarditis, myocarditis, tuberculosis, pleuritic adhesions, atheroma, chronic meningitis, etc., testify to the ill health and lowered vitality of a class of patients whom privation and physical suffering may have driven to suicide, or whom ignorance, stupidity, or alcoholism has led to fatal poisoning. The important conclusion seems justified that many of these patients might have survived the gas intoxication, had not either their respiratory, circulatory, or nervous mechanisms been already seriously undermined.

The Heart.—Among the twelve autopsies, in three the heart was normal, in three it is described as "pale and flabby," and in six there was evidence of either chronic endocarditis, myocarditis, or atheroma of the coronary vessels. Hence there is no constant appearance of the heart in gas poisoning. If this toxic agent caused death by direct paralysis of the heart, it might be expected to be uniformly pale and flabby and perhaps dilated, but the few cases in which these occurrences were noted are offset by others in which it appeared normal, or (as in Case 56) of a dark red color.

The Lungs.—It was a surprise to the writer that bronchopneumonia, or other definite pulmonary lesion, is not more constantly an outcome of fatal gas poisoning, but in only three of the twelve autopsies was bronchopneumonia observed. I have seen it in one other private case in which it followed complete recovery from the gas intoxication and ultimately proved fatal. Two other cases of this series presented normal lungs, and a third, lungs which were without congestion or œdema, having only a few miliary tubercles, hence it may be asserted that death from illuminating gas is not invariably due, if it ever is, to direct irritant action upon the lungs or bronchi after the manner of smoke or toxic vapors. The conditions which might be attributed to such action may be described as functional disturbances rather than organic changes, such are: (1) Congestion, complete (one case); (2) congestion and œdema, complete (three cases); congestion and

œdema in partial areas (five cases), in all eight cases; (3) atelectasis, partial (two cases); (4) emphysema, compensatory and partial (four cases). These four different conditions were found in varying degree and association in nine of the twelve cases examined, yet it is well known that all these appearances are common in the lungs of those dying slowly from profound toxic influences affecting the blood, the circulation or the central nervous system, without reference to any specific pulmonary irritation whatever, and such would appear to be the fact in illuminating gas poisoning.

The Brain.—Of the nine cases in which the brain was examined, six presented marked congestion of the brain substance, pia and arachnoid; in one of these cases, however, there was evidence of a chronic meningitis; in the three remaining cases the brain and its membranes seemed normal. It would thus appear that cerebral congestion is a common result of poisoning from illuminating gas, occurring in the series of autopsies cited, six times out of nine. To what extent this may be a cause of death is difficult to determine, but there can be little doubt that it is often a contributing factor, although not invariably present. In three of the cases there were marked changes in the corpus callosum, corpus striatum or ventricles, consisting of such conditions as softening, congestion, and hemorrhages.

These appearances, which have also been reported by other writers, are of the greatest interest. Some years ago Klebs pointed out the fact that carbonic oxide poisoning is capable of producing enormous distention of the cerebral arteries, and in 1893 Alexander Kolisko[16] referred to this distention of the central terminal branches of the anterior cerebral artery as the seat of thrombosis following distention, and giving rise to the softening of the internal capsule, and especially of the lenticular nucleus, which has been often observed. He states that he has seen several such cases resulting from CO poisoning, and refers to two more observed by Polcher. Another interesting case of softening of the internal capsule and lenticular nucleus was reported by Broadbent,[17] also in 1893. Schaeffer[18] has reported two fatal cases in which he found softening of the brain, cord, and peripheral nerves.

Von Sölder[19] reported the case of a man, forty-one years of age, who died four months after gas inhalation. At autopsy were found hyaline and fatty degeneration of the skeletal muscles, atrophy of peripheral nerves, and degeneration of the anterior horns in the cervical and dorsal cord. J. W. Runeberg[20] reported two fatal cases with extensive softening in the lenticular nucleus.

Summary.—From a study of the foregoing cases the following conclusions regarding comatose cases of illuminating gas poisoning may be drawn:

1. Leucocytosis is both high and persistent, rising in many cases above 18,000, and in a few fatal cases as high as 50,000. A differential leucocyte count shows preponderance of the polymorphonuclear cells. A high degree of leucocytosis is a very unfavorable prognostic symptom.

2. Elevation of temperature is observed in nearly all cases. The fever is usually moderate and of very irregular type. In many cases a subnormal temperature precedes the elevation, and it is often observed also in convalescence. The pulse is disproportionately rapid, as compared with the temperature.

3. The nervous symptoms are both varied and inconstant. Convulsions occur in about 7 per cent. of all cases and muscular rigidity in a slightly larger proportion. The reflexes and pupil symptoms show great variability. The coma bears no definite relation to the intensity or duration of the fever. Coma lasting four or five days is not invariably fatal. In the series of ninety comatose cases only seventeen cases, or 18.8 per cent., were fatal.

4. The results of combined phlebotomy and saline infusion justify the prompt and thorough employment of these measures.

5. Pneumonia is an infrequent complication, and in a large percentage of fatal cases the cause of death may be referred to cerebral lesions, such as congestion of the meninges and brain substance, hemorrhage of the cerebral capillaries, or hemorrhage into and softening of the internal capsule, lenticular nucleus, and adjacent structures.

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THE DIAGNOSIS OF TYPHOID PERFORATION AND ITS TREATMENT BY OPERATION.*

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It is now generally recognized that—in spite of the fact that an occasional patient will ecover without surgical interference—operative treatment is indicated in every case of perforation of the intestine in the course of typhoid fever as soon as the diagnosis has been made. The main questions that confront the medical man are (1) on what can we base the diagnosis of perforation and the indications for operation, and (2) in what cases are we justified in recommending surgical interference when the diagnosis is still in doubt. Operative interference for suspicious symptoms is a course that has been declared justifiable by most writers on this subject, among whom may be mentioned Finney,[1] Cushing,[2] Herringham and Bowlby,[3] Shattuck, Warren and Cobb,[4] and many others. Inasmuch as the dangers from a small exploratory incision are much smaller than those of a perforation of the intestine, this

*Read at the meeting of the Surgical Section of the New York Academy of Medicine. This paper is based upon four cases of perforation of the intestine in the course of typhoid fever that the writer has operated upon in the Second Surgical Service at Mt. Sinai Hospital (Dr. Howard Lilienthal, Attending Surgeon), and upon the occasional observation of eleven others which were operated upon by others of the surgical staff of the hospital during the past three years. Of these fifteen cases, five were operated upon in the First Surgical Service of Dr. A. G. Gerster during 1901 and 1902, and have been already published in the Mt. Sinai Hospital Reports for those years; ten were operated upon in the Second Surgical Service from 1901 to 1903. The cases that occurred in 1901–1902 are published in the annual hospital reports for those years; those from the year 1903 have not yet appeared in print, and will form part of a report on the surgery of the intestines in the Second Surgical Service of Dr. Lilienthal for the past four years, which will be published elsewhere.

course would certainly seem the correct one. As I shall mention later, however, delay is advisable in some of the cases.

There has been much discussion as to what is meant by the term "symptoms of perforation," and there is still little unanimity of opinion on this question. The attempt to distinguish between the symptoms of perforation and those of the resulting peritonitis is in very many cases impossible. The only symptoms of perforation, *per se*, that I can conceive of are, perhaps, sudden abdominal pain and the presence of free gas in the abdominal cavity. Sudden abdominal pain occurs fairly often during the course of typhoid fever, and localized pain and distention of the abdomen are very frequent in this disease, as has been ably shown by McCrae.[5] The presence of free gas in the peritoneal cavity—if it can be clearly demonstrated—is almost pathognomonic of perforation. Unfortunately, however, it is often difficult, if not impossible, to determine with certainty that the gas in the abdominal cavity is free, and in the second place, in many cases of perforation of the intestine there is no free gas. In the large majority of cases the diagnosis of perforation is made from the symptoms of an affection of the peritoneum which has been caused by the perforation and not from any symptoms concomitant with and caused by the perforative process. This is the view now adopted by Osler.[6]

By this I do not mean to say that there is not anything characteristic in the onset, and more especially in the symptoms of the peritonitis, but that, in the large majority of instances, we are really describing the early symptoms of peritonitis due to the perforation, rather than the symptoms of the perforation itself. In what follows, however, the term symptoms of perforation will be used for the sake of simplicity of expression, instead of the longer term symptoms of peritonitis due to a perforation.

I. *Some Diagnostic Features of Typhoid Perforation.*—It is always important to obtain from the physician in attendance data as to the amount of tympanites, pain, tenderness, etc., that the case presented during the entire course of the typhoid fever. We have to learn from the internist regarding the appearance and changes in the symptoms and signs from the beginning of the symptoms of perforation. In the cases on which this paper is based, there was usually the history of the patients having suddenly complained of abdominal pain, or of the more or less sudden appearance of signs of increase of the existing pain and tenderness. Thereafter a number of signs and symptoms appeared and progressed until the diagnosis of intestinal perforation could be made with certainty. At this time the patients had more or less increase in the pulse and respiration, some were in collapse, others not so, the abdomen was tender, distended, and rigid to a varying degree, there were the signs of free fluid and sometimes of free gas in the peritoneal cavity. Collapse does not occur as often as one would expect in these patients, and it would seem as if the degree of collapse was dependent more upon the virulence of the peritoneal infection than upon the size of the perforation or the amount of intestinal contents that has escaped. Thus of the fifteen cases that form the basis of this paper, only four were in collapse when the diagnosis of perforation was considered sufficiently certain to indicate operative interference. In almost all of the patients the general condition became steadily worse up to the time of operation, in most of them the condition was very poor, but only four were in utter collapse at the time of the laparotomy.

The distention of the abdomen varied much in the fifteen cases. In six cases the distention was very marked, in eight the distention was only slight or moderate, in one case there was no distention. It is rare that the abdominal distention is due to the escape of a large quantity of gas from the perforated bowel. The gas is usually within the intestine, very often the amount of abdominal distention is directly proportional to the degree and extent of the peritoneal inflammation.

Diminution in the area of liver dulness has been a valuable diagnostic aid to us in our cases. There was a greater or lesser diminution in the area of liver dulness in fourteen of the fifteen patients. In a considerable number of cases this diminution is due more to the intestinal distention than to the presence of free gas in the peritoneal cavity. A distended transverse colon or small intestine may get in front of the liver or rotate it on its transverse axis, and in that way cause a diminution in the area of normal liver dulness. Hence the value of attempting to percuss out the colon very carefully and of knowing when the patient's bowels have last moved and what amount of flatus was passed at that time.

Abdominal pain and tenderness are usually most marked on the right side of the abdomen, although the entire abdomen is often tender in these patients. In six cases of those on which this paper is based, all parts of the abdomen were equally tender; in seven the tenderness was most marked on the right side and lower part of the abdomen; in two cases the greatest amount of tenderness was in the left iliac region.

In sixteen patients there were the signs of free fluid in the abdomen—movable dulness in the flanks or fluid wave or both.

Although the normal area of liver dulness was considerably diminished in fourteen patients, as has been already mentioned, free gas could be demonstrated in only five of these. The presence of movable tympany in the flanks with concomitant changes in the area of liver dulness is characteristic of free gas in the abdominal cavity. The patients are usually examined for the evidences of free gas by turning them first on one side and then on the other and percussing both flanks in these positions. It is advisable to move these patients as little as possible, however, and a very thorough examination for free gas is therefore often not made. I have found it a very useful and valuable expedient, when examining for free gas, to have the head end of the patient's bed raised up very high by an orderly and then to percuss the upper and lower parts of the abdomen very carefully; then to have the head end of the bed lowered and the foot end raised and then to percuss the abdomen again, and to observe the changes that have taken place. I have found the method a very useful one for the demonstration of free gas in the peritoneal cavity, without moving the patient from his dorsal position.

The temperature changes in the cases did not seem to present anything characteristic, the temperature was sometimes high and at other times low when the first symptoms referable to the peritoneum were noted.

In about one-half of the cases there was a leucocytosis of between 11,000 and 18,000, in the other patients there were less than 8,000 white cells to the cubic millimeter. Regarding the value of leucocytosis, we have come to the same conclusion as many other recent writers—that the leucocytosis has but a limited value. The presence of a leucocytosis can be used only with circumspection as a diagnostic symptom, while its absence does not at all exclude the possibility of a perforation.

II. *The Indications for Operative Interference.*—In most of the cases referred to in this paper, the diagnosis of perforation of the bowel could be made with almost certainty within four to twelve hours from the appearance of the first suspicious symptom. As most of the patients were transferred to the surgical side of the hospital from the medical side, the surgeon was asked to see the cases at a very early stage, but there was often considerable delay before permission for the surgical interference could be obtained. The diagnosis was usually first made by the house staff of the hospital, who were on the spot to watch the symptoms from their beginning, and much credit should be given these gentlemen for the care with which they studied the cases. During the past three years not a single patient has been operated upon at our hospital for typhoid perforation in which the perforation was not present. One case in which all the symptoms and signs which are considered characteristic of perforation were present, and in which permission for the operation was refused, recovered without operative interference; two patients died without operative interference, as in both the condition was so bad that surgical interference of any kind was considered contraindicated.

If perforation of the bowel in the course of typhoid fever is considered a surgical complication—and there is very little doubt that it should be considered so—then immediate surgical interference should follow as soon as the diagnosis has been made. These patients bear the operative interference remarkably well if only the manipulations are rapidly done; and one is soon convinced of the correctness of the statement made by Cushing[7] that the "diagnosis once having been made, nothing short of a moribund condition of the patient is a contraindication to immediate operation."

In the cases in which the diagnosis is probable, especially if the general condition of the patient is becoming steadily worse, it is advisable to make a small exploratory incision. The operation can be completed in less than ten minutes, and, if the peritoneal cavity should be found normal, the abdomen can be quickly closed again, and the patient be sent back to his bed with a good expectation that his general condition will be little or not at all made worse by the operation.

It is more difficult, however, to determine if an operation should be done when the symptoms make one suspicious that a perforation may have taken place, but the symptoms are not clear. Of these cases, a number really have a perforation, and in them a policy of delay would not be the one in the best interests of the patient. From our experience with typhoid perforation during the last three years we have been forced to conclude that when the symptoms have been of at least twelve hours' duration and the signs and symptoms point more to a perforation than to anything else, especially if the patient's general condition is growing steadily worse, the operation is a justifiable one.

It need hardly be mentioned that if the signs of peritonitis are sufficiently marked to indicate operative interference, no matter what the diagnosis, delay would be inexcusable.

If, however, the symptoms have existed for more than twenty-four hours, the patient's general condition has remained good, and the diagnosis is still in doubt, perhaps because the patient has only come under observation at this time, the surgeon is justified in advising a few hours' delay if the case can be carefully watched. If a case of this kind has a perforation, it is probable that the affected loop of intestine is walled off by adhesions from the general peritoneal cavity. Delay in these late cases should, however, only be advised after the most careful consideration of the case from every aspect. If the diagnosis is fairly sure, it would be just as wrong to wait for adhesions to form in these cases as in a case of acute appendicitis. The danger of an ill-timed delay is very great, and it is better to open an abdomen in rare instances and to find nothing than to delay too long where early operation is called for. With thorough observation and careful individualization it is probable that mistakes on one side or the other will be very few.

About six weeks ago a patient was admitted into the hospital with symptoms of more than twenty-four hours' standing of perforation of the intestine in the course of typhoid fever, in which Dr. Lilienthal advised delay on account of the good general condition of the patient, the duration of the symptoms, and the lack of certainty of the diagnosis. Twenty-four hours later, however, the signs of peritonitis became more marked, immediate operation was done, and a large, well-walled-off abscess opened. A fecal fistula became established, but closed after several weeks, and the patient is now convalescent.

II. *Some of the Conditions Found at Operation.*—In ten of the fifteen cases the abdomen contained seropurulent fluid in considerable quantities, and there were no adhesions between the coils of intestine or, at the most, only a few flakes of fibrin on the intestines. In all of these cases the operation was done in less than twenty hours from the beginning of the symptoms of perforation. In five patients there were adhesions in considerable number between the coils of gut and the omentum, and in these cases the perforated loop of intestine was usually walled off by the adhesions from the remainder of the peritoneal cavity, and there was a collection of seropurulent fluid or pus in this walled-off cavity. In these five cases the length of time between the beginning of the symptoms of perforation and the operation was 36, 18, 24, 6, and 48 hours, respectively. The foregoing figures show that adhesions are not very frequent in the early stages of typhoid perforation. Whether this want of the tendency to form adhesions is due to the low percentage of the fibrin factors in the blood serum of these patients, or to something in the intestinal contents (toxin? typhoid bacillus?) which has an influence in preventing the formation of adhesions, it is impossible to say. Many authors have mentioned the fact that adhesions are rare in the early stages of perforative peritonitis in typhoid fever without attempting to give any explanation for it. (Cushing,[7] McCrae and Mitchell,[8] Russel,[9] Fix and Gaillard,[10] etc.) Sometimes the perforation is closed by fibrin, or by an adhesion of omentum or neighboring coil of intestine, but more often it opens free into the peritoneal cavity, so that when the perforation is exposed, fecal material is to be seen to be escaping from it.

In six of the fifteen cases the abdominal cavity contained free gas, in five of which the free gas was demonstrable before the operation. As has been already mentioned, the presence of free gas in the peritoneal cavity makes the diagnosis certain.

Deep ulcerated Peyer's patches, which have not yet perforated, can be plainly seen through the peritoneal coat of the bowel as deep red, round, or oval areas. If the peritoneum which forms their base has lost its normal lustre and feels thick and infiltrated, the ulcers must be considered on the verge of perforation. In two of my cases and in several of those operated upon by colleagues at the hospital, there were suspicious areas of this kind. Sometimes these suspicious spots are so numerous

that they occupy the greater part of the lower one to two feet of the ilium with, perhaps, the appendix vermiformis and part of the cæcum and ascending colon, so that it is almost impossible to suture over all of them without causing an extensive and too great a narrowing of the lumen of the bowel. This condition was present in one of my cases in which I sewed over only the very worst patches, four in number, and had the misfortune to lose the patient from the perforation of still another ulcer. The post-mortem examination in this case showed that the lower foot of the ileum was filled with large and deep ulcers. The ideal method of treatment in these cases would be the resection of the affected loop of intestine—a procedure which is, however, too dangerous, and which would no doubt cause so much shock that few of the patients would long survive it.

IV. *The Manner in Which the Patients Stand the Operative Interference.*—One would expect that patients—the most of whom are already exhausted by their long and severe disease—would bear the operative interference badly. Fortunately, however, this is very often not the case, and, if the operative manipulations are done with rapidity, the patients seem often to be in better condition at the end of the laparotomy than they were at its beginning. In some way, the removal of the toxic material from the peritoneal cavity has an immediate beneficial effect upon the general condition. This improvement may be due in part to the hot saline irrigation of the peritoneal cavity, which acts not only as a cleansing agent but also as a powerful stimulant—an internal infusion. It may also be due in part to the morphine which is often given to the patients just before the operation. It must be remembered in this connection, however, that the same methods are usually adopted by us during operations for other perforative conditions of the gastrointestinal tract. But in the latter I have never seen such marked improvement immediately after the operative interference. Of the writer's four cases, three were in distinctly better condition when the operation was concluded than before it was begun. The same has been the case in many of the patients operated upon by others at Mt. Sinai Hospital and in many of the cases reported in the literature of the subject. In the cases with a fatal outcome, most of the patients did not die from shock a few hours after the operation, but they died a number of days later from the infection of the peritoneal cavity due to the perforation. Several patients recovered from the laparotomy but died after several weeks from their typhoid fever. The remarkable manner in which a large number of these patients stand the operative interference has been already commented upon by a number of writers, especially by Cushing and Finney of Johns Hopkins. An important condition for success, as I have just mentioned, is that the operative manipulations be rapidly done, with as little exposure of the intestines as possible.

V. *The Course of the Disease after the Operation.*—As is well known, perforation in typhoid fever occurs most often during the course of the third to fourth week of the disease or during a relapse, at a time when the fever is usually still high. In three of the patients that I have operated upon, and in several of the cases operated upon by colleagues at our hospital, there was within twelve to eighteen hours after the operation a sudden fall of the temperature to the normal or near the normal, followed later by a rise, but the regular course of the typhoid temperature seemed to have been broken. The writer has gained the impression that such a fall of temperature during the first twenty-four hours after the operation has considerable prognostic significance, inasmuch as four of the five patients that recovered had this drop of temperature. It was present only in one patient in whom the disease ended fatally, and that was a case in which the patient died in sudden collapse from a second perforation (see Case IV at the end of this article). In this connection it is of interest that Hutchinson (*Philadelphia Medical Journal*, January 17, 1903) gives an account of three cases in which no perforation was found at operation and the abdomen had been flushed with saline solution, in each of which there was a distinct drop in the temperature for thirty-six hours, after which the typhoid fever continued its course and the patients recovered.

In one of my cases the temperature again rose, due to the appearance of numerous furuncles and abscesses all over the body; in a second case, after ten days of normal temperature, the patient had a severe and prolonged relapse with high temperatures and a very rapid pulse, but he recovered.*

In the patients that recovered, the abdominal signs disappeared with considerable rapidity; at the end of twenty-four to forty-eight hours, the abdomen had become much less distended and tender, and in four to five days practically all of the abdominal symptoms, except those due to the wound in the abdominal wall, had disappeared.

Healing was not essentially different from that after laparotomy for perforative peritonitis from other causes. The wound in the abdominal wall should be drained, as otherwise it is very apt to become infected.

VII. *Some Details Regarding the Operative Manipulations Which Are of Interest.*—Rapidity is a *sine qua non* for success in operations for typhoid perforation. In less than twenty minutes' time it is usually possible to open the abdomen on the right side, find the perforation and suture it, examine four to six feet of the lower ileum, beginning at the ileocæcal junction, suture over any areas that seem to be in danger of perforating, wash out the peritoneal cavity with hot saline solution, drain the peritoneal suture line, and close the remainder of the incision in the abdominal wall by an appropriate suture. The duration of the operation in the writer's cases was 11, 18, 14, and 23 minutes respectively. The abdominal incision should preferably be made along the outer side of the right rectus muscle or through its fibers, as the lesion will most often be found on the right side of the abdominal cavity, unless the physical signs should point to some other part of the abdomen. The incision should be a liberal one from the very beginning. As soon as the peritoneal cavity has been opened, one must look for the cæcum and ileocæcal junction, and when this part of the bowel has been exposed, pull into the wound the most prominent loop of small intestine which lies against it. In a considerable number of the cases, this loop will be found to be the affected one and the perforation thus be most quickly found. If there is no one loop that is particularly prominent, one must begin the examination of the ileum from the ileocæcal junction. As soon as the perforated ulcer has been found, the opening should be closed by a double layer of Lembert sutures passed in the long axis of the bowel, so that they will cause a minimum amount of narrowing of the lumen of the intestine. If the perforation of the bowel wall is so large or the infiltration so extensive that simple suture is impossible, one of two procedures can be followed—

*The recovery of this patient was in no little part due to the very careful watching and treatment of the house physician, Dr. Kremer.

either a portion of the omentum can be sewed over the opening, or the affected loop of intestine can be anchored in the wound by a few sutures, and a fecal fistula thus established. Escher[11] has recently recommended that the perforation should never be sutured, but that the loop of bowel should be anchored in the abdominal wound and the bowel drained. Escher claims that the operation can thus be done with great rapidity, and that the drainage of the bowel prevents paralytic ileus and exerts a favorable effect upon the peritonitis. It is preferable, however, to close the perforation, unless it be too large or the surrounding bowel wall too much diseased. In the latter condition the method of Escher is surely preferable to resection of the bowel.

If there is any doubt that the intestinal sutures will hold, it might be advisable to keep the loop near the wound by fixing its mesentery or the bowel itself to the abdominal wall with a few sutures.

Any ulcers that seem to be in danger of perforating should be just as carefully sewn over as the perforated one. If there are a large number of these dangerous ulcers in the lower ileum, it is advisable to wall off the affected loop of gut from the peritoneal cavity by a small gauze packing on each side of it, and thus guard against the danger to the peritoneal cavity from a possible later perforation.

Wherever sutures have been applied to the intestinal wall, it is a good plan to rub a little iodoform powder over the suture line—through the irritant qualities of the iodoform the adhesive process is hastened.

Since the publication of the writer's last paper on perforation of the intestine in the course of typhoid fever, he has been led to change his views on the subject of irrigation of the peritoneal cavity. Although we have to depend to a great extent upon the absorptive powers of the peritoneum, absorption can be hastened and aided by irrigation of the cavity with isotonic 0.9 per cent. saline solution. Aside from the fact that by this irrigation considerable toxic material is removed, it acts also as a powerful stimulant, and this function of the irrigating solution should not be underestimated. One has only to note the immediate improvement in the patient's condition in a few cases in order to become convinced of its value.

After a thorough irrigation, the smaller the drain that is inserted into the abdomen the better. It is now well known that drainage of the general peritoneal cavity can seldom, if ever, be accomplished. It will generally suffice to pass a small strip of gauze or a cigarette drain down to the suture line in the intestine or underneath the sutures in the parietal peritoneum, and then to close the greater part of the abdominal incision.

In the cases in which the perforation in the wall of the bowel is walled off from the general peritoneal cavity by adhesions and lies in the bottom of an abscess cavity, it is advisable to do nothing more than to open the abscess and drain it, leaving the perforation in the wall of the intestine to take care of itself. The fecal fistula which usually becomes established will often close of itself, as it is situated in the lowermost part of the ileum, otherwise a second operation may be necessary later on to close it.

Many writers recommend that operations for typhoid perforation had best be done under local anæsthesia. However, the writer would agree with those who prefer a general anæsthesia. I believe that a fair-sized dose of morphine, followed by a light chloroform anæsthesia, is preferable in most cases. From my experience in abdominal surgery under local anæsthesia, I have learned that in most cases the handling of the small intestine and the straining of the patient while the abdomen is being washed out with saline solution contributes more to shock than a light chloroform anæsthesia, aside from the fact that under general anæsthesia the necessary manipulations can be more quickly accomplished.

The after-treatment need differ in no way from that after laparotomy for other conditions, with the exception that the general feeding must be that of a patient with typhoid fever.

Case I.—Female, six and a half years of age, transferred from the service of Dr. Koplik. Perforation on lower ileum on thirty-third day of severe typhoid. Before operation, temperature, 104.4; pulse, 180; respiration, 40. Collapse very marked. Laparotomy and suture of perforation sixteen hours after first symptom. Seropurulent peritonitis, free gas in peritoneal cavity. Duration of operation, eleven minutes. Convalescence delayed by furunculosis and multiple abscesses; recovery.[12]

Case II.—Male, eighteen years of age, transferred from the medical service and operated upon September 21, 1903. Perforation in lower ileum in fifth week of disease. Laparotomy and suture of perforation and of one area on the verge of perforation. Fæces and free gas in peritoneal cavity. Duration of operation, eighteen minutes. After ten days of normal temperature, severe relapse with high temperatures and very rapid pulse; recovery.

Case III.—Male, nine years of age, admitted to the hospital and operated upon on August 6, 1903, in the third week of typhoid fever, with symptoms of general peritonitis of about twenty hours' standing. Patient's condition very poor, he had to be infused upon the operating table. Laparotomy with removal of appendix and suture of perforation in lower ileum; seropurulent peritonitis. Duration of operation, fourteen minutes; recovery.

Case IV.—Female, nine years of age, transferred from the children's service of Dr. Koplik and operated upon September 30, 1903. Patient in very poor condition. Perforation in lower ileum on twenty-seventh day of severe typhoid fever. Laparotomy and suture of perforation about eight hours after first symptom; suture of three suspicious areas; fluid and fæces in general peritoneal cavity. Duration of operation, twenty-three minutes. After eighteen hours, condition of patient fairly good; no vomiting, abdomen more soft and not very tender; pulse 130 and of good quality. At expiration of twenty-second hour, sudden change in condition; collapse, death. The post-mortem examination showed that there was a second perforation between two of the sutured areas; the entire lower twelve inches of the ileum was filled with numerous large and deep ulcers; large amount of fecal matter in peritoneal cavity.

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Madison Avenue and Sixty-third Street.

A METHOD OF SECURING FIXATION AND HARDENING OF THE CENTRAL NERVOUS SYSTEM BEFORE THE AUTOPSY.*

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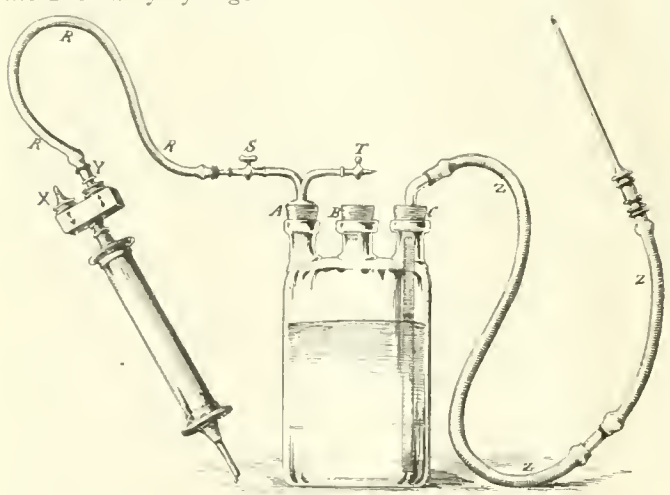
WHETHER the method herein described is new I do not know. It was new to me and it is certainly not generally known, otherwise the complaint of the inability to preserve the central nervous system within a few hours after death, consequently the impossibility of studying the finer structural changes in a given case, would not be heard so often.

The method is comparable in its simplicity to the egg of Columbus. The procedure consists in injecting as soon as possible after death a strong solution (12 per cent.) of formalin, first by lumbar puncture, then through the foramen magnum. The former hardens the spinal cord, the latter the brain. By use of a T branching tube, both injections can be combined in *one* act.

The details of the procedure may be varied according to necessity and further experience.

My first attempt, which proved surprisingly successful, was made with an aspiration needle and the Dieulafoy syringe.



Since then I have learned to use a Davidson ball syringe with equal success. It is known that the pump of the Dieulafoy syringe can be used in two ways, according to the manner in which it is connected, *i.e.* either for exhausting the air or for compressing it. In this procedure it is used for compressing the air.

The subjoined illustration shows the manner in which the apparatus is put together. It is convenient for the purpose to use a bottle with three mouths. This bottle is filled with the injection fluid. Mouth C has a rubber stop through the bore of which passes a glass tube down to the bottom of the vessel. At its upper end this glass tube is connected with the rubber tube ZZZ, preferably non-collapsible, to which is attached the aspiration needle. The latter attachment is by metal contact only, as is the case with many hypodermic needles which fit the barrel of the syringe by contact only instead of by a thread. Such an arrangement has the advantage of being easily detachable.

Mouth B is closed with a common cork or rubber stopper. It can be used for refilling the bottle when the fluid is almost exhausted without disturbing the other arrangements.

Mouth A has a rubber or cork stopper through the bore of which passes a T-shaped tube with which, by means of a thick-walled rubber tube RRR (preferably non-collapsible), the Dieulafoy syringe is connected. Stop-cocks of this T-shaped tube has to be kept open; stop-cock T of the same tube has to be kept closed. It hardly needs mentioning that the tube passing through the bore of the stopper of mouth A must not go down deep enough to reach the fluid. In other words, the bottle must not be filled so high as to have this tube immerged in the fluid.

The Dieulafoy aspiration syringe has two outlets, X and Y. If the rubber tube RRR is connected with outlet X, the action of the pump will exhaust the air in the bottle. If the rubber tube RRR is connected with the outlet Y of the pump, the action of the latter will, on the contrary, compress the air in the bottle.

The manner of required connection (namely, for compression) is indicated by arrows on the syringe. Moreover, a few trials will very soon show whether the pump is arranged for compression or for exhaustion.

After the apparatus has been put together in working order, one proceeds as follows:

The aspiration needle is detached from tube ZZZ and is introduced into the dural sac in the same manner and locality as in lumbar puncture. In doing so it is advisable to put the corpse into a sitting or semi-inclined position so as to let the cerebrospinal fluid accumulate in the lowest portion of the dural sac.

A trocaris preferable to a needle because the latter is apt to become obstructed by fat. There may or may not be an escape of fluid from the needle if the puncture is successful. The real test of the success lies in the result of the pumping, *i. e.* whether, when the pumping is started, the level of the fluid in the bottle is lowered.

After the needle, or trocar, has been introduced with apparent success, the pump is put in action, causing a compression of the air in the bottle ABC, pressing the fluid into the glass tube passing through C, and thence into the rubber tube ZZ. The pumping is continued until the fluid spurts out in a continuous stream from tube ZZ. At this moment, tube ZZ is quickly attached to the aspiration needle and the pumping is then continued. If the experiment was successful, the level of the fluid will now become lowered in the bottle. In case of doubt a mark designating the upper level of the fluid will soon show us whether this level is becoming lower or not. If it does not sink, this means either that the needle, or trocar, has not reached the spinal canal, or that the needle is obstructed by fat and other material. In such case tube ZZZ has to be detached and a wire is passed through the needle. If this is unsuccessful, the needle must be withdrawn and introduced a second time.

I may here add that my experiment succeeded only after I had introduced the needle for the third time.

The question now arises how long to continue pumping. My experience is that, after a time, the fluid sinks very slowly and the pumping becomes very difficult. Moreover, air is heard sizzling out around the corks or around the tubes passing through the corks, and from time to time the corks are forced out of the mouths. This is about the time to cease, and this forcing out of the corks serves as a safety valve, preventing, in all probability, the pressure of the injection fluid on the cord from becoming so high as to injure the tissues.

The idea is first to fill the entire dural sac with fluid and after that the whole spinal canal, into which the fluid will naturally ooze when the dural sac has become entirely filled.

*From the Pathological Laboratory of the Craig Colony for Epileptics, Sonyea, N. Y.

One next proceeds to harden the brain. The needle, or the trocar, is introduced into the fourth ventricle, at least that is the aim. The skull is palpated to locate approximately the foramen magnum, then the needle is tentatively introduced in the neighborhood of the foramen magnum and in a direction presumably parallel to the floor of the fourth ventricle. If it strikes bone, it will be rather easy to say whether such is the occipital bone or the spinous process of one of the upper cervical vertebræ. On the whole, it is better at first to strike too high, *i.e.* against the occipital bone. In such case the needle is taken out again and introduced a little lower down. One can thus gradually feel his way until he strikes just inward of the dorsal margin of the foramen magnum. The needle is then pushed deeply enough to enter the fourth ventricle, not deep enough, of course, to injure the cerebellum or oblongata. Whether the needle really needs to enter the fourth ventricle I do not know. Indeed it seems hardly necessary since the foramen Magendie gives sufficient means of communication between the ventricle and the surface of the cerebrum and cerebellum, so that, if only the subdural or subarachnoid space is entered, the fluid should have a good chance of being distributed over the surface of the cerebrum and cerebellum as well as to the ventricles.

The particulars will have to be learned by experience. Injury to the adjacent parts, cerebellum and oblongata, should of course be avoided. In my case neither of these structures showed any evidence of injury; but choosing between two evils, injury of the cerebellum would, on the whole, seem less harmful, special cases excepted, than injury of the oblongata. By keeping well in the median line, injury to both these parts can probably be prevented. If the needle should enter into the brain substance, this would soon be shown by the failure of pressing the fluid in, after the needle has been reconnected with the pumping apparatus and the pumping commenced. In case of success, the level of the fluid in the bottle will soon become visibly lower. As to the quantity of fluid to be used, I may say that, in my first attempt, about one-half pint was introduced into the brain and about four ounces into the vertebral canal.

Whether it is necessary to use a Dieulafoy aspiration, or rather compression, syringe for the injection, I cannot tell. As I have mentioned already, the same results may be obtained with the much cheaper Davidson syringe or with a similar ball syringe, in which case the bottle described can be done away with. Let me also repeat here, that by the use of a T branching tube, one end of which is connected with the pumping apparatus, the second end with the aspiration needle, passing into the lumbar sac, and the third end, with the needle passing into the forameg mannum, the two injectors, *i.e.* that into the ducal sac of the spinal cord, and that through the foramen magnum, can be combined in *one* procedure, thus saving time and equalizing the pressure of the fluid.

I shall now relate the results of the injection in our first case, which was made about one hour after death. First, however, let me mention that the body was then placed in the ice-box in usual position, *i.e.* lying on the back. This is, of course, the most common position, but there is a particular reason for mentioning it, as will be seen later.

The autopsy was made forty-three hours after death, the body being left meanwhile in the ice-box. The peculiarity was then noticed that the fat of the abdominal wall was of an abnormally firm, waxlike consistency and of a dark, dirty brown-gray color, while that of the thoracic wall had the usual appearance and consistency. On opening the abdomen, the fat of the mesentery in the lower portion of the abdomen was found to have the same peculiarity as that of the abdominal wall. I suspected that this was due to the effect of the formalin.

Further examination showed that a great portion of the liver also had a peculiar appearance, and here there was no doubt that such was due to the effect of the formalin, since the tissue in some parts looked whitish and was so hard that no other explanation was possible. I then felt certain that the peculiar fat referred to was due to the same cause.

First I was at a loss to account for this fact, but it now seems clear enough. It is natural to assume that, after the vertebral canal became filled with the injection fluid, it began to penetrate through the foramina intervertebralia into the surrounding tissues. It should be added, however, that the lungs, heart, spleen, pancreas, and kidneys showed no formalin effects, which is of value to know, as it shows that the spinal cord and brain may be preliminarily hardened without diminishing the value of an ordinary autopsy, to be made later on.

As to the effect of the injection on the spinal cord and brain, it surpassed my most sanguine expectations. The spinal cord was completely hardened in its entire length and thickness, as shown on a transverse section made through the middle dorsal region and as shown by its hard consistency through the entire length.

The brain also was, to all appearance, more or less hardened throughout. It showed the same elastic hardness which a brain shows after injection of a 10-per-cent. solution of formalin into the aorta (with tying off of the thoracic aorta), as practised by Drs. Adolf Meyer and Dunlap at the Pathological Institute of the New York State Hospitals. Twenty-four hours after removal of the brain the Meynert section was performed, *i.e.* the pallium (hemispheres) was separated from the rest of the brain. It was then shown that the formalin had penetrated everywhere. The hemispheres were found hardened in their whole thickness. The basal ganglia were also hardened, although in varying degree—the caudate nucleus less than the thalamus; but all parts showed the effects of the formalin. An absolute hardening of all parts could, of course, not be expected; but the important fact was noticed that no part showed any post-mortem decomposition, *i.e.* softening and putrefaction. Without the formalin such changes could have been expected with certainty, in view of the fact that the autopsy was performed forty-three hours after death, even although the body was in the ice-box all this time.

However, the most valid proof and most delicate test of the preserving and fixing value of the method was given in its influence on the neuroglia. That this tissue suffers very quickly through post-mortem disintegration is known to everybody familiar with it, and if in a given brain the neuroglia stains well, this is always a proof of early preservation and fixation of the brain. In the first case in which the method of preliminary formalin injection was made one hour after death, and in which the autopsy was performed forty-three hours after death, pieces from four different regions, namely, cerebral cortex, cerebellar cortex, medulla oblongata and caudate nucleus, were removed twenty-four hours after the autopsy and subjected to the procedures required for the Mallory Phosphotungstic-hematoxylin neuroglia stain. The stain succeeded very well in all four regions, but of particular value was its success in the caudate nucleus which, as men-

tioned above, was softer than the other parts of the brain, *i.e.* not so well acted upon by the formalin. How well it succeeded is seen by the adjoining figure showing the neuroglia fibers and neuroglia nuclei of a part of the caudate nucleus. The penetrating value of the method is thus very aptly shown.

The great value of the method needs hardly to be emphasized. Every neuro-pathologist knows how important it is to fix and harden the central nervous system no later than six hours at the most after death. Here, we have means of preserving it immediately after death without inflicting any mutilation on the body and without changing the appearance of the intra-thoracic and

Figure showing a portion of the caudate nucleus stained with Mallory's phosphotungstic-hematoxylin neuroglia stain. Taken with Leits' ocular 4 and immersion 1-12 in.

intra-abdominal organs (with the exceptions mentioned) through the formalin.

The method has this advantage over the otherwise excellent method of formalin injection into the aorta as practised by Drs. Meyer and Dunlap, and elaborated in such an ingenuous manner by these gentlemen—it can be applied immediately after death in cases in which we are doubtful whether an autopsy will be permitted or not.

It has the further advantage over that method, of hardening not only the brain, but also the spinal cord; and the result is not inferior to that of their method.

An additional advantage is the small quantity of formalin required, one quart at the most being needed as against the 1½ to 3 gallons necessitated in Meyer's and Dunlap's method; and this advantage is not to be undervalued in view of the relatively high price of this drug.

OCCIPITOPOSTERIOR POSITIONS.*

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When I was requested to open the discussion on "Occipitoposterior positions," I thought that the last word had been said on this subject—that is, so far as the reader is concerned. The question of the management of occipitoposterior presentations has resolved itself into one of relative simplicity, not that any particular schematic therapeusis will be offered; for schemes in obstetrics, as well as in other specialties of medicines, often go wrong, but the experience offered by meeting many of these cases has allowed me to present fixed, though hardly dogmatic, views on the subject before us, for it is the belief that a finality has been reached with this question, as well as with many other obstetric questions. To be forewarned as to this complication is to be forearmed. It is far more frequently met than is usually thought and taught. But it occurs most frequently as a primary condition and at so early a stage is certainly not recognized or is not sought for; for it does not enter the mind of the attendant that it is possible to have a malposition of a normal presentation. Of my own personal statistics, I quote from my case book that in the last one hundred consultations in midwifery I have come in contact with twenty-three cases of persistent occipitoposterior positions. This, of course, does not carry with it much importance as to the absolute frequency of this complication, for as a consultant it is most natural to see nothing but complications. But of more importance is the careful review of the cases under my personal care, *i.e.* private cases—those examined from the onset of labor and in which there has been an early determination of the position, before the head has been markedly influenced. Here I have noted, in one hundred cases, seventy primarily posterior occiputs, certainly a larger percentage than I had any idea of; and we doubt not that if all practitioners took the necessary care for a careful and early examination the same high percentage would be found. For this reason I wish to record the fact that primary malpositions of the occiput are present in a much larger number of cases than we are led to believe. How much higher still the percentage may be before the advent of labor is impossible to tell, except by abdominal palpation, but for reasons elsewhere given I pin my faith on internal examination, relegating abdominal palpation to the position to which it belongs—namely, one of absolute unsafety.

And this leads up to the question of diagnosis. Even without an internal examination, the symptoms presented are so characteristic that a presumptive diagnosis can very often be readily made, and this triad of symptoms ought always be associated with a possible vicious presentation of the occiput, *i.e.* early rupture of the membranes, slow nagging and teasing pains and abnormal slow and futile labors. Such evidence can always be clinched by a vaginal examination, or, if the least doubt exists, the introduction of the full hand into the canal. It is absolutely essential for successful treatment to make an early and a clear diagnosis not only of position, but of presentation; and in this I am sorry to say too little is done, for the average practitioner always rests satisfied so long as the hard head presents, caring little or bothering less what area of the fetal head present. Early recognition and timely interference is more than half the battle won, for by such means we can, in an overwhelming majority of cases, change the case from an almost impossible one to one of the greatest simplicity, and thus carry it to a successful issue. But of the greatest import is still: What are you going to do in order to cope successfully with these cases? It must be remembered that a firmly flexed head will almost always rotate spontaneously, and that the first step in the treatment of these cases is to insure a permanent and marked flexion; and this can be most readily done by pressing, throughout several pains, the sinciput against the chest of the child by two fingers, or the introduction of the full hand in its grasp, flexing the occiput and thus obtaining the same result. The permanency of this sustained flexion is assured by using the postural treatment, *i.e.* placing the patient in that lateral prone position corresponding to the position of the occiput. These minor manipulations done early and carefully, as above described, will, in the great majority of cases, cause the head to rotate with resultant normal and spontaneous expulsion. It is advisable to undertake operative measures at a late period; or, to be more concise, operate only when there are

*Discussion opened before the Obstetric Section, New York Academy of Medicine, April 28, 1904.

present, symptoms to indicate that interference is warranted, symptoms the interpretation of which mean exhaustion on the part of the mother or child. In obstetrics early and uncalled interference is unwarranted and may lead to disastrous ends, while working in armed expectancy is often followed by remarkable and favorable results for mother and child, if only for the reason that in this complication, rotation occurs in a large majority late, *i.e.* when the head is low down on the pelvic floor. The secret of success lies in two directions: (1) operate only in the face of clear indications on the part of either mother or child; (2) operate at once when there is tendency to posterior rotation.

When either of the just mentioned conditions arise how are we to meet them?

Cæsarean section and symphyseotomy are included for the reason that we presuppose that we are dealing with a pelvis that is normal, and consequently these operations are beyond the scope of this paper. Yet it occasionally may happen that either one of the just quoted operations might have to be considered, especially the pubic section, in those rare cases in which the occiput is absolutely impacted and no other means can possibly give us a living child.

In quite a few of these cases, the perforator ought always be the instrument of selection, for it would be the height of folly and directly against the interests of the mother to attempt to deliver by another means than by a craniotomy upon a child whose life has already been sacrificed or at best whose vitality is so low that any form of operative measure would deliver a dying or hopelessly maimed child. A rule which I strictly adhere to, so far as circumstances allow, is to elect the perforator in all those conditions just mentioned, only in the presence of a child of good vitality I should elect either forceps or version, and my selection of these methods is practically sharply defined, *i.e.* version when the head is above the brim, forceps when the head is fixed at or below this point. What I wish to elucidate in this paper is the absolute value of the modern axis traction forceps. But I would preface my remarks by a note of warning. The modern axis traction is a dangerous instrument for the inexpert, even as it is absolutely safe in the hands of one accustomed to its use. It is a forceps for the expert only; and if by its use bad results accrue it is not the fault of the forceps, but of the operator. Its method of application and its action have been more fully gone into in another paper and cannot be entered into more fully here. But one important method of delivery will be discussed at length, and that is the method which has given almost uniform success and satisfaction. I have given it the name of "rotary axis traction," for by this manœuvre we fulfil a compound indication, *i.e.* axis traction and, at the same time, artificial rotation. These, as you will readily see, are particularly applicable to cases of posterior position of either the vertex or the face. I cannot improve upon my statements made in a former article and shall take the liberty of quoting the following from the same: In many of these cases of occipitoposterior positions I have succeeded, by the use of the Tarnier instrument, in rotating the head anteriorly by simply allowing it, while traction is being made, to be influenced by the factors supplied by nature (the resistance offered by the perineal structures and furthered by the turning points afforded by the ischial spines, especially when they are prominent) to provoke such rotation. And herein lies the utility of the instrument. It allows the head to pass uninfluenced through the pelvic canal, except for the natural influences which promote rotation; hence the great advantage is the free mobility of the forceps when applied to the head. This rotation begins to occur when the head descends to the pelvic floor, and is instantly evinced by the behavior of the blades—they begin to rotate with the head, the movement increasing with every traction effort, until the forceps has entirely rotated. When, however, such tendency to rotation does not occur, the normal mechanism is probably at fault, and it is then that "rotary axis traction" becomes of supreme value. The forceps may be applied according to the pelvic walls; but an oblique application, *i.e.* to the sides of the child's head, is better. When in such position, it conforms to one of the oblique diameters of the pelvis, insures a more certain grasp, and very materially aids in the success of this otherwise rather simple manœuvre. With the right hand, steady traction is made, and at the same time, with the left hand, the handles of the forceps are compelled, or at least influenced, by gentle rotation to turn in the direction of the presenting part; to the left in left occipitoposterior cases, to the right in right posterior ones. This manipulation must be persisted in, slowly rotating all the time while making careful and intermittent traction, timing our measure so that when the head reaches the pelvic outlet, complete rotation shall have occurred and the forceps blade shall be found nearly or entirely inverted. At no time should brute force be used, but the greatest gentleness exercised at all times. I have on a number of occasions tried forcible rotation by the ordinary forceps, and have succeeded, but often at the expense of the maternal structures, with resulting deep tears of the vagina and pelvic floors. "Rotary axis traction" has been tried innumerable times, and it has *seldom* failed when the forceps was applied to the sides of the pelvis, and *never** when it was applied to the sides of the fetal skull. The resultant lesions were no deeper or more frequent than in ordinary simple forceps extractions. The prognosis for the child was as good as under ordinary conditions.

*Since writing this article, however, I failed in one case to rotate even though the blades were applied to the sides of the fetal skull.

BRIEF NOTES ON THE MANAGEMENT OF OCCIPITOPOSTERIOR POSITIONS OF THE VERTEX.

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THE occurrence of a posterior position of the vertex is always indicative of faulty mechanism, it matters not whether the fault be a pelvic contraction of the flattened, general, oblique, or kyphotic form, a large head, a small child or a defective pelvic floor, imperfect flexion of greater or lesser degree, always occurs at some stage of the mechanism. Consequently when this malposition does present, it suggests some defection in the factors of labor and a recognition of the cause in the particular case must be appreciated before any treatment can be instituted.

Diagnosis.—Before labor and during the early part of the first stage, the diagnosis of occipitoposterior may be readily made by abdominal palpation. The dorsal plane is inaccessible, while the small parts are prominent and found in the middle section of the abdomen. The head is usually not engaged at the beginning of labor, which makes the cephalic prominence marked. The anterior shoulder is found remote from the median line and the heart is heard well around toward the flank or not heard at all. Right occipitoposterior must always be thought of in right dorsal positions, as it occurs nearly or quite as frequently as a right anterior position. A left posterior is less frequent than a right. The

vaginal signs are confirmatory. If the head is engaged, the small or posterior fontanelle may be felt opposite one or the other sacroiliac synchrondrosis with the ball of the occiput posterior. Usually, however, the head is not engaged at the beginning of labor, and further it is frequently improperly flexed, because of the conditions which obtain, in the causation of posterior occiputs. Hence the large fontanelle is at a lower level and is more easily felt. Palpation of the ball of the occiput and the relative location of the ears will make the diagnosis positive. It must be kept in mind that the most frequent cause of fetal dystocia is a posterior position of the vortex and when such is encountered, should there be any doubt in the mind of the operator as to the relations of the head to the pelvis an examination under anæsthesia with the hand in the vagina and two fingers or half the hand introduced into the uterus will remove all uncertainty. The relation that the sagittal suture bears to the diameters of the pelvis is a constant index as to the degree of rotation and must be observed to manage intelligently this abnormality.

Treatment.—The majority of posterior cases rotate to the front unaided when the passenger, powers and passages are normal or can be made to assume relative normality. Less than 2 per cent. rotate into the sacrum, notwithstanding that the head must rotate through 135° to be delivered with the occiput under the pubes. This rotation takes place either at the brim, in the cavity of the pelvis or on the pelvic floor.

When the diagnosis is accurately made in the beginning of labor, posterior positions are not as formidable as generally believed. The dangers to the mother are exhaustion, lacerations, and the risks of *instrumental interference*. To the child—those of a prolonged labor. In considering the management of this abnormality, it is advisable to study the individual case as it presents at the time when it is seen by the accoucher.

Therefore I would classify these conditions as follows:

1. With the head at or above the brim, flexion more or less imperfect, and the membranes unruptured. In the presence of these conditions, postural methods alone deserve our consideration. The woman should be placed on the side toward which the occiput points and directed to maintain this position, which favors anterior rotation and more perfect flexion of the vertex. The genupectoral position which is mentioned in most of our textbooks cannot be maintained by the patient for any length of time and so is only of theoretical value. Every effort should be made to keep the membranes intact until complete dilatation of the cervix is obtained. When dilatation is slow a colpeurynter will facilitate canalization and preserve the membranes.

2. After rupture of the membranes with the head at the superior strait, postural methods may be continued while efforts are being made to dilate the cervix with hydrostatic bags, unless the condition of mother or child demand more radical intervention.

After dilatation, a fair trial having been given to posture and the natural forces having failed to rotate the head to the front, manual rotation of the head to the front and engagement of the head by internal and external manipulation, under anæsthesia, may be attempted. This procedure presupposes a dilated or dilatable cervix. The one hand placed on the mother's abdomen pushes the anterior shoulder toward the median line, while the other hand in the uterus pushes the other shoulder in the opposite direction, thus rotating the dorsum anteriorly, as well as the head, and the tendency to recurrence is minimized. When the malposition of the occiput has been corrected, an attempt to engage the properly flexed and positioned head may be made with the patient in the Walcher position, either by crowding the head into the pelvis manually or by tentative traction with the axis traction forceps. Should this attempt to engage the head fail, podalic version may be elected, except when the size of the child would contraindicate such a procedure. The writer feels that while version is theoretically the proper thing to do in these posterior cases, which have resisted the several efforts of the operator to flex and engage the vertex, experience in estimating the relative size of the child and the pelvis as well as the individual dexterity of the operator will largely determine whether an axis traction delivery or a podalic version shall be elected.

When the head presents as an occipitoposterior in the cavity, anterior rotation may be favored by posture, used in conjunction with manual aid during the pain, by pushing the sinciput upward and backward, thus promoting flexion and anterior rotation. Should the head become arrested and remain stationary for two hours in the second stage, the forceps may be applied, either to the sides of the pelvis and taken off and reapplied as the head assumes its relation to the different pelvic planes or the axis traction forceps may be applied to the sides of the head and be used as rotators as well as tractors, guided by the relation of the saggital suture.

When a posterior vertex is encountered on the pelvic floor, the occiput may be rotated to the front manually or with the reversed forceps, though this possibility only obtains in the case of a small fœtus on a relatively roomy pelvis. Should attempts at rotation of the occiput fail and a posterior position persist, the brow may be pushed upward to exaggerate the flexion while the occiput is slipped over the perineum with more or less tearing of the pelvic floor.

Posterior positions are apt to tire the woman and exhaust the child. The fœtus often becomes asphyxiated while in the vagina. The judicious use of forceps will minimize these risks.

In conclusion I would add, make the diagnosis and then apply such treatment as the individual case demands, being governed by the existing conditions at the time at which the patient is seen by the attendant.

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Exanthematous Eruptions Following Throat Operations.—From his personal experience and from a careful study of the literature of the subject, Louis Fischer believes that exanthematous eruptions, such as scarlet fever or measles, have nothing to do with the operation itself. The infection evidently takes place before the operation. The period of incubation may have been shortened, and that the disease appear sooner owing to the traumatism. The question of prophylaxis by means of local pharyngeal antisepsis to destroy pathogenic bacteria in these regions is one that deserves attention. It is important to ascertain, if possible, whether or no the patient has been exposed to any infectious disease for a number of days prior to the operation. The thermometer is of valuable assistance. If the temperature is above normal it is better to postpone operative procedure until normal conditions are established. Fischer believes the infection takes place before the operation, and that the operation itself lowers the resistance of the body, and shortens the period of incubation. This will account for all of his cases and those reported by many clinical observers, being called surgical scarlet fever, when in reality they are true cases of scarlet fever, infected prior to the operation.—*The Laryngoscope.*

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AUTOINTOXICATION OF INTESTINAL ORIGIN.

THE question of antointoxication is treated quite extensively by Dr. G. Lyon in the *Gazette des Hôpitaux* for May 14 last. The intestine is a permanent source of poisons, which under certain conditions cause grave alterations in the principal organs (notably the liver, kidneys, and skin) and functional troubles, among which those of the nervous system occupy a prominent place. Autointoxication may exist in connection with diseases involving diarrhœa, but it is above all associated with those causing constipation; it is, in short, a consequence of all intestinal affections.

To understand its genesis, we must at the outset recognize that digestion is a double process, an enzymic and a microbic one. Both enzymes and microbes transform starch into sugar, both emulsify fats, and both transform albuminoids into peptone. But the rôle of the microorganisms does not end here, for they may act to bring about further and putrefactive changes, with the formation of sulphuretted hydrogen, lactic and butyric acids, and from the albumins the ptomains and substances of the aromatic group. Against the poisons so produced, the normal organism manages to protect itself principally through the action of the intestinal epithelium and the liver which destroy the majority of the toxic products, while the excretory organs eliminate the remainder. Given certain conditions, however, and the toxic products can be generated in excess of the powers of the organism to dispose of them, or those powers may fail in point of efficiency. Of these two conditions, the former is the more frequent. Various influences may interfere with the normal course of digestion. Errors in diet, qualitative or quantitative, may form the starting-point, or the cause may lie in the organism itself. Thus gastric atony, whether combined (as is frequently the case) with dilatation or not, plays an important rôle. Or any one of several modifications of the gastric juice may initiate the series, by entailing delayed digestion which means fermentations and putrefactions. But gastric conditions are as nothing compared to intestinal, as gastric defects can be made up by intestinal over-exertion, while for intestinal deficiencies there is no compensation. Apart from organic obstructive conditions, intestinal atony plays a frequent and very deleterious part, the more serious the higher in the intestine the stasis occurs. For once stasis sets in, we are already in sight of autointoxication. Another expression of this motor insufficiency is the constipation so often present. As other pathological conditions underlying autointoxication are enteritis (acute or chronic), colitis with constipation, cancer of the intestines, etc., but especially chronic appendicitis, as its rôle is in a number of cases misconceived. The fetid diarrhœa, which is very frequent in the last disease, and which is very rebellious to treatment, ceases at once upon ablation of the appendix. Autointoxication may then be associated with any disease of the intestines, those associated with diarrhœa as well as those connected with constipation, but it is far more frequently associated with the latter class.

The diagnosis of chronic autointoxication is easily made; the yellowish tint of the face with the coated tongue, fetid breath, anorexia, nausea and sometimes vomiting, constipation, or diarrhœa with fetid stools, usually emaciation, sad aspect, with loss of energy and inaptitude for work, the whole gamut of nervous troubles (migraine, torpor, vertigo, insomnia, multiple pains), make up the picture.

As regards the degree of intoxication taking place, the severity of the clinical symptoms affords no accurate indication, and the same is true of the examination of the stools. Some patients have numerous very offensive stools with few symptoms, while others with a few apparently normal stools show a profound intoxication. It is then important to recognize that we have in the condition of the urine (in which the majority of the toxic products is excreted), a quite accurate index to the state of affairs. Besides the bodies produced by both enzyme and microbic action, the microorganisms of the intestinal tract are capable of giving rise to putrefactive products; bodies belonging to the fatty series (ammonium butyrate, caproate, valerianate; ptomains), and to the aromatic series (phenol, paracresol, indol, scatol, aromatic oxyacids). These appear in the urine as sulphocompounds, their toxicity having been attenuated by combination in the liver with sulphuric and glycuronic acids. The aromatics have not the toxicity of the ptomains but they are excreted parallel with them, and constitute, therefore, a rather exact index to the amount of the ptomains. A number of observations have now shown that putrefaction of the food in the prima viæ is the *only* source of the "ethereal sulphates" in the urine, and that they are never derived from any of the albuminoids of the organism itself. Thus, in animals with sterilized intestines, fed with sterile food, the urine shows no trace of phenol, indol, or scatol. More important, from the practical standpoint, is the fact determined by White, Poehl, Herschler, Winternitz, and Bernacki, that limitation to a hydrocarbonaceous diet, brings about a reduction of these substances in the urine to one-third of the previous amount. On the other hand constipation increases the amount of the ethereal sulphates in the urine, as does also all obstructive conditions of the intestines. The latter fact would naturally lead one to suppose that purgatives would bring about a decrease. But the action of these drugs is, in fact, not a uniform one, castor oil and the salines increasing the amount of the urinary ethereal sulphates, while calomel decreases them markedly.

As regards successful treatment, the first indication is the retardation of the existing intestinal putrefaction. For this purpose sterilization of the intestine by means of drugs has been tried, but the practice is to-day discredited as an impracticable utopia. The effects of naphthol and its derivatives are, it must be said, much disputed and most disputable. Besides naphthol exercises an irritation of the most active description on the stomach, and its prolonged use can cause glandular atrophy. Also the administration of hydrochloric acid is useless, at any rate as regards intestinal antisepsis, and it may be remarked that hyperchlorhydria does not include antisepsis in its symptomatology. The same is, however, not true of lactic acid, which diminishes markedly the urinary ethereal sulphates.

It is, however, by diet that *the* effect is to be produced. To start with, the albuminoids are to be reduced to a minimum, for it is their fermentation which yields the toxins. Combe recommends "saturation" of the patient with hydrocarbonaceous articles of diet, the word "saturation" being taken in its most literal acceptation. This antiputrefactive diet of Combe yields the most excellent results. Also Pochl and Bernacki have proven that a milk diet diminishes the ethereal sulphates, and that on such a diet the stools contain no indol, scatol, or phenol, but only leucin and tyrosin. This resistance of milk to putrefaction is attributed by Winternitz to the contained lactose, which on fermentation produces lactic acid which in its turn inhibits putrefaction. Similarly, fresh cheese has been shown to possess antiputrefactive properties. As regards eating, meals should be alternately solid and liquid, the patient not eating when he is drinking, or *vice versa*. Rovighi and Schumann have shown that this course involves a diminution of the ethereal sulphates. After each solid meal the patient should lie down, without sleeping. Green vegetables and all fruits, cooked or raw, are to be excluded. After a variable time the milk-farinaceous diet is to be mitigated on trial with meat, the yolk of eggs, and green vegetables.

Enteroclysis has more value than as an enema. The water is absorbed, relieving thirst and assisting in the lavage of the blood. The tube should be introduced with the patient lying on the right side with the left leg flexed upon the abdomen, and very slowly with successive pauses, to allow of an unfolding of the rugæ in advance of it. The solution is best an isotonic one (7 parts of sodium chloride per 1,000) introduced at 38°, and under a low pressure (with an elevation of only 15 to 20 centimeters), to avoid spasm of the intestine. Purgatives and lavage should be alternated. The purgative of election would seem to be calomel.

In certain cases with profound intoxication (as evidenced by nervous troubles, oliguria, subicterus, etc.) in which an immediate effect is urgently demanded, subcutaneous injections of saline solutions are to be resorted to, as this is the only method which can be relied upon for a rapid deintoxication of the organism.

The immediate symptoms being relieved, in the further treatment recourse should be had to hydrotherapy, open-air life, exercise, subcutaneous injections of sodium cacodylate and of strychnine; and gastrointestinal massage is one of the best means at our disposal for the correction of the stasis.

PARATYPHOID FEVER.

In the *Scottish Medical and Surgical Journal* for May is a paper by Dr. R. D. Keith on paratyphoid fever. The first part of the article is devoted to a consideration of the disease chronologically, and states that the first case was described by Achard and Bensaude of Paris in 1896, who isolated a paratyphoid bacillus. Schottmüller of Hamburg was the first observer to take up the subject in Germany, who isolated the specific organism of the disease and gave to the fever the name paratyphoid on account of its close resemblance to typhoid fever. Schottmüller concluded, from the investigation of a large number of cases of clinical typhoid in the General Hospital of St. George in Hamburg, that the bacilli isolated were the cause of the disease, and that of six cases there were two groups, one of which contained two, and the other four bacilli. These two groups, subsequently described in the literature as type "A" and type "B," differ in degree both culturally and in their serum reactions. It was found that the serum reactions of the members of the first group corresponded with one another, but not with those of the second group, and that while the serum reactions of the members of the second group corresponded with one another they differed from those of the first. These conclusions in all important details have been confirmed by the investigations of many observers, including several Americans.

As to the clinical characteristics of paratyphoid fever, observations of more than one hundred cases have been published, of which, however, only 46 are available for the purpose of a minute clinical analysis. Dr. Keith describes the disease—although, as he confesses, somewhat loosely—as an acute infectious process caused by a bacillus closely resembling in many particulars the typhoid bacillus, and the symptoms and course of the disease closely resembling those of typhoid fever. The onset is marked by headache, lassitude, loss of energy, and general weakness. Occasionally there is epistaxis, and in some cases vomiting and pain in the abdomen. By the time the patient comes under observation he is feverish and may feel chilly, but regularly marked rigors are hardly ever met with. As a rule, the temperature does not rise above a moderate height (102° F. or thereby), except in the more severe cases, nor does it remain for more than a few days at this height continuously.

Occasionally a critical fall is observed, and it has been observed by most investigators that even at its height the temperature has, as a rule, a remittent or intermittent character. The pulse is, as a rule, quite regular but somewhat small. Its frequency, according to some, is not increased at the commencement of fever.

A roseolar eruption resembling that of typhoid fever was present in thirty-two out of forty-six cases. It was described in some cases as occurring not only on the skin of the abdomen and chest but also on the back and limbs, and in one case even on the face. The tongue is generally covered with a moist white coating, but is occasionally dried and furred.

Diarrhœa is more prominent than constipation, and is sometimes present at the commencement of the disease. The abdomen is not, as a rule, markedly distended, nor is tenderness a prominent feature, but pain is in some cases present, and iliac gargling is an almost invariable accompaniment of the disease. The spleen is enlarged in the majority of cases, but so far as can be ascertained during life the liver is not affected. The urine during the course of the disease shows a deposit of lithates. Albuminuria, when present, is, as a rule, not marked and is found during the height of the fever. Hyaline and granular casts have been observed, and in one case blood was found to be present. In nineteen out of forty-six cases the urine was found to give the diazo reaction, and in eight the test for indican was positive. The heart is practically always unaffected. With regard to the lungs, bronchitis is comparatively common, and emaciation is not so marked in this disease as in typhoid fever.

Of the complications observed, bronchitis is the most common. Pharyngitis is not uncommon, and next in frequency to it comes bronchopneumonia. Thrombosis of the femoral veins, pleurisy, phlebitis of the veins of the leg, endocarditis and cystitis have also been observed. Sequelæ have not definitely been known to occur.

Up to the present only three authentic fatal cases have been described. In all of these paratyphoid bacilli have been isolated from the organs after death, but in no case was any characteristic lesion found. The appearances were in most cases those of an acute general infection.

Studies undertaken to show the morphology, cultural characteristics, and behavior toward various media of the bacillus of paratyphoid fever bring out the characteristics distinctive of the paratyphoid bacilli "A" and "B." It is shown: (1) That there is a distinction between "A" and "B" paratyphoid bacilli. (2) That as regards the characteristics here alluded to paratyphoid "A" organisms are on the whole nearer bacillus coli than the "B" group. (3) That bacillus paratyphoid "B" is identical as regards its cultural characteristics with Gärtner's bacillus. (4) That "A" and "B" paratyphoid bacilli are distinct both from the bacillus coli communis and the bacillus typhosus.

Dr. Keith considers the serum reactions in cases of paratyphoid infections and their bearing on the serum test in typhoid fever. The chapter in which this portion of the subject is dealt with is both too long and too technical to be adequately treated in an editorial. The value of immune sera is pointed out (1) As a means of identifying bacilli quickly. (2) As a means of showing the more exact relationship of bacilli to other members of a family or group.

The author gives the following résumé of the conclusions drawn from the investigations considered by him: (1) That there exists a disease which simulates the disease known as typhoid fever so closely that they can only be distinguished by bacteriological means. (2) That the disease is caused by an organism which exists in two varieties and which may be regarded as bacteriologically intermediate between the bacillus typhosus and the bacillus coli communis. (3) That the disease is on the whole mild and that the prognosis is good. (4) That the treatment of the disease is similar to that of typhoid fever. (5) That the disease spreads in the same manner as typhoid fever, and that the same hygenic and general measures should be taken in cases of this disease as are adopted in typhoid fever. (6) That in suspected typhoid-like cases a bacteriological examination is of the greatest importance both for diagnosis and prognosis and should be made wherever it is possible. (7) That up to the present the disease must be regarded as acute general infection in which no definite local lesion has been shown to exist.

Paratyphoid fever is probably conveyed in the same manner as is typhoid fever. It is not markedly infectious. The incubation period is about fourteen days, the spots appearing from the twentieth to twenty-sixth day. Perhaps the most valuable deductions to be drawn from the investigations of paratyphoid fever is that experiments have tended to show that immune sera can be produced which have a protective power against lethal doses, not only of homologous organisms but also of organisms which are related, thereby indicating to some extent the possibility of a new line of treatment in cases of infectious diseases.

Wright, as is well known, is of the opinion that typhoid fever can be warded off completely in some cases and in others rendered less severe by injections of dead cultures. Dr. Keith suggests that the indications given by the results of the experiments on animals with protective sera in the case of bacillus typhosus and allied organisms is but the initial stage of a new curative method of treatment. This matter, however, requires further elucidation before any large definite statements can be made regarding it. Nevertheless, it may be said that the prospect is hopeful.

Trachoma as an Epidemic and Maritime Disease.

In the annual report of the Surgeon-General of the Public Health and Marine Hospital Service for the fiscal year 1903, recently issued, Passed Assistant Surgeon J. M. Eager has an article on the above subject. The writer points out that the transmissibility and relation to shipping of trachoma are brought prominently before the observer in connection with the inspection of emigrant ships in Italy. In view of the contagiousness of trachoma, the Italian Government now refuses to allow the embarkment of cases of active ophthalmia on emigrant ships leaving Italy, either for South America, where there is no prohibition against the entrance of trachoma, or for the United States. The object of this ruling is to prevent the spread of the disease aboard ship.

Dr. Eager reviews the history of trachoma from an epidemiological standpoint, and says that while it may be considered as a disease which, though known in ancient times to be contagious, was not noted to take on an epidemic character until recent centuries. Hippocrates, Galen, Plutarch of Cheronea, and Rhases, the famous Arabian physician of the ninth century, mention ophthalmia as an eminently contagious malady. The Rabbi Moses, a great exponent of the doctrines of Galen, says in his aphorisms that to gaze steadily into the eyes of a trachomatous person is enough to make anyone's eyes water, and that continuous contact with sufferers from ophthalmia generally results in contracting the disease.

The name trachoma was given to the affection

through the writings of Prospero Alpino, an Italian, who visited Africa in the sixteenth century for the purpose of studying Egyptian medicine. It was through the campaigns of Napoleon that trachoma became prevalent throughout Europe. All the armies engaged in those wars being more or less affected by the disease. In 1820 Guillé of Paris demonstrated the contagiousness of trachoma.

The only record found in literature of trachoma as a maritime disease is that given by Guillé (Bibliothèque ophthalmologique, Paris, 1820). The disease occurred on a slaveship, *Le Rodeur*, which on the voyage out was free from ophthalmia, but whose slaves when sixteen days from Guadeloupe exhibited signs of the malady, which soon spread in the most rapid manner.

At the present time trachoma is notably endemic in Arabia, Egypt, Italy, Spain, Western Russia, Poland, Ireland, and South America. Exact statistics as to the prevalence of trachoma in Italy are not available, but these are, in most instances, incomplete, and in others, owing to inherent disadvantages, entirely indecisive. However, enough is known to show that the disease is very prevalent in many ports of Italy. Dispensary reports establish the fact that trachoma is greatly on the increase in that country, while Professor Fortunato states that in some of the maritime places of Sicily and Sardinia, from all available means of observation, it may almost be said that the entire population is trachomatous.

Dr. Eager ends an instructive paper by saying that the statistics of the medical inspection made in Italy for the United States are of little value in estimating the prevalence of trachoma in Italy for the reason that the figures are distorted by the fact that often persons notably trachomatous do not attempt to take passage or are refused the same by the transportation companies prior to the day of sailing, and so do not appear at the regular medical visit. . . . Then, too, many persons, some not trachomatous, but fearing they may fall under suspicion, and others really victims of the disease, practise a sort of universe malingery at the time of the inspection. Adrenalin with cocaine hydrochlorate is a favorite prescription for eyedrops. By its application, a blanching of the conjunctiva is brought about, a condition which, even in the absence of other evidence, is sufficient to put the person under observation until the disappearance of drug effects has rendered proper examination practicable.

Food Preservatives.

A committee has recently been sitting, taking evidence as to adulterations and the use of preservatives in food. It has been especially considering the question of the use of preservatives in food. According to the *New York Times*, Dr. Frear, in discussing this contention, said that the testimony of the manufacturers had pretty generally been that such goods could not be packed without preservatives without a certain percentage of loss, but we must remember that the housewife who puts up her own catsup and preserves also suffers a percentage of loss. "The best opinion," Dr. Frear says, "seems to be against the use of preservatives as a general proposition as injurious, but, on the other hand, it is argued that the quantity used is so small as to be harmless in the products in which they are most necessary. The manufacturers seem to believe that it ought to be enough if all goods containing preservatives were plainly labeled, so that the consumer could see for himself, and take the responsibility for what he is taking into his stomach."

It is expected that the Secretary of Agriculture will be able in a few months to draw up a set of standards which will define what is meant by purity in foods, and what constitute adulterations. The Medical Record has always taken the view that preservatives should, as far as is possible be absent from foodstuffs. In fact, there is little doubt that in the large majority of cases articles of food require no preservatives. By allowing the use of foreign matter in food, the thin edge of the wedge for all kinds of deception is allowed to enter. Undoubtedly, if the use of preservatives is permitted at all, food so treated should be plainly labeled. The question of pure food is a momentous matter, and one which directly affects the whole community. Ignorant persons must be protected against themselves, and the manufacturers must remember that it is not only their interests which are at stake but the welfare, to a greater or lesser extent, of the entire population of the country. Selfish interests cannot be allowed to prevail over the good of the many, and legislation should be strictly enforced which clearly defines the relative position of manufacturers and the general public with regard to food preservatives.

The Medical Library Movement in the United States.

Standard books on medicine and surgery, and the latest works on these subjects, together with the most recent medical literature, are considered to be essential to the physician of the present day. Without access to these the up-to-date medical man feels to some extent lost, for he recognizes that it is necessary for him to keep abreast with the times and to know something of everything that is going on in the medical world everywhere. Thus the medical library has become an absolute need, and the main provider of medical and scientific pabulum to the practitioner. As a factor in medical education the library is of inestimable value, in this respect equalling if not transcending any other means.

Dr. Albert T. Huntington of Brooklyn, in the *Medical Library and Historical Journal*, for April, 1904, writes on the medical library movement in the United States. The first one in this country was founded in 1760, but it is only within the past forty years that the great medical libraries of to-day have been built up, and only within the last decade that the medical library movement has become active and widespread.

Dr. Huntington gives a list of the various medical libraries in the country, the date of their foundations, and the number of volumes contained in each. There are in the United States 215 of such institutions, while the number of volumes in these is estimated at 1,023,295.

The author points out that if we should assume that all the libraries in the list compiled by him are in an active state of existence and their resources readily available to the profession, two striking facts are very evident: First, that certain centers are oversupplied with medical libraries, and that the fusing of several distinct collections into one great library whose resources should be free to the whole profession could not be other than advantageous to the best interests of all concerned. Second, that there are certain large sections of the country which are utterly barren of adequate medical library resources.

Dr. Huntington is of the opinion that there are two requisites for the establishment and permanent success of a medical library: First, a desire on the part of the local profession to have a library;

second, the control of that library, wherever the books are housed, by the medical profession. Therefore, it is best, whenever practicable, that the library should be separate, and under the auspices of some general medical organization. The foregoing is undoubtedly good advice and should be followed as far as is possible.

The medical library movement has evidently taken firm root in the United States, and from all appearances will flourish in the future to a greater extent than at present.

News of the Week.

Change in the Examination for the Army Medical Service.—The examination of applicants for commission in the Medical Corps of the Army was materially modified on July 1. Immediate appointment of applicants after successful physical and professional examination—the latter embracing all subjects of a medical education—will be discontinued, and hereafter applicants will be subjected to a preliminary examination and a final or qualifying examination, with a course of instruction at the Army Medical School in Washington intervening. The preliminary examination will consist of a rigid inquiry into the physical qualifications of applicarts and written examination in mathematics (arithmetic, algebra, and plane geometry); geography; history (especially of the United States); Latin grammar, and reading of easy Latin prose; English grammar, orthography, composition; anatomy; physiology; chemistry and physics; materia medica and therapeutics; normal histology. The subjects in general education above mentioned are an essential part of the examination and cannot under any circumstances be waived. The preliminary examination will be conducted concurrently throughout the United States by boards of medical officers at most convenient points; the questions submitted to all applicants will be identical, thus assuring a thoroughly competitive feature, and all papers will be criticised and graded by an Army Medical Board in Washington. Applicants who attain a general average of 80 per cent. and upward in this examination will be employed as contract surgeons and ordered to the Army Medical School for instruction as candidates for admission to the Medical Corps of the Army; if, however, a greater number of applicants attain the required average than can be accommodated at the school the requisite number will be selected according to relative standing in the examination.

The course of instruction at the Army Medical School will consist of lectures and practical work in subjects peculiarly appropriate to the duties which a medical officer is called upon to perform. While at this school the students will be held under military discipline, and character, habits, and general deportment will be closely observed. The final or qualifying examination will be held at the close of the school term, and will comprise the subjects taught in the school, together with the following professional subjects not included in the preliminary examination: Surgery, practice of medicine; diseases of women and children; obstetrics; hygiene; bacteriology, and pathology; general aptitude will be marked from observation during the school term. A general average of 80 per cent. in this examination will be required as qualifying for appointment, and candidates attaining the highest percentages will be selected for commission to the extent of the existing vacancies in the Medical Department. Candidates who attain the requisite general average who fail to receive commissions will be given certificates of graduation at the school and will be preferred for appointment as medical officers of volunteers or for employment as contract surgeons; they will also be given opportunity to take the qualifying examination with the next succeeding class.

It is not thought that, for the present at least, the number successfully passing the preliminary examination will be greater than can be accommodated at the Army Medical School, nor that the number qualifying for appointment will exceed the number of vacancies. If, however, the class of candidates qualifying should be larger than is now thought, the young physicians who fail to receive commissions will not have wasted their time, as the course of instruction at the school, while in a large measure specialized to Army needs, is such as will better fit them for other professional pursuits, and furthermore they will have received a fair compensation while under instruction.

Admission to the preliminary examination can be had only upon invitation from the Surgeon-General of the Army, issued after formal application to the Secretary of War for permission to appear for examination. No applicant whose age exceeds thirty years will be permitted to take the examination; this limit of age will be rigidly adhered to. Hospital training and practical experience are essential requisites, and an applicant will be expected to present evidence of one year's hospital experience or its equivalent (two years) in practice. The first preliminary examination under the amended regulations above referred to will be held about August 1, 1904; those desiring to enter the same should at once communicate with the Surgeon-General of the Army, Washington D. C., who will furnish all possible information in regard thereto.

New York State Hospital for Incipient Tuberculosis.—This institution was opened on July 1, at Ray Brook, Essex County, under the superintendence of Dr. John H. Pryor. The following information concerning the admission and maintenance of patients is from the act establishing a State Hospital in the Adirondacks for the treatment of incipient pulmonary tuberculosis.

Free Patients.—The trustees of the hospital are hereby given power and authority to receive therein patients who have no ability to pay, but no person shall be admitted to the hospital who has not been a citizen of this State for at least one year preceding the date of application. Every person desiring free treatment in the hospital shall apply to the local authorities of his or her town, city, or county having charge of the relief of the poor, who shall thereupon issue a written request to the superintendent of said hospital for the admission and treatment of such person. This request must state in writing whether the person is able to pay for care and treatment while at the hospital. The requests will be filed by the superintendent in a book kept for that purpose in the order of their receipt by him. When the hospital is completed and ready for the treatment of patients, or whenever thereafter there are vacancies caused by death or removal, the superintendent shall issue a request to an examining physician, in the same city or county, or, if there is no such examining physician in the city or county, then the nearest examining physician, for the examination by him of said patient. Upon the request of the superintendent the examining physician shall examine all persons applying for free admission and treatment in the institution, and determine whether such are suffering from incipient pulmonary tuberculosis. No person shall be admitted as a patient in the institution without the certificate of one of

the examining physicians certifying that such applicant is suffering from incipient pulmonary tuberculosis. Admission to the hospital shall be made in the order in which the name of applicants shall appear upon the application book kept by the superintendent of the hospital, in so far as such applicants are subsequently certified by the examining physician to be suffering from incipient pulmonary tuberculosis. Every person who is unable to pay for care or treatment shall be transported to and from the hospital at the expense of the local authorities. At least once in each month the superintendent of the hospital shall furnish to the comptroller a list countersigned by the treasurer of the hospital of all the free patients in the hospital, together with sufficient facts to enable the comptroller to collect from the proper local official having charge of the relief of the poor such sums as may be owing to the State for the examination, care and treatment of the patients who have been received by the hospital and who are shown to be unable to pay for their care and treatment. The comptroller shall thereupon collect from the local official the sums due for the care and treatment of each such patient at a rate not exceeding five dollars per week for each patient.

Private Patients.—Applicants for admission to this institution who are able to pay for their care and treatment are not required to obtain a written request from the local authorities having charge of the relief of the poor, but should apply in person to the superintendent, who will enter the name of the applicant in the book to be kept by him for that purpose, and when there is room in the hospital for the admission of the applicant without interfering with the preference in the selection of patients, which shall always be given to the indigent, such patients shall be admitted to the hospital upon the certificate of one of the examining physicians, which certificate shall be kept on file by the superintendent. The trustees shall have power and authority to fix the charges to be paid by patients who are able to pay for their care and treatment in the hospital or who have relatives, bound by law to support them, who are able to pay therefor.

Examining Physicians.—In the Manual of the State Board of Charities for 1903, it is stated that the trustees of the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis will appoint in all the cities of the State reputable physicians, citizens of the State of New York, to examine all persons applying for admission to the hospital. There are to be not less than two nor more than four of such examining physicians appointed in cities of the first-class, and two each in cities of the second and third class. The examining physicians must have been in the regular practice of their profession for at least five years, and must be skilled in the diagnosis and treatment of pulmonary diseases. Their fee for each patient examined will be three dollars. The law expressly provides that not more than one-half of all the physicians to be appointed under this section shall belong to the same school of medical practice. The examining physicians for New York City are Dr. H. M. Biggs and Dr. Egbert Le Fevre. Other examiners throughout the State are Dr. S. B. Ward of Albany, Dr. Elsner of Syracuse, and Dr. H. R. Hopkins of Buffalo.

Examinations of the Public Health and Marine Hospital Service.—A board of officers will be convened to meet in Washington, D. C., Monday, October 3, 1904, for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine Hospital Service. Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character. The usual order of the examination is (1) physical, (2) oral, (3) written, and (4) clinical. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital and, when practicable, candidates are required to perform surgical operations on a cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars; passed assistant surgeons, two thousand dollars, and surgeons, twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, and fifty dollars a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years' service up to forty per centum after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. Further information may be obtained by addressing the Surgeon-General, Public Health and Marine Hospital Service, Washington, D. C.

The Sanitary Degradation of Santiago.—On July 1 the municipal government of Santiago de Cuba discharged forty sweepers of the street cleaning force and fifteen cartmen, alleging that the step was made necessary by lack of funds. The remainder of the force refused to work until they had been paid their wages for May and June. It is stated that the streets have been in a filthy condition since the flood, and many families are moving to the country to escape the epidemic, which they fear may result from the neglect of all sanitary precautions. The local press bitterly criticises the Havana government for its failure to provide and carry out necessary sanitary measures, and is urging the foreign consuls to bring the situation to the notice of their governments.

Popular Tracts on the Prevention of Tuberculosis.—The Committee on Sanitation of the Central Federated Union and the Committee on the Prevention of Tuberculosis of the Charity Organization Society have published a pamphlet on the prevention and cure of pulmonary tuberculosis, which bears the title, "Don't Give Consumption to Others; Don't Let Others Give It to You." It describes a number of the sanitary safeguards, which tend to check the spread and progress of the disease. Copies of the pamphlet may be had in English,

Yiddish, Bohemian, and German upon application to the Charity Organization Society, 105 East Twenty-second Street.

Excess of Zeal on the Part of a State Medical Examiner.—The State Board of Medical Examiners of California secured, on June 18, the conviction of another physician for practising without a license, and the minimum fine of $100 was assessed. Following immediately upon this case, another action was brought for which the president of the board is being severely censured. A young physician, a graduate of the University of Basel, and recently a fellow at Johns Hopkins, arrived in the city shortly after the last regular session of the board. Recognizing that he could not engage lawfully in practice, he refrained from opening an office. In recognition of his capability, however, he was asked to serve as the assistant to one of the attending physicians of the city and county hospital. Even in this capacity, it is stated, he refrained from writing prescriptions. His conduct, nevertheless, met with the disapproval of the president of the board, who regarded it as a violation of the law, and summoned him to his office. Failing to arrive at a satisfactory understanding, he placed him in the custody of a police officer in waiting, and a trial followed on June 21 and 22. The police judge has withheld his decision, but stated that no fine will be imposed, in case of conviction, owing to the peculiar circumstances. From the fact that the cities of the Pacific coast are overrun by the worst of charlatans, who make of the tourists an easy prey, the action of the official who caused the arrest of a young man of ability who was only waiting for the opportunity to obtain legal recognition, has caused much comment.

An Illegal Practitioner Fined.—A man, styling himself a doctor of therapeutics, on the diploma of the Eastern College of Electrotherapeutics and Psychologic Medicine of Philadelphia, was recently convicted in Philadelphia of practising medicine illegally, and made to pay a fine of $200. This was the result of a suit instituted by the Pennsylvania State Board of Medical Examiners.

Health Department Changes.—Dr. Thomas Darlington, president of the Health Department, transferred all the assistant sanitary superintendents last week. He said it was "for the good of the service." Dr. Walter Bensall was sent from Manhattan to Brooklyn, Dr. P. J. Murray from Brooklyn to Queens, Dr. Gerald Sheil from the Bronx to Manhattan, Dr. J. T. Sprague from Richmond to The Bronx, and Dr. J. P. Moore from Queens to Richmond.

Dr. Emily Dunning, who was the first woman to be appointed an ambulance surgeon, has become, in the regular course of service, house surgeon of Gouverneur Hospital and began her duties on July 1.

Ambulance Accidents.—The third collision of a Bellevue Hospital ambulance with a Third Avenue electric car occurred a few days ago. The surgeon in each instance was seriously injured, and two of them are now in the hospital suffering from the results of their injuries. It would seem to be advisable for the drivers of ambulances to slow up when approaching car crossings, until they see that the coast is clear, even at the expense of losing a few seconds in responding to the call.

The New Vienna General Hospital.—On June 21, 1904, the Emperor of Austria laid the cornerstone of the new Allgemeines Krankenhaus, to take the place of the present famous building. The new hospital will in reality be a village of fifty buildings and will contain every device and appointment known to medical science. It is the aim of the directors of this gigantic hospital to make it the finest, best, and most completely equipped hospital in the world. It will be built upon one of the hills of Vienna, overlooking the present site, and the grounds will be much more beautiful than those of the present hospital.

Dr. Charles F. Roberts, Sanitary Superintendent of the Health Department of this city, on July 1 received a medal from his associates commemorating thirty-six years of service in the department. Dr. Darlington presented the medal in the rooms of the Health Department. In thanking his friends, Dr. Roberts recalled the fact that thirty-six years ago the population of New York was 800,000 and the death rate 36 a thousand, while to-day, with a population of 3,800,000, the death rate is 19 a thousand.

The Late Dr. Grant H. Richmeyer.—At a regular meeting of the Medico-Surgical Society, held Friday, May 20, 1904, the following resolutions were adopted:

Whereas, The society has learned with deep regret of the death of Dr. Grant H. Richmeyer on the 21st of April last,

Resolved, That the profession as well as the society has lost a valued member, whose genial character as a man and ability as a physician was esteemed by all his associates,

Resolved, That a copy of these resolutions be transmitted to his family as an evidence of our respect and of our sincere sympathy in their affliction; and that they be published in two of the Medical journals of this city. Robert J. Devlin, J. D. Nagel, Henry Griswold, *Committee*.

Obituary Notes.—Dr. Bryan Gilmore Williams, late assistant physician to the Long Island State Hospital at Kings Park, died at sea on May 13. He was a graduate of Bellevue Hospital Medical College in the class of 1893. Dr. Williams was held in the highest esteem by his colleagues, both as a co-laborer and as a sincere friend. His sympathetic attention and genial good nature added much toward the betterment and for the happiness of the patients under his charge. At a stated meeting of the medical staff of the Long Island State Hospital, June 23, 1904, the following resolutions were adopted:

Resolved, That we learn with feelings of deepest sorrow of the death of our late associate, Dr. Bryan G. Williams, which occurred at sea May 13, 1904.

Resolved, That we desire to express to the family our sincere sympathy in this hour of sad bereavement.

Resolved, That a copy of these resolutions be sent to his relatives and for publication in the medical journals, and filed with the records of this hospital.

Dr. Mary E. Partridge of Bennington Vt., was drowned in Lake Champlain, near Bennington, on June 29. She was a graduate of the New York Medical College and Hospital for Women in the class of 1884.

Dr. Thomas Flint, a native of New Vineyard, Me., died on his ranch, near San Juan, Cal., June 19, in the eighty-first year of his age. He was a graduate of the Jefferson Medical College in the class of 1849. He had lived in California since 1851, was a member of the State Medical Society and of the American Medical Association, and had taken an active part in all public affairs, serving at one time in the capacity of State senator.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL SUNDAY—PYOPNEUMOTHORAX—ELASTICITY OF AORTA—A NURSING HOME COMPANY—ANÆSTHETIZED CATS—SIR OLIVER LODGE ON EDUCATED MEN—WHAT IS BRANDY?—OBITUARY.

London June 17, 1904.

Hospital Sunday has come and gone. The most striking event in it was the discourse of the Bishop of Stepney at St. Paul's Cathedral. He made it the opportunity of reproving the rich and pleasure-loving people of the metropolis. Into the season—which he described as the festival of wealth and pleasure—he described hospital Sunday as coming as a shadow of suffering "and in the name of the poor of awful London" crying aloud, "Give an account of thy stewardship." He declared the love of money was spreading without the least increase in the sense of stewardship, and quoted a distinguished diplomat, who, after many years abroad, said, "When I left London and went out of London society it was indeed exclusive and somewhat selfish, but it was under some sort of control; I return to find it a rabble, devoted to the worship of money and what money can buy." The craving for pleasure has become a disease, said the bishop—a disease manifesting itself in a want of consideration for others that would never be possible in a healthy mind. He instanced ladies at the stalls of charitable bazaars with beautiful dresses not paid for, the unpaid bill meaning to the poor dressmaker, harrassed for want of capital, the loss of home and the support of aged parents or invalid sisters. To this indictment the bishop added, "I speak of what I know," and went on to declare that the disease was as ripe in the middle classes. There were some, he said, who talked of throwing the hospitals on the rates. "If that came to pass," he concluded, "the last tie which binds the wealth of London to the spirit of stewardship would be snapped." Something might certainly be said in reply to the bishop's heavy indictment, but it would not hurt the fashionable congregation, and the wealth of the city has always been ready to assist.

On this occasion the collection at St. Paul's amounted to £5,000, and there are many other churches which appear to have given in accordance with their means. It is too soon to say whether the collection will this year be larger than last, but it seems probable.

Professor Finlay of Aberdeen read notes at our Clinical Society of a case of pyopneumothorax in a boy of seventeen admitted into the Aberdeen Infirmary with tuberculous pneumothorax on the left side. Resection of ribs was practised on three occasions, and the lad was treated for many months in the open air on the balcony of the ward. He was enabled to resume his work as a gardener, but there was still a discharging sinus. The tuberculous process at the right apex, which was also present at first, was arrested, but the urine for some time has contained albumin, suggesting further operation. Professor Finlay mentioned another case similarly benefited and one which had not improved by evacuation of the pus. He thought radical treatment better than repeated tappings or leaving the fluid alone, especially in view of the modern treatment of tuberculosis.

Dr. Parkinson said the late Dr. Fagge had had several cases of recovery without operation, and asked if it was desirable to resort to it for so slight a benefit. Dr. P. Kidd said we should not be too much influenced by the older methods; the chief difficulty was to determine the extent of the disease.

The elasticity of the aorta has been the subject of careful research by Drs. Herringham and W. H. Wills, who have communicated their results to the Medico-Chirurgical Society as a contribution to the study of arterial sclerosis. These are some of the conclusions: The width of the vessel increases with age as the result of internal pressure; the more it is dilated the less it can be further stretched; after stretching it returns to its original volume; elasticity depends chiefly upon the tunica media and loss of it in changes in the same coat, and this coat increases in substance with age, due to connective or elastic tissue or both; the muscular tissue does not seem to vary.

Dr. Clifford Allbutt expressed general interest in the subject, and said his own opinions were corroborated by the research that a large class of arterial disease was consequent on high blood pressure.

Dr. Auld said that he and the late Professor Coats had found that in some cases the elastic laminæ underwent granular degeneration confined to the smallest fibers. Such a change might account for lessened elasticity, and it would be reinforced by any increase of connective tissue which would interfere with the elastic fibers.

Dr. Morrison thought there was some muscular hypertrophy, and Dr. Finlay hoped the authors would extend their researches to the arteries of patients affected with syphilis and alcoholics.

Dr. Seymour Taylor suggested extending the research to arteries that are naturally tortuous. He had thought that arteries were tortuous from being in movable tissues. The splenic might be compared with the radial.

Sir D. Powell said widening of the aorta reached its greatest degree about the age of forty, just when the stress of life at full pressure begins to tell. Clinically loss of elasticity of the aorta does not seem to be connected with cardiac hypertrophy.

A company is being promoted to provide a nursing home at moderate charges. The existing homes are so expensive that the middle classes can scarcely afford to enter them. They are, too, mostly the appanages of particular surgeons. Nor is it only the fixed price per week that proves deterrent. The extras rival the most sumptuous hotels, though without their luxurious appointments.

The new company has secured the option of a fine block of buildings in Mandeville Place, an excellent position for the purpose, close to several professional localities. The proposal is to charge £2 2s. per week for board, lodging, and nursing. No visiting staff is to be appointed. Patients will arrange with their own medical men, will only be admitted on the recommendation of their usual attendants. There will be a house surgeon on the premises for emergencies and to carry out the treatment of patient's own doctors.

Among the exhibits at the University Converzasione a loan collection of cats excited considerable attention. They were passing their time under chloroform. Dr. Waller, F.R.S., on the program, remarked that "the accidental deaths under chloroform used for surgical anæsthesics are principally due to fluctuations in the chloroform percentage. The cats exhibited are spending the evening under one per cent. of chloroform and air pumped into the bell-jar by a Dubois pump, which is occasionally turned to keep up the supply. The cats are to return intact to their homes."

One lady visitor was overheard to say "what dreadful headaches the poor things will have to-morrow." I commend the remark to the antivivisectionists.

Sir Oliver Lodge has given offence in some quarters by remarking in a review that certain ideas cannot be made "so childishly simple as to be apprehended by the general average of so-called educated men in this country, whose sense-perceptions in the direction of great and comprehensive ideas have not been developed." It is rather a hard saying, but I do not suppose he meant it to be offensive, though his critics are not slow to retort that the attitude of scientific men is too often one of contempt for others, and is responsible for much of the indifference of ordinary educated persons to their work. One admits there is insufficient appreciation of science, but adds there is also a "very marked absence of those great expositors of science who have forced their discoveries and theories on the attention of the so-called educated men of their time." This Roland for an Oliver is not undeserved in the light of the proceedings of the late meeting of the International Association of Scientific Societies and Academies, which at its first meeting resolved to exclude the press.

What is brandy? That question meets us just now in many newspapers and circulars. It was started by a prosecution of a person for selling as such a liquid containing 60 per cent. of spirit not obtained from the grape. Analysts have usually been willing to certify as genuine any spirituous liquor of a certain alcoholic strength, but now the origin of the alcohol is to be taken into account. The magistrate accepted the definition of the pharmacopœia. The medical value of brandy is thought by many to depend on the ethers, but others think it does not differ from whiskey or other spirits, and they attribute all the effects of all these liquors to the amount of alcohol in them. It can certainly be plausibly argued that the alcohol must overshadow the small amount of ethers. In the Oliver-Sharpey lectures lately delivered by Dr. Oliver, he mentioned that the effect of alcohol on the blood pressure is modified by other constituents of wines, etc. The magistrate's decision on the case cited has set the advertising wine and spirit dealers to work with circulars, etc. From the agents of one I have received no less than twelve circulars, besides as many letters. It seems an extravagant way of advertising.

Brigade-Surgeon W. F. Colliott, late of the Royal Army Medical Corps, died on the 8th inst., aged sixty-five. He entered the army in 1862, had charge of the cholera camp in India in 1867, served in the Afghan war 1878-80, for which he held the medal. Retired in 1899.

Surgeon-General W. Thorn, I. M. S., died in his eighty-fifth year on the 12th inst. He retired in 1877.

Richard J. Dearden, J. P., of Manchester, died on the 11th, only forty-nine, from blood-poisoning following extensive cellulitis contracted at a post-mortem, which he undertook for a friend, and which within a week brought him to his death. He took the M.R.C.S. in 1879 and became House Surgeon at the Royal Infirmary and soon after entered private practice. He was divisional surgeon to the Manchester Police.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

OBSTETRIC PARALYSIS—COMBINED GRAVES' DISEASE AND ADDISON'S DISEASE—FUNCTION OF THE PARATHYROID GLANDS—SIGNIFICANCE OF BLOOD IN THE STOOLS—EXSECTION OF THE TRACHEA FOR CANCER OF THE THYROID—HOCHENEGG IN THE CHAIR OF SURGERY—A CHAIR OF RADIOLOGY.

VIENNA, June 10, 1904.

At a recent meeting of the Pediatric Society, Dr. Zappert presented a two-year-old child with bilateral obstetric paralysis. At the age of six months there was paralysis affecting the deltoid, biceps, supraspinatus, and prachialis anticus. The finger movements were free, but the arms hung powerless, were rotated inward, could not be raised, and movements of the elbow-joints were impossible. Under massage and faradization, the paralysis gradually disappeared, until at present there remain only an inward rotation and an atrophy of the deltoid. The case is worthy of note because a bilateral obstetric paralysis very rarely occurs.

In the Society of Psychology and Neurology, Dr. Hirschl presented a case which gave the symptoms both of Graves' disease and of Addison's disease. The patient was a brewer, thirty-six years old, who had been ill since August, 1903, and who first came to the clinic in the following November. Tremor, excessive sweating, and diarrhœa marked the onset. At the beginning of October, the patient noticed exophthalmos, and complained also of palpitation. The most noticeable symptom was extreme emaciation. From the middle of August to the 23d of November his weight fell from 90 to 58 kilos (198 to 128 pounds). Along with the emaciation, went a high grade of motor weakness and progressive excitability. At the beginning of October, bronzing of the skin began, which reached its height at the time of the man's first appearance at the clinic. Examination then showed, on the one hand, loss of motor power, bronzing of the skin but with no pigmentation of the mouth, excitability and forgetfulness; on the other, struma, exophthalmos with the three eye symptoms, palpitation, and tremor. His weight was 58 kilos (128 pounds); blood pressure, according to the tonometer, 100; microscopical blood examination normal; hæmoglobin, according to the von Fleischl hæmoglobinometer, 70 per cent.; and glycosuria. At the beginning he had vomited excessively, and later had had diarrhœa. There were no physical signs of tuberculosis in the patient, but his mother and first wife had died of tuberculosis.

Dr. Pineles has made known some recent discoveries in regard to the physiology and pathology of the thyroid gland and the parathyroids. The fact that after operations on the thyroid in which the parathyroids are left, no tetany ensues, while after total thyroid extirpation, including the parathyroids, tetany is the rule, makes the assumption natural that there is a causal relation between the removal of the parathyroids and the development of tetany. Experiments on animals, namely monkeys and cats, have confirmed this opinion. These experiments showed that total thyroid extirpation, or the removal of the parathyroids alone, is followed by tetany, while the removal of the thyroid, the parathyroids being retained, leads indeed to cachexia, but not to tetany. The results of operations on man are also confirmatory. After extirpation of a tongue tumor which had developed from a thyroid displaced upward, tetany did not follow, because the parathyroids, derived from the third and fourth branchial clefts, remained, and were not extirpated. In like manner tetany occurs less often after resection of the isthmus than after that of both lobes, because the parathyroids in the capsules of the lobes remain.

In the General Medical Society, Dr. A. Loebl spoke concerning a new way of detecting the presence of blood in the fæces, and of its diagnostic significance. Loebl proved its presence in the following way: First, the stool was examined in its original condition for fat; if it contained much fat, this was next extracted with ether; the remainder, or the stool not rich in fat, was set aside with acetic acid until it was of the consistency of thick soup, or, in the case of a hard stool, a little concentrated acid was added. To 3 c.c. of this mixture was added an equal quantity of ether, and the whole allowed to stand for twenty-four hours. The extract was then divided in two parts of 3 c.c. each: to the first was added freshly prepared tincture of guaiacum (a solution of guaiacum in ether), to the second, a solution of Barbadoes aloes in 60 per cent. alcohol, and, finally, to each, peroxide of hydrogen. After a minute, the portion with the tincture of guaiacum becomes blue, the color disappearing after about fifteen minutes; in the second portion, the color appears later, but is permanent. Dr. Loebl has, by this method, examined the stools of 115 patients. The stools of twenty patients with tuberculosis of the lungs, who came to autopsy, were examined during life for the presence of tubercle bacilli and for blood; nine cases showed ulcers of the intestine at autopsy, and of these, six showed tubercle bacilli and blood in the fæces during life, and three either one or the other: of the remaining eleven cases, examination had shown tubercle bacilli in seven, and neither bacilli nor blood in four.

The presence of tubercle bacilli and blood in the fæces is diagnostic of intestinal tuberculosis. In the case of a patient who suffered from gastric ulcer during the attacks of epigrastric pain, blood was continually found in the stools, and because of the persistence of this symptom, the ulcer was closed. The operation confirmed the diagnosis. In typhoid fever, by the above method, slight bleeding could be detected, and, by the adoption of adequate measures, a greater hemorrhage could be stopped Further, blood has been found in the fæces in cases of intestinal parasites, tetany from autointoxication, and in two cases of cholelithiasis. Prof. Arthur Schiff stated in the discussion which followed that, according to the investigations of Boas and Hartmann, concerning the appearance of blood in the fæces, a prescribed diet must be adhered to. Otherwise blood from flesh food might be mistaken for hemorrhage from the intestine. Schiff asked for further information in regard to the presence of blood in cases of tetany and cholelithiasis. Loebl answered that through very recently published investigations the fact has been established that no blood is detected in the fæces after the eating of even very large quantities of cooked meat. Many of the patients examined by him were, however, on a milk diet. On the other hand, after the use of the modern preparations of iron, blood is found in the fæces, while this is not the case after the use of the official preparations. Blood in the stools of patients suffering from tetany comes from small hemorrhages following erosions, and is dependent on the accompanying catarrh. In cholelithiasis, the vulnerability of the vessels is well known, and hemorrhage readily occurs.

In the Society of Physicians, Professor von Eiselberg presented a patient who had been operated on for carcinoma of the thyroid, the operation including circular resection of the trachea, followed by suture. The defect on the anterior wall of the trachea after the sloughing of the suture was covered by a flap of periosteum taken from the sternum.

In 1898 a man, forty-four years old, having had trouble with his neck since his eighth year, was operated on at the Albert clinic for colloid struma. In 1900 the goiter returned, and increasing dyspnœa drove the patient, in 1902, to the Schrötter clinic, where tracheotomy was done. Through examination of an excised portion, diagnosis of adenocarcinoma of the thyroid was made. At first there was improvement, then the carcinoma increased in size through the trachea to the level of the fistula, when again extreme dyspnœa appeared. In January, 1904, the patient was admitted to the surgical clinic, and a large, hard, swollen thyroid was found, holding the trachea in its grasp. On January 11, 1904, Professor von Eiselberg undertook the extirpation of the tumor, for which it was necessary to resect 4 cm. of the trachea. Circular suture followed, after the insertion of a cannula. The stitches sloughed in the anterior half, and the defect was first covered provisionally with a celluloid plate, and afterward with a flap of periosteum from the sternum. This required two sittings, the first, February 19, and the second, March 5. A small endolaryngeal mass of granulation tissue was afterward removed at the Schrötter clinic. Thus, through combination of the ideal methods, resection and suture, a good result was obtained.

On May 13 Professor Hochenegg took charge of the Gussenbauer surgical clinic, which has won so high a reputation through his predecessor, Billroth. Hochenegg, who, as a pupil of Professor Albert stands in known opposition to the teachings of Billroth, at his inauguration for which had gathered all the surgeons and almost the whole Vienna faculty, honoring his predecessor, called to mind and commended the service he had done to surgery. Hochenegg's address related to the treatment and transmission of carcinomata, the topic which up to the present time has formed a large part of the study of this clinic.

Another event of this month was the establishment of a

chair of radiology, the first on this continent. It is occupied by Dr. Kienbock, Dr. Freund, and Dr. Holzknecht, and their appointments were confirmed by the Emperor. All three have worked as pioneers in Austria, on the subject of radiology, and it remains now to be seen into what this youngest branch of our science will develop.

THE PRESENT STATUS OF THE SURGICAL TREATMENT OF CHRONIC BRIGHT'S DISEASE.

To the Editor of the Medical Record:

Sir: In your issue of July 2, 1904, appears a letter from Dr. Edebohls, bearing upon my article, "The Present Status of the Surgical Treatment of Chronic Bright's Disease." I hesitated to answer this communication, the tone of which warrants the belief that the writer considered my contribution to this interesting subject as a criticism of his views and practices, while in reality its prime and sole object was to develop and establish the indications for, and the limitations of, the rational employment of surgical therapy in cases of chronic nephritis.

Dr. Edebohls emphatically states in his letter that his patient, Mrs. C. B., whose history I quoted in abstract in my paper, suffered from *chronic parenchymatous nephritis, upon which a bilateral pyelonephritis with miliary abscesses was engrafted*, whereas I claimed that the kidneys of this patient presented simply the lesions of *a bacterial* (or *septic*) *nephritis*.

Here are the pathologist's reports (page 967): "*Right Kidney.*—The large right kidney, riddled with innumerable abscesses and with its pelvis filled with pus, showed, on microscopical examination, *typical, histological characteristics of multiple abscesses*. In the abscess areas there was found a thick bacillus corresponding morphologically to a species of the proteus, a class frequently responsible for *suppurative nephritis*." *Left Kidney.*—There is no description of its gross appearance, but microscopical examination of the small piece of renal tissue removed from the kidney showed "*decided histological evidence* of multiple foci of *nephritis of infectious* (*septic*) *type*. As far as was possible to determine from the minute size of the cortical issue received, these foci were confined to the areas corresponding to terminal arteries and consequently had a wedge-shaped outline. In the diseased areas, the tubules presented granular and partially disintegrated epithelia, often detached from the membrana propria, and the lumina were not infrequently occluded by polynuclear leucocytes (pus), fragmented epithelia, blood cells, and amorphous detritus. Some tubules were filled with dense hyaline material (casts)."

Where in these reports are the gross or microscopical evidences of chronic parenchymatous nephritis? Was I not right in my statement that these kidneys showed only the lesions of infectious (bacterial) nephritis? Our criterion in these cases is the pathological findings, and from these I drew my conclusions. Upon what evidences does Dr. Edebohls base his diagnosis of chronic parenchymatous nephritis in addition to the infectious (bacterial) nephritis?

As to my statement that Mrs. C. B. "finally succumbed to the disease," I regret exceedingly that in arranging the material which was to be employed in my paper, this patient was recorded as having died. Such errors are bound to occur in handling so large a number of cases from the literature, especially when the patient's final outcome must be sought for in different numbers of the medical papers. But while this patient's recovery is most happy for herself and friends, and most important for Dr. Edebohls' statistics, it has no significance at all as regards the arguments in my paper. I consider this case as one of bacterial nephritis, and concerning the value of surgical therapy in this type of chronic nephritis, I stated on page 096: "The bacterial nephritides of chronic character are at times favorably influenced by operation." Of Rovsing's eight cases, seven were cured and one was improved.

It is thus seen that recovery in the bacterial form of chronic nephritis has been the rule, and I am most happy to learn from the doctor that his patient is so far doing well, and I regret the error which occurred in the tabulation.

From the above it is evident that the validity of my deductions and conclusions are not nullified by the incorrectness of the premises upon which they are based (letter, page 26), but rather show that the study of this case before the operation upon the second kidney was incomplete, for a culture of the urine of the left organ drawn by aseptic ureteral catheterization would probably have revealed the infecting organism and so have led to a correct ante-operative diagnosis.

The incongruity of the criticism of Dr. Edebohls concerning avoidable errors on my part will appear at once to him who reads the doctor's writings and reports of cases and fails to find therein any mention of a systematic practice to determine by aseptic ureteral catheterization and culture from the urine obtained in this way, the nature and causation of a chronic nephritis, and who misses in his publications the routine practice of experienced kidney surgeons of determining the combined and individual functional sufficiency or insufficiency of the kidneys by the absolute scientific means which ureteral catheterization and cryoscopy have put at our disposal, before proceeding to operation upon these organs.

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Progress of Medical Science.

Boston Medical and Surgical Journal, June 30, 1904.

Anomalies of Thyroid Secretion.—Frederick C. Shattuck gives a most interesting paper on the evolution of our present knowledge of thyroid function, reviewing step by step the advances that have been made in the knowledge and treatment of thyroid affections in recent years. Whether the action of the thyroid and parathyroids is antagonistic, complemental, or unrelated, we do not yet know. But the evidence so far does not seem to indicate a vital causal connection between the parathyroids and Graves' disease. The whole treatment of myxœdema is practically comprised in the administration of thyroid extract. It is safer to begin with moderate doses, from 3 to 5 grains, twice a day for an adult, increasing the dose in size, frequency, or both, as the tolerance of the patient is developed. The treatment of Graves' disease has long been unsatisfactory at the best. The diet should consist mainly of fats, starches, and sugars, with great moderation in or abstention from highly nitrogenous food. Rest and quiet are most advisable. A cool summer resort is very important. The bowels should be carefully looked after. The bowels are apt to be either constipated or relaxed. Diarrhœa may be treated by some form of bismuth. Calomel, once or twice a week, has been used with success in cases of constipation. Neutral bromide of quinine has brought about normal defecation both in cases of diarrhœa and of constipation. This drug, the writer has found more helpful than any other he has ever used. The toleration of quinine in Graves' disease is remarkable, and is seemingly proportional to the severity of the symptoms. If these measures are not followed by distinct improvement operation is to be seriously considered in severe cases.

Journal of the American Medical Association, July 2, 1904.

Dysentery; A Report of Several Cases in Which Bacillus Dysenteriæ (Shiga) Was Found in Washington, D.C.—Louise Taylor-Jones concludes that Washington, D. C., is included in the geographical distribution of *B. dysenteriæ* (Shiga). The Shiga bacillus, both alkaline (Shiga) and acid (Flexner) types, is found in that city both in adults and children suffering from dysentery. An alkaline type found in one case was a slight variation from the type, in that in three days in glucose agar, not first made sugar-free, the bacillus produces a slight amount of gas, whereas no gas is produced with the sugar-free glucose agar. None of the other Shiga bacilli at hand produced gas in this same medium.

Lumbar Abscess: Report of Six Cases Treated by Aspiration and Injection of Iodoform-Glycerin Emulsion.—Alfred Irving Ludlow made this clinical report and summarized as follows: (1) Four cases gave a family history of tuberculosis. (2) Five cases occurred in females whose ages ranged from seven to thirty-nine years and one case in a male twenty-five years old. (3) Two patients gave a history of injury to the back. (4) In three cases two aspirations were made, in one case three, in another four, and in another ten. (5) The urine from four cases out of six gave a reaction for iodin the next day after the aspiration. This reaction persisted only for two or three days, except in one case in which it persisted for two weeks. (6) Slight mental depression was noticed in two cases. (7) As a general rule, there was an elevation of temperature from two to four degrees following each aspiration. (8) The cultures were sterile in every case except one, in which *Bacillus proteus vulgaris* was obtained. (9) In all the six cases there has been no indication of return of the abscess after a period of five years in one case, three years in another and two years in a third, while in the remaining three, one year or less has elapsed since the last aspiration. There was a marked improvement in the general health of every patient.

Medical News, July 2, 1904.

Diagnosis and Treatment of Internal Hemorrhoids.—H. A. Bray concludes that (1) In the treatment of internal hemorrhoids, it is important, in the first place, to de-

termine whether the disease is primary or secondary to some affection of the pelvic organs. (2) In the first stage of hemorrhoidal disease no operative treatment is indicated. (3) The true value of the non-operative treatment is frequently underestimated in the second stage of hemorrhoidal disease. (4) None but operative treatment should be resorted to in the third stage of hemorrhoidal disease.

Primary Myokymia; with Report of a Case.—Robert M. Daley defines myokymia as a disorder characterized by fibrillary and wave-like contractions of the individual fibers of various muscles of the body without locomotor effect. Usually it appears as a minor symptom, in diseases of toxic origin, such as lead and mercurial poisoning. It is also seen in neurasthenia and in sciatica. It may occur as the only morbid condition. Of the cases previously reported, all save two, have been among the laboring classes. All of these cases were males, the ages running from twenty-one to seventy-one years. In two, the legs only were affected; in the remainder, the legs and arms or legs and entire muscular system, excepting in one instance, the hands, and in another, the face and neck. None show atrophy of the muscles or much disturbance of the general health. Nearly all complain of general pains, indefinite in character, and also of becoming easily tired. Four cases were cured and improved by rest, galvanism, and warm baths. Of the pathology nothing is known. The writer reports a case of this nature.

A Consideration of the Question of Drainage in Cases of Acute Appendicitis with Spreading Peritonitis.—Lucius Wales Hotchkiss believes that he has amply demonstrated the great value of the smaller incisions, of the location and removal of the appendix largely by the sense of touch, which does away with over much exposure and handling of the intestines and of the free irrigation of the peritoneum with hot normal salt solution, depending upon this rather than drainage and the removal of the diseased appendix in every possible case. This practice is a radical departure from the method formerly employed. The power of the peritoneum to deal with infection is marvelous. In acute progressive appendicitis, nature strives to wall off the diseased organ by a barrier of plastic exudate and throws out a powerful second line of defense against general infection by bringing about marked hyperleucocytosis. In the case of the gangrenous appendix, however, the task is, as a rule, too much for the natural physiological processes to accomplish unaided. The first thing to do is to remove the focus of infection, the appendix, and to do it so as not to cripple the inherent power of the peritoneum to deal with such toxic products as must necessarily be left behind. The writer states that during the past few years he has grown to rely almost wholly upon the flushing of the peritoneal cavity with hot normal salt solution, rather than upon any method of external drainage. The writer believes that the drain has practically been eliminated as a factor of any importance in the treatment of spreading peritonitis, excepting so far as it acts as a drain for the external wound, which, in most of these cases is an infected wound and heals by granulation. The writer agrees with Clark and Norris in their conclusions that the use of salt infusions does not increase, but minimizes the danger of pyogenic infection; and in addition to the reduction of mortality, the convalescence of the patient is rendered infinitely more comfortable and satisfactory through the reduction of thirst, the increase in the urinary excretion, and the minimizing of vesical irritation.

New York Medical Journal, July 2, 1904.

X-ray Therapeutics.—G. H. Stover relates fifty-one cases which in part indicated the main features of the work being done by the *x*-ray. Lupus erythematosus is more slowly amendable to treatment by the *x*-ray than are other forms of lupus. So uniform has been his success in the treatment of epithelioma that he believes the *x*-ray to be a specific for this condition. In carcinoma the results have not been so gratifying. His results in the treatment of bone tuberculosis has been gratifying. In certain diseased conditions the effect of the *x*-ray was very satisfactory, even brilliant, yet for a long time to come great caution should characterize our utterances to patients. He regretted the rash manner in which many who were totally unfitted were pushing into *x*-ray work. He believed that after a while there was going to be a reaction against the *x*-ray as a therapeutic measure, and he hoped the pendulum would not swing too far, casting undeserved discredit on a therapeutic agent that has established a rightful place for itself.

Hermann Brehmer, and the Semi-centennial Celebration of Brehmer's Sanatorium for the Treatment of Consumptives (July 2, 1854-July 2, 1904).—S. A. Knopf believes that a fitting tribute to the founder of the first sanatorium in the world for the exclusive treatment of patients afflicted with pulmonary tuberculosis and the best known promulgator of modern phthisiotherapy may well be paid on this occasion from this side of the Atlantic. Hermann Brehmer was born in Kurtsch, Province of Silesia, Prussia, August 4, 1826. He attended the Elisabeth Gymnasium in Breslau, and after receiving his classical degree went to the Universities of Breslau and Berlin, studying natural philosophy and mathematics. He was so attracted by the lectures of Johannes Miller, the great physiologist, that he decided to study medicine instead of mathematics. He began to practise in the little village of Goerbersdorf which, at that time, had no more than 900 inhabitants. Owing to the intervention of Humboldt and Schoenlein, he received concession from the government to build his sanatorium. It had a small beginning, but its success was marvelous, and to-day it is the largest private institution of its kind in the world, and can accommodate about 300 patients. Brehmer died December 12, 1889, when the sanatorium movement was hardly in its infancy. At the time of his death there were three sanatoria in Germany, while now there are hundreds. In the United States there are now 135 institutions already in operation or projected.

The Results of X-ray Treatment.—Samuel Beresford Childs concludes from his own experience and that reported by others: First: The therapeutic field of greatest usefulness of the *x*-ray is with superficial epitheliomata, rodent ulcer, and lupus vulgaris, when the area involved is conspicuous, as on the face or neck, and where a cosmetic result is particularly to be desired. Second: Healing by the *x*-ray leaves the smallest and least perceptible scar; for, when properly applied, it destroys only diseased tissue, and particularly commends itself for use in those localities where it is undesirable to sacrifice the surrounding tissues. Third: The *x*-ray is very efficacious in many obstinate cases, which have resisted the ordinary methods of treatment, such as acne rosacea, chronic localized patches of eczema and psoriasis, lupus erythematosus, and kindred skin diseases. Fourth: The results in tuberculosis glands, when no suppurating focus is present, are encouraging and the enlarged mass of glands in Hodgkin's disease appear to be susceptible to the treatment. Fifth: The *x*-ray should not be employed in any operable, deep, malignant growth, with two exceptions: First: as pointed out by Coley, where a surgical operation would sacrifice an extremity, and even in this case the value of the *x*-ray is uncertain, and is determined by a few weeks' trial. Second, as mentioned by Pusey, with a view to limiting the operation by checking the growth when immediate operation is inadvisable. Sixth: The *x*-ray may be of service even in inoperable malignant growths, by relieving pain, diminishing discharges, and lessening their offensiveness, and in many cases life may be prolonged in comparative comfort for a considerable period of time. Furthermore, from these apparently hopeless cases a number of remarkable improvements and a few recoveries have been reported. Seventh: The *x*-ray should be used as a prophylactic against return after all operations for the removal of deep malignant growths. Eighth: The area of exposure should be wide, and the intensity and quality of the rays should be adapted to each case.

American Medicine, July 2, 1904

Measurements of Blood-pressure in Fevers Before, During, and After the Administration of Strychnine.—Richard C. Cabot declares that among those cases studied were 31 of typhoid fever, 4 of pneumonia, and 15 others with a variety of diagnosis. In 32 cases the strychnine was given by mouth, and in 18 subcutaneously. The total daily dose was usually 1/8 grain. The measurements were taken with Stanton's modification of the Riva-Rocci instrument. The observations extended over about eight months, and include over 5,000 measurements. The total result is negative. The writer cannot see that strychnine exerts any influence upon the blood-pressure in febrile cases, when given in the manner and dose as mentioned. In the 24 hours following the administration of the drug there was a rise of 5 mm, or more of pressure in 16 cases, a fall in 17 cases, and no change in 24. The average pressure in the 50 cases that received a daily dose of strychnine was no greater than in 18 control cases without any drug. While strychnine and whiskey seemed to be entirely without influence upon the blood-pressures, the sight of the dinner tray or the prospect of getting up produced a most obvious, though transient, rise in the pressure. The writer concludes that in the dosage used, strychnine does not raise or in any way effect the maximum or minimum blood-pressure so far as can be determined by the instrument employed.

Tuberculosis As It Affects the Skin.—M. B. Hartzell declares that the most frequent form of skin disease due to the tubercle bacillus is lupus vulgaris. It is possible to demonstrate the presence of bacillus tuberculosis in lupus tissue, but this organism is scanty in numbers. This disease may also effect the nasal, buccal, laryngeal, and vaginal mucous membranes. "Tuberculosis verrucosa cutis" is closely related to lupus vulgaris in some of its features. Identical with verrucose tuberculosis is the so-called anatomic wart, verruca necrogenica. One of the earliest recognized forms of tuberculous affections of the skin is the tuberculous ulcer, known also as miliary tuberculosis of the skin. It is usually found about the orifices of the body, and is in the great majority of cases secondary to tuberculosis of other organs. It may, however, occur upon other parts, and it may occur as a primary lesion, and be followed by visceral tuberculosis. Scrofula is but a manifestation of tuberculosis. It gives rise to a number of skin lesions, usually ulcerative, to which the name serofuloderms has been given. The commonest form of scrofuloderm is the chronic ulcer which occurs so often in connection with tuberculous adenitis, especially in the region of the neck. In all of these affections, the presence of bacillus tuberculosis has been demonstrated with more or less certainty. Another class of eruptions is seen in individuals who either in themselves or in the members of their families show a more or less clear history of tuberculosis, but in which all efforts to find the tuberculous organism have failed, although the tissue changes are such as are present in tuberculous disease. The constitutional treatment of tuberculosis of the skin differs in no respect from that of tuberculosis of other tissues.

The More Remote Consequences of Infectious Bile.—John B. Deaver calls special attention to these three conditions—pancreatitis, biliary cirrhosis, and adhesions of the gall-bladder to various of the surrounding viscera. Seventeen cases of acute pancreatitis have been reported, eleven of which were accompanied by calculi in the biliary tract. A considerable number of cases do occur, however, in which gallstones are absent, and should be carefully studied, for gallstones do not always induce acute pancreatitis. Especially must the inference of microorganisms be considered as causative factors in obstructing the pancreatic ducts. Bacteria may not only infect the retained secretion, but may also by direct continuity ascend from an existing gastrointestinal catarrh. Chronic pancreatitis is also often due to some obstruction of the duct of the pancreas by gallstones. This is especially striking when the biliary calculus is large, and so situated that the duct of Wirsung is occluded without the entrance of the bile into the pancreas. The diagnosis of pancreatitis is often very difficult. In general, when an individual from whom the history of a previous gallstone colic may or may not be elicited, is suddenly seized with severe epigastric pain, nausea, vomiting, rapid pulse, dyspnœa, and cyanosis, followed by a rapid loss of strength, the diagnosis is acute pancreatitis. The early symptoms strongly resemble those of intestinal obstruction, and the exhaustion and collapse are often so severe as to induce death within forty-eight hours. The pain is colicky in character. Chronic pancreatitis, due to gallstones, is often hard to recognize. It is only by grouping both the clinical and the laboratory findings that the disease of the pancreas may be accurately and satisfactorily studied. As to biliary cirrhosis, the writer states that in the great majority of common-duct obstruction cases for which he has operated, a bacteriologic investigation of the bile has revealed the presence of some microorganisms, the colon bacillus, the typhoid bacillus, the staphylococcus, or the streptococcus. He believes that as complete bile stasis rarely occurs in common-duct obstruction, infection must exert a positive influence in the cirrhosis. Adhesion of the gall-bladder or ducts to surrounding viscera will follow nearly all severe inflammations of the gall-bladder from a pericholecystitis and embarrass the functions of the contiguous organs involved by the adhesions. The typhoid bacillus is a most fertile factor in the production of acute or chronic biliary tract disease, or in the causation of gallstones. But the first place in the rôle of gallstone producer must be credited to the colon bacillus. The entrance of bacteria into the biliary tract is possible by three ways: They may ascend the bile ducts from the duodenum, are deposited by the general circulation, or reach the ducts and gall-bladder by means of the portal vein.

The Lancet, June 25, 1904.

Notes on Three Cases of Intestinal Obstruction.—G. Reinhardt Anderson makes a record of three cases of intestinal obstruction which were instructive as they illustrated the necessity of caution before expressing an opinion on conditions leading to the obstruction. The first case was one with an unsuspected obturator hernia occurring in an elderly woman. In the second the small intestines were so matted together that obstruction, which had been incomplete for some time, became suddenly complete, and for this condition lateral anastomosis had to be performed. The last case was one of chronic obstruction due to inflammatory exudation in the pelvis, necessitating a temporary colotomy for its relief.

A Case of Mania from Traumatic Meningitis; Recovery after Trephining.—Charles Brook reports the case of a man, twenty years old, who struck his forehead violently on the bottom when diving. He was not rendered unconscious, but went home complaining a little of his head. His manner changed from that day and he became irritable and excitable and within one month had paroxysms of violence. Six months later he was placed in an asylum. Six weeks later Dr. Brooks saw him and found a distinct swelling on the right frontal bone, rather red and somewhat tender. Trephining was advised and performed. The bone was rather thin and very hard and white, with no diploe. The dura was opened and three ounces of clear serum let out. The wound healed perfectly. Never from the time the patient recovered consciousness has he shown the slightest sign of mental disturbance.

The Prophylactic Use of Morphine in Cases of Severe Cerebral Injury.—J. A. MacDougall, in 1899, when he read a paper on "Meningitis," by Dr. Barr of Liverpool, realized how freely morphine might be given in this disease, how excellent were the results attendant upon its employment, and how in all probability its beneficial action was brought about largely through its effect upon the vascular and nervous systems, inducing that condition of *rest*. Further and natural reasoning was this: if opium by its action on the nervous system quiets brain cells and lessens the functional activity of the nervous fibrils which connect them with one another, if it lessens pain and removes the effect of peripheral stimuli, if it contracts cerebral arterioles and through the cardiac ganglia renders the heart's action slower and vascular pressure less pronounced, then its effect upon a brain that is traumatically damaged and that demands quiet for its repair can only be beneficent. He had found that if after severe brain injury the patient was kept under the influence of morphine convalescence was more rapid and steady, grave cerebral symptoms had been wanting, and the continuous rise of temperature had been notably absent. A short record of cases was given to strengthen his contention.

British Medical Journal, June 25, 1904.

Hypodermic Injection of Quinine Sulphate.—G. F. Darker finds that ordinary quinine sulphate mixed with about one and one-half times its own weight of vaselin makes a suitable mixture to inject under the skin of the natives in West Africa to lessen the malarial index. A mass containing 15 to 20 gr. of quinine after injection takes about three and one-half months to absorb. During that time the writer has failed to find malarial parasites in the children on whom he has tried this mixture. An ordinary metal hypodermic syringe will suffice. The whole proceeding must be done under aseptic precautions. It is well to give at the same time a dose of quinine by mouth or an intramuscular injection of the same drug. The left side of the abdomen near the flank is the most suitable site for injection.

Acute Dermatitis Produced by Satin-wood Irritation.—H. E. Jones gives an account of two distinct outbreaks of acute dermatitis occurring among a number of joiners and cabinet-makers. The exposed parts are those affected. The first thing noticed is an irritation on the skin; later on the parts become hot and red, and subsequently become swollen and uncomfortable, and although not painful, the patient cannot sleep well. Still later the parts become moist and complete desquamation takes place. The first attack is rather slow in its onset, but relapses come on with great rapidity. After desquamation, the new skin would be more easily irritated than the old. The cause of this dermatitis seems to be irritation caused by East Indian satin-wood dust. As to treatment, it has been suggested that the men should remain off duty till the epidermis is fairly strong, and that then vaselin or some oily substance be smeared over the exposed parts while the men are at work.

Intrauterine Infection of the Fœtus in Smallpox.—James M. Cowie and Duncan Forbes speak of three cases they have seen of infants attacked with smallpox so soon after birth as to warrant the conclusion that they received the infection while still *in utero*. Considering the interval between infection and the appearance of the rash as the

usual one of fourteen days, the first child must have been infected on or about the date of onset of the mother's illness and three or four days before birth; in the second case the time must have been six days before the onset in the mother and seven days before birth, and in the third case five days before the mother sickened and seven days before birth. These children were all born about full time. Two other cases are mentioned by the writers: One was that of a woman in the seventh month of pregnancy who developed a discrete attack of smallpox. She was discharged from the hospital about a month after admission. The child was born about a month after discharge and showed no signs of having had smallpox. It was successfully vaccinated. Thus, no immunity was conferred on the child by the mother's attack. The other, a five-months fœtus born in the fourth week of the mother's illness, showed no signs of smallpox. The liability of the fœtus to smallpox appears to increase directly with its age.

Deutsche medizinische Wochenschrift, June 16, 1904.

Therapy and Prophylaxis of Chronic Malaria.—Bassenge reports two cases contracted in the tropics, in which the continued administration of quinine was without effect in inhibiting the attacks or in preventing their recurrence. One patient had taken a half gram every fourth day for almost a year as a prophylactic measure, and yet became infected with malaria, the parasite of which could be demonstrated in the blood with certainty after the reaction following the injection of tuberculin. In the other patient the prophylaxis was also inefficient and the quinine given subsequently had no effect. A blood examination had never been made and the type of fever was unknown. After this had been determined by careful examination to be of the quartan type and the quinine administered at the proper moment, the disease was cured. This shows the necessity of knowing exactly when to give the quinine, as in this case the drug had no effect, and brought on, moreover, an obscure series of nervous symptoms. Unless the microscopical examination is made, therefore, the ordinary clinical diagnosis of malaria is of little value.

Late Recurrences of Carcinoma.—Jordan believes that the question of complete recovery from carcinoma can only be determined after the lapse of another twenty or thirty years, when a series of observations are available which have extended over several decades. The reports of isolated cases which have remained free from recurrences for prolonged periods are not always conclusive, for, as the author's observations show, late recurrences even after fifteen years, are not uncommon. He claims that one of the main factors in determining recurrences is in the individual character of the growth, and this varies within wide limits. The first case which he reports is a carcinoma of the tongue, where a recurrence took place after nineteen years after complete operative extirpation. The lymphatics were not involved at either time, which may be taken as an indication of the more or less benign character of the growth. The other case was a mammary carcinoma which ran a chronic course and showed recurrences every few years for fifteen years. It seems that this also was a mild form of the tumor, with diminished proliferative energy, so that minute particles remaining occupied several years before attaining the size of a palpable nodule. The author thinks that the statistics thus far presented be subjected to a revision with this point in view, *i.e.* the late recurrences, it will be found that so-called cases of complete cure are merely cases with prolonged freedom rather than total freedom from recurrences. It is also necessary to distinguish between the tumors which recur rapidly and those which recur after the lapse of a longer period.

A Substitute for Both Ureters.—James Israel calls attention to a class of cases in which a congenital obstruction to the urinary flow may be followed by a hydronephrosis which may gradually attain a considerable size without the production of any symptoms, and then suddenly manifest its presence by the development of a severe acute illness. This may take the form of colic, due to the increasing tension in the sac, or of septic fever and renal pain, due to an acute infection of its contents. Both of these conditions were well marked in the author's case, in which, in a thirteen-year-old boy, there was a large hydronephrosis in each kidney due to congenital disturbances, which was not detected until colic on the right side, and an acute infection of the sac on the left side, led to the discovery of the true state of affairs. Operation was first done for the condition on the left side, and here the hydronephrosis was found to have been caused by a congenital displacement of the kidney, and it was determined to secure better urinary drainage by shifting the origin of the ureter to the lowest point of the renal pelvis. This was accomplished by shortening the blind pouch by making a longitudinal incision and then suturing it in a horizontal direction. The procedure failed, however, in producing any more perfect drainage, and a few days later renal puncture was resorted to in order to relieve the symptoms. Soon after infection of the left kidney took place, which was then communicated to the right. Every known method was tried in attempting to relieve the patient and restore the normal passage between kidney and bladder, but without success. It was then decided to secure this end without the medium of the ureter, and a fistulous communication was devised between the bladder and the pelvis of the kidneys with the aid of a system of tubes, similar to what had been done in another patient with a solitary renal fistula (described in *Deutsche medizinische Wochenschrift*, 1903, No. 1). The appliance had been in good working order for over a year and the boy is in good general health. Twice a week the tubes are changed and the bladder and pelvis irrigated with boric acid solution. Notwithstanding the success of this procedure, the author still hopes to arrive at the same result by doing a resection of the ureter and implanting the same in the most dependent portion of the renal pelvis, which after the obstructions have been removed can be made smaller and will remain thus.

Berliner klinische Wochenschrift, June 13, 1904.

Gonorrhœal Stomatitis in Adults.—Jurgens believes that this process not only has a distinctive etiology, but also presents a distinct clinical picture. The patient, in the case which is reported, shortly after the appearance of a gonorrhœal urethritis, developed a diffuse inflammation of the mucous membranes of the gums and the cheeks. These were covered with a dirty gray membrane, which could be readily wiped away, but there was ulceration. In smear preparations the gonococcus was identified with difficulty, but better success was had with cultural tests.

Münchener medizinische Wochenschrift, June 14, 1904.

Operations Conducted Alternately by Daylight and the X-rays.—Grasey has devised an apparatus by which it is possible to operate with both of these sources of light as when looking for a foreign body imbedded in the tissues, such as a needle. The apparatus is so constructed that one eye of the operator may be employed in looking at the *x*-ray picture, while the other is engaged in following the steps in the operation on the part under treatment. The principle involved is like that in a camera lucida such as may be attached to a microscope for drawing purposes.

A Case of Trypanosome Disease in Man.—Gunther and Weber report a case of this tropical disease, which is apparently the first observed on the continent of Europe. The patient had been in South Africa and returned to Europe, where he became afflicted with what at first thought to be malaria. The main points in the history, which is reported in great detail, are as follows: the chronic course of the complaint extending over two years, recurrent irregular attacks of fever, loss of strength and decrease in the hæmoglobin, localized transitory œdemas, peculiar erythematous eruptions, enlargement of spleen and liver, which was more marked during the acute exacerbations, slow pulse and occasional dyspnœa, combined with abnormal irritability of the circulatory system. In addition there appeared an inflammatory process on the leg resembling the early stages of a phlegmon. As in the other cases reported, it was possible to demonstrate the presence of the trypanosomes in the blood during the attacks of fever. A further communication is promised on the results of treatment given.

Diagnosis of Typhoid Fever.—Rolly reports on the results of his observations with Schottmüller's method, by which the typhoid bacilli can be demonstrated in the patient's blood. By the aid of a syringe, 20 c.c. of blood are abstracted from one of the arm veins and mixed with glycerin agar at a temperature of 42° to 45° C. This is poured out in Petri dishes placed in an incubator for one or two days, and then examined. In fifty cases of typhoid subjected to this test cultures of the specific bacillus were obtained in 44; *i.e.* in 88 per cent. The number of colonies varies within wide limits, but it seemed that the larger numbers were associated with the early stages and the height of the disease. In sixteen cases it was found that during the early days of the disease the agglutination tests were negative, while the bacilli could be demonstrated in the blood, and as doubts of the true conditions usually exist during the first day such a method of diagnosis ought to prove of exceptional value. In general practice it is somewhat difficult to carry out this procedure and the writer proposes certain modifications. As it is necessary to keep the blood fluid, he advises mixing the blood as soon as it is ab-

stracted with 20 c.c. of a solution made up of peptone 5 gm.; grape sugar, 50 gm., in 100 c.c. of water. This is boiled from five to ten minutes. Blood to which this solution has been added remains fluid for a day, and can, therefore, be transported to a place where the proper laboratory facilities are obtainable. It was also sought to improve on the agglutination tests by substituting for the cultures of living bacilli a fluid in which the dead bacilli could be held in suspension. This was accomplished by killing the typhoid bacilli in a bouillon culture with formol. Experiment showed that agglutination takes place in the same dilutions, with the bouillon containing the dead, as that containing the living bacilli. Blood serum which failed to agglutinate the one also failed in the case of the other. In the case of the dead culture, agglutination takes place about fifteen to thirty minutes later, but is evident on either micro- or macroscopical examination. The bouillon containing the dead bacilli may be kept for considerable periods and still retain its efficiency.

French and Italian Journals.

Influence of the Soil on the Virulence of the Vibrio of Cholera.—A. Paladino-Blandini made cultures of the vibrio of cholera in dry earth, in moist earth free from organic matter, and in earth that was impregnated with fecal matter. In dry earth the virulence was decreased; in moist earth it was less rapidly diminished; in earth impregnated with a considerable amount of organic matter its virulence was increased. But if between two periods of remaining in the earth it passed through the body of an animal, its virulence was very markedly increased. Both its presence in the earth and in the animal were important factors in the increase of virulence. There seems to be a coincidence between the presence of the vibrio in the deepest levels of the subterreanean water, where the sun does not reach, and the coming of a severe epidemic of cholera.—*Giornale Internationale delle Scienze Mediche*, May 15, 1904.

Chorea in Pregnancy.—Vallois reports the case of a woman of twenty-six years, a primipara, who toward the end of the eighth month began to exhibit slight arrhythmical movements in the arms, and certain psychic disturbances. These movements increased till the whole body was involved. The child was born, but the cerebral troubles persisted. The patient had auditory hallucinations, and thought she heard voices calling her name. There was anæsthesia of the conjunctiva and of the pharynx, but no cutaneous anæsthesia. Then the choreic movements began to disappear, and instead of the phenomena of excitement, those of depression succeeded. The patient was badly nourished and became emaciated. Since labor there had been no rise of temperature. The pulse, which remained for a long time 104 to 112, rose finally to 132. The mental troubles grew worse, and the patient was sent to an asylum. This case is like most of its kind. The chorea is of an hysterical nature and not rheumatic.—*La Médecine Moderne*, June 8, 1904.

Laryngeal Syphilis.—A. Chauffard and Paul Viollet discuss this subject and present the history of several patients. They call attention to the predominance of nocturnal symptoms. A chill often ushers in the acute phenomena of syphilis. It is sometimes very difficult to differentiate syphilitic laryngitis from cancer, sarcoma, lupus of the larynx, and laryngeal tuberculosis. Ordinarily syphilitic infiltrations are indolent, while the ulcerations have a relatively rapid evolution. Cancer has a tendency to vegetate first, it is complicated with adenitis and its evolution is in general far more slow. In lupus there is generally noted the process of spontaneous cicatrization side by side with active lesions. The evolution of these lesions is still slower than in the case of laryngeal tuberculosis. The latter often presents the manipulations of acute or chronic œdema which are seldom seen in syphilis. The epiglottis is often attacked by the latter, while the arytenoids, especially, are attacked in tuberculosis. Finally, syphilis is not accompanied by concomitant pulmonary symptoms. The possible combination of syphilis with cancer or tuberculosis must be remembered. Syphilitic lesions capable of affecting the larynx and of giving the laryngoscopical image of paralysis are very varied. In order to establish a diagnosis of syphilitic laryngeal affections, a general examination of the patient must be made including an exploration of the ganglia of the neck, the lungs, the aorta, the thorax and its contents, the reflexes and the entire nervous system. Lumbar puncture is sometimes helpful in cases of suspected tabes. Laryngoscopical examination is most important.—*Gazette des Hôpitaux Civils et Militaires*, June 9, 1904.

Annals of Surgery, June, 1904.

Sarcoma of the Tongue.—C. B. Keenan finds only about three dozen cases of this nature on record. He adds one personal case. The patient was unwilling to undergo a radical operation though various portions of the tumor, in fact, almost all of it, was removed. He died some months later from recurrence in the abdomen, but examination at this time showed no signs of recurrence in the tongue. The author then gives a synopsis of the recorded cases. Analysis shows that they were all of the round-celled variety. The majority of them occurred between the fortieth and fiftieth year. Extensive metastases were the rule. Generally the growth was slow. They are distinguished from cancerous growths by the fact that the epithelium usually remains intact or ulcerates only after a long period. From gummata they are distinguished by the therapeutic test. Under the microscope, however, it is not always easy to distinguish a gumma from small-celled sarcoma. Wide excision is the only rational therapy.

Revival of Suprapubic Prostatectomy.—The object of the article of F. D. Gray is to call attention to the views of Freyer, whose work the author has been able to follow by personal observation. Freyer contends that a certain class of enlarged prostates, notably the large œdematous type, which he considers more common than do other authorities, can most safely and easily be reached by the suprapubic route with perfect restoration of bladder function and with a very small mortality. His method is one of enucleation through the upper route. His procedure is based on the work of Sir Henry Thompson, who taught that the prostate has a thin, closely adherent, fibrous covering, dipping between the lobes of the gland, and from which it cannot be enucleated; also that outside this capsule is another covering (which Freyer terms the sheath), in reality the layers of the rectovesical fascia, between which and the capsule is a natural "line of cleavage." Freyer's comparison of the prostate capsule, and sheath to an orange, with its closely adherent inner skin which dips between the various sections and is surrounded by the rind, from which it is readily enucleated, most perfectly conveys the anatomical idea on which his suprapubic enucleation is based. He calls attention to the fact that in fetal life the prostate is double—two lateral halves—and that later they are only united by the upper and lower borders, thus enclosing the urethra, while in the advanced adenomatous enlargement these connections, especially the upper, easily give way, facilitating their separation from the urethra.

Extensive Subcutaneous Laceration of the Abdominal Muscles.—D. N. Eisendrath reports the case of a man of fifty years who, while intoxicated, was caught between two street cars passing in opposite directions. He was admitted to hospital and presented a swelling about the size of an orange at the middle of the right iliac crest and extending somewhat below it. From the fact that this tumor was distinctly tympanitic on percussion and could be made to disappear into the abdominal cavity with a gurgle, he made the diagnosis of a traumatic hernia through the triangle of Petit. There were several other minor injuries. Operation was done sixteen hours after admission to hospital. Incision over the site of the iliac swelling showed that only the skin separated the peritoneal cavity from the external world. All of the muscles attached to the crest of the ilium (external and internal oblique, and transversalis muscles), as well as the transversalis fascia and peritoneum, were torn loose from their attachments. The skin incision was enlarged in both anterior and posterior directions, and the flaps retracted. It was then found that the injury was far more extensive than at first supposed. From the quadratus lumborum posteriorly to the middle of Poupart's ligament in front every structure which is normally attached to the crest of the ilium and outer half of Poupart's had been torn from its attachments. The lower edges of the muscles were irregularly torn and contused. The general peritoneal cavity had already been partly walled off by adhesions between the ascending colon (which had been displaced inward) and the anterior abdominal wall. In the iliac fossa were many loose pieces of omentum. The ascending colon was contused and dilated. By means of fourteen kangaroo tendon sutures the muscles were drawn down to the gluteal fascia and the defect closed. From the anterior superior spine of the ilium to the middle of Poupart's ligament, mattress sutures of kangaroo tendon were passed in a similar manner through the muscles *en masse*, and these then anchored by passing the two ends of the suture through Poupart's ligament itself, similar to the formation of the posterior wall of the inguinal canal in the Bassini operation. Small gauze drains were inserted at each end of the long skin incision. These were removed after forty-eight hours. Primary union occurred and the patient made a slow, though complete recovery.

Book Reviews.

La Séparation de l'Urine des Deux Reins. Par Georges Luys, Assistant du Service des Voies Urinaires à l'Hôpital Lariboisière. Préface par Henri Hartmann, Professor Agrégé à la Faculté, Chirurgien de l'Hôpital Lariboisière, Paris: Masson et Cie., 1904.

Renal surgery is a subject to which a vast amount of study is being devoted at the present day and, apart from the surgical treatment of Bright's disease, no branch of this department is of greater interest than that of diagnosis by examination of the urine obtained from each kidney separately. Among the methods of obtaining the urine of one kidney unmixed with that secreted by the other, that of Luys stands out most prominently.

In the present work the author, after showing the necessity of this means of diagnosis, reviews and explains the different methods (ureteral catheterism, compression of the ureter, and intravesical separation), and then treats of his own device, dwelling on the history of its invention, its construction, method of employment, action, and indications. Excellent results are shown in the reports of personal cases, 210 in number, in which the separator has been used on patients of both sexes and all ages, and with every imaginable disease of the kidneys. Many of these reports are illustrated with well-executed pictures of the kidneys removed after diagnosis by Luys' method. The author has not been precipitate in the recording of his cases, but has waited three years and has demonstrated the value of his invention over two hundred times—an experience which gives him the right to speak with authority.

The book is a timely one, and will be consulted with profit by all who are interested in renal pathology.

Theorie und Praxis der Augengläser. Von Dr. E H. Oppenheimer, Augenarzt in Berlin. Mit 181 Textabbildungen. Berlin: August Hirschwald, 1904.

The volume is one of 200 pages, and is principally devoted to the description of the various kinds of eye-glasses and spectacles and the theory and art of their construction. In the first chapter a short history of eye-glasses dating back to 1800 B. C. is found. The volume of production of spectacle lenses at the present time is mentioned. The second chapter describes the manufacture of the ordinary forms of eye-glasses; the third, spectacles. Chapter X is devoted to a description of the proper way of adjusting glasses to the face. Chapter XI describes in detail the various kinds of glass employed in the manufacture of eye-glasses. Chapter XIII treats of the various ways of numbering glasses.

The book is well illustrated. It is calculated to acquaint ophthalmologists with what is being done in the art of making eye-glasses, and this purpose it accomplishes in a very excellent manner.

A System of Practical Surgery. By Drs. v. Bergmann, Berlin, v. Bruns, Tubingen, and v. Mikulicz, Breslau. Edited by Wm. T. Bull, M.D. Vol. II, Surgery of the Neck, Thorax, and Spinal Column. New York and Philadelphia: Lea Brothers & Co, 1904.

The second volume of this work closely follows the appearance of the first, and the remaining three volumes of the series are scheduled to come out in rapid succession. It includes the surgery of the neck, thorax, and spinal cord, and in the list of contributors are the names of v. Angerer, v. Bruns, Erhard, v. Eiselberg, Henle, Hofmeister, Jordan, Kümmell, and Riedinger. Their names are not in all cases, however, appended to the chapters in the book for which they are responsible, in some respects an unfortunate omission. The following topics are considered: Malformations, injuries, and diseases of the neck, the larynx and trachea, thyroid gland, thorax and its contents, the mammary gland, the spinal cord, and the vertebral column. In the latter chapter the subject of tuberculous spinal ostitis is considered, as regards diagnosis and treatment, quite as fully as in some special textbooks on the subject. In this, as well as in other parts, one is impressed by the evident desire to make the work practical; more space being given to diagnosis and treatment than to etiology or pathology, except when one has a bearing on the other. The typographical work is up to the high standard to be found in most American medical books, and the illustrations are numerous.

An Introduction to Vertebrate Embryology, based on the study of the frog and the chick. By Albert Moore Reese, Ph.D. (Johns Hopkins), Associate Professor of Histology in Syracuse University and Lecturer on Histology and Embryology in the College of Medicine. New York: G. P. Putnam's Sons, 1904.

This volume contains 291 pages and 84 illustrations. It is, the author tells us, the result of a need for a textbook on the embryology of the chick and frog, at once concise and convenient. The volume is intended as an outline from which the instructor can expand as he sees fit. The needs of the medical student have been largely considered, and very little space has been devoted to theoretical discussions. The treatment of the subject is convenient for the student, the development being described day by day (for the chick, for example, daily up to the sixth day), instead of organ by organ. The text is clear and easily followed, and devoid of unnecessary technicality; and the illustrations are well selected. All in all, this little volume forms a convenient manual for the student.

The Therapeutics of Mineral Springs and Climates. By I. Burney Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London, etc. Chicago: W. T. Keener & Co., 1904.

Dr. Yeo has become well-known to the profession on this side of the Atlantic through his excellent "Manual of Medical Treatment," and his attractive monograph on "Food in Health and Disease." The present volume may also be classed as a useful work of reference. Part I (456 pages), comprising about two-thirds of the book, treats of mineral springs and contains chapters on the nature and composition of mineral waters, their action and modes of application, with the various accessory methods employed in the internal and external use of waters, together with a description of the principal European springs, arranged in alphabetical order. As no geographical limitation is expressed in the title, it would not have been out of order, nor would it have been prejudicial to the practical value of the work, to have included some of the American springs, many of which will take rank with the best of those found in Europe. Part II relates to the subject of climate, and contains an account of the several varieties of climates with a brief description of the various British and Continental winter and summer resorts, the therapeutics of sea voyages, the uses of sanatoria, etc. In this part of the book the author far transcends the geographical limits allotted to mineral springs and takes his readers as far afield as South Africa and the Pacific Coast of the United States. It is gratifying to observe that while Dr. Yeo is an ardent advocate of the modern sanatorium treatment of tuberculosis, he is by no means to be classed with the latter-day group of extremists who taboo the subject of climate as being quite negligible in the management of this disease. We think no one can read the excellent chapter on climatic therapeutics without being impressed by the forceful logic of the author's views.

The Complete Medical Pocket-Formulary and Physician's Vade-Mecum. Containing upward of 2,500 prescriptions, collected from the practice of physicians and surgeons of experience, American and foreign, arranged for ready reference under an alphabetical list of diseases. Also a special list of new Drugs, with their Dosage, Solubilities, and Therapeutical Applications, together with a table of Formulæ for Suppositories; a table of Formulæ for Hypodermic Medication; a list of drugs for Inhalation; a table of Poisons, with their Antidotes; a Posological table, a list of Incompatibles; a table of Metric Equivalents; a brief account of External Antipyretics, Disinfectants, Medical Thermometry, the Urinary Tests; and much other useful information. Collated for the use of Practitioners by J. C. Wilson, M.D., Physician to the German Hospital, Philadelphia, etc. Third Revised Edition, Philadelphia: J. B. Lippincott Co., 1904.

Being alphabetically arranged, this presents a handy reference book. There are nearly 2,600 formulæ. Why they should be numbered does not appear. The "list of authorities" seems superfluous.—The lists of new remedies, poisons, measures, etc., are good.

Immune Sera: Hæmolysins, Cytotoxins, and Precipitins. By Prof. A. Wassermann, M.D., University of Berlin. Authorized Translation by Charles Bolduan, M.D. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1904.

The subject of serum diagnosis and therapy, already grown to considerable proportions, is constantly increasing in importance. The lack in our language of any simple and concise exposition of the subject has led Dr. Bolduan, as he tells us in his preface, to make this excellent treatise of Prof. A. Wassermann more readily accessible to the English-reading medical public. For this the thanks of many are due him, for the subject is presented by the author in a way which leaves little to be desired by the seeker after information who has not the time or the opportunity to study at first hand and in large treatises the details of this difficult science. Any one, by one or two careful readings of this little book of 76 pages, can familiarize himself with the whole theory of immunity, as it is at present held, and so be in a position to understand much in modern medical literature that else must be to him a sealed book.

Society Reports.

AMERICAN SURGICAL ASSOCIATION.

Twenty-Fifth Annual Meeting, Held in St. Louis, June 14, 15, 16, and 17, 1904.

The association met in the Assembly Hall of the Board of Education, under the Presidency of Dr. N. P. Dandridge of Cincinnati, Ohio.

President's Address.—Dr. N. P. Dandridge departed somewhat from the practice of his predecessors, and instead of bringing before the association some medical topic based on his own work, or attempting a discussion of some subject of active interest, he took the members to the back woods, and interested them in the life and exploits of a pioneer doctor. He depicted a man of high scientific attainments and true culture, with all the elements of character which become the doctor and the man. He gave an exhaustive sketch of Antoine Francois Saugrain de Vigni, who was born in Paris, February 17, 1763. He came from a long line of librarians, booksellers, and printers, who, as far back as Charles IX in Lyons, and Henry of Navarre, had served the Royal family in France. His knowledge of mineralogy made his advice often called for in the development of the mines in the Ohio Valley. In the wilderness he supplied himself with ink from a natural Chalybeate water and an infusion of white oak bark, and when in need of a fire, lighted it from a lens made by two water crystals with clear water between. Dr. Saugrain gave notice of the first vaccine matter brought to St. Louis, and indigent persons were vaccinated gratuitously. He practised in St. Louis till his death, in 1820. He must have been eminently successful, for he left a large landed estate for the support of his wife and six children. His scientific work lives in tradition, and has gained for him the title of the "First Scientist of the Mississippi Valley."

What Are the Minimum Requirements for Aseptic Surgical Operations in Hospitals Where the Surgeon Is Assisted by a Large Staff of Internes and by Nurses from a Training School?—This subject was discussed with great detail by Dr. Geo. H. Monks of Boston, Mass.

Minimum Requirements for Aseptic Operations in a Hospital in Which the Personnel of the Operating-room Is Permanent.—Dr. A. J. Ochsner of Chicago, in a paper on this subject, pointed out the fact that with a permanent personnel a definite system could be developed, which was most satisfactory, because the observations which suggested changes as well as those which confirmed satisfactory methods could be carried through a large continuous series of cases under unchanged external conditions. Stress was laid upon the importance of simplicity in the methods chosen. The less that was done in any given case, the slighter was the likelihood of doing harmful things. There should be uniformity in carrying out a plan of work in order that everyone connected with the system might know what had been done and what was to be done by the other members of the personnel in any given case. Above all things, the methods should be reasonable in their details. This would make the work more attractive, and consequently more satisfactory to those engaged in its prosecution. The author then gave a detailed account of the system followed by him and his assistants at the Augustana Hospital, where he had had an opportunity to develop uniform methods with permanent conditions during a period of fifteen years. The system comprised disinfection of patient, operator, assistants' and nurses' hands, instruments, silk, silkworm gut, horsehair, drainage tubes, hand brushes, dressings, implements, towels, sheets, etc. Stress was laid particularly upon the danger arising from tying sutures too tightly, thus causing pressure necrosis, which favored the development of micro-organisms accidentally introduced. The method of selecting assistants and nurses was described, and a table illustrating the manner in which each assistant recorded the progress of the wounds under his care was appended.

Dr. Charles Harrington of Boston, Mass., read a paper, by invitation, in which he detailed his studies in asepsis.

Dr. De Forest Willard of Philadelphia said that surgeons who had to deal with the practical side of asepsis in surgical operations knew that their results satisfied them to a certain degree, but it must be confessed that they had failures, and it was very essential to know whether the failures were due to the method or methods employed, or whether there were difficulties which could not be overcome. Difficulties would beset surgeons, but the question resolved itself largely into one of extreme care on the part of everyone, from the surgeon down to the lowest assistant, who had the materials in charge or in preparation. There could be no doubt that a hospital which had permanent assistants, permanent nurses, was the one that was likely to secure the best results from operative procedures on the patients under its care.

Dr. Charles B. Nancrede of Ann Arbor, Mich., emphasized the two important points, one of which was inhibition, and the other, tissue resistance. A germ might be inhibited to the point that would render it safe in a given wound.

Dr. John E. Owens of Chicago stated that different results were reported by different surgeons after using the same methods, and he had often wondered whether some of them might not have been due largely to the habits of surgeons. So far as the disinfection of hands was concerned, a few years ago he was compelled to stop the use of corrosive sublimate on account of the condition of his hands, and since then he had been scrubbing them thoroughly with soap and water, keeping the nails of the fingers pared down, and afterward washing the hands with salt solution and alcohol, and he thought his results were as good in hospital work as where other chemicals for sterilization were used.

Dr. W. W. Keen of Philadelphia spoke of his own method and the results which he had obtained by some experiments. He had adopted for several years past for the cleansing of his hands, a method which was first directed to the attention of the profession by Weir, namely, the use of chloride of lime and carbonate of soda. The hands were washed thoroughly with soap and water, and in order to do this he had in his own private hospital and at the clinic at Jefferson, little egg boilers, which were practically hour-glasses or sand-glasses that were reversible. These were marked "soft-boiled, well done, and hard boiled." Soft boiled corresponded to about three minutes; well done, five minutes, and hard boiled, seven minutes. He told his assistants that when they had scrubbed their hands until the sand had reached "well done," good and faithful servant, they should stop. Every person, who took an active part in his clinic, had a culture taken from under the thumb, or one or two finger nails, particularly at the root of the nail, and from the free surface of the skin. During the last winter there were 213 cultures made, from the hands of himself and his assistants in the clinic at Jefferson. Of this number there were only three cases in which any culture was obtained. This made practically a sterility of 9 per cent., and an infection of about 3 per cent. There was but one person who was free at every clinic, and that was the head nurse, who was a permanent official in the operating room. All the other nurses, and all the assistants, except this principal assistant, changed every three months. He thought the method of keeping such a record of every person's hands served an admirable purpose by creating a sort of rivalry among those who were endeavoring to have clean hands before operation, and it was more to prophylaxis in preventing infection than in the results obtained, he attributed the value of the method.

Dr. W. B. Coley of New York did not believe sufficient stress had been laid upon sterilization of the skin,

and although some authorities maintained it could be done properly in a few moments before operation, his experiments showed that with careful preparation the day before operation, in addition to what was done on the day of operation, sterilization of the skin even then could not be said to be perfect. In 250 cases in which he had examined portions of the skin or Reverdin grafts, taken from the field of operation immediately before, 25, or 9 per cent. of the cases, showed all kinds of cultures, some of them being staphylococcus and streptococcus. The only case of suppuration in two hundred cases showed a pure culture of the streptococcus. Carefully sterilizing the hands, using tincture of green soap, applied carefully, brushing and hot water, then washing thoroughly with 95 per cent alcohol, with the use of rubber gloves, would give as good results as any of the measures which render the hands very hard. With reference to primary union, an important element in aseptic surgery was to guard against the bruising of tissues.

A Clinical Review of Forty-six Operative Cases of Duodenal Ulcer.—This was the title of a joint paper by Dr. Christopher Graham and Dr. Wm. J. Mayo of Rochester, Minn. The authors stated that a careful history was of prime importance. The leading symptoms in the forty-six cases reported were, first, pain, which might be due to peritonitis, distention from gas formation, pyloric spasm, and the irritation of acid gastric contents on open ulcer. The pain might come on in colics or last for some hours. Second, vomiting, principally of sour, bitter liquids, or if obstruction supervened of food after varying intervals. Third, gastric insufficiency from interference with drainage, There was usually hyperacidity of gastric contents, constipation, and a great desire for food, although the patient reduced the diet, and ate often a small quantity, but might fail to get the relief sometimes obtained in gastric ulcer proper. In latent cases, evidences of blood in the fecal movements might be the only sign. Differential diagnosis from pyloric ulcer in some cases might be impossible. A considerable number of cases closely resembled gallstone disease, and differentiation often could not be made. Such an error in diagnosis did not militate against the clinician, as both conditions were purely surgical and the differentiation in many cases must be made on the operating table. During the past eighteen months, 27 per cent. of their operative gastric and duodenal ulcers involved the duodenum in combination—53.33 per cent. There were 33 males, and 13 females; in 43 out of 46 cases the ulcer was easily detected upon abdominal exploration as a thick, white, scar-like area. Liability of duodenal ulcer to perforate was greater than gastric, but more often safely protected by adhesions. Relatively, sterile contents was also favorable. In all cases the ulcer was situated in the first two and one-half inches below the pylorus, and entirely above the entrance of the common duct of liver and pancreas, with its alkaline secretion, showing the effect of the gastric juices on the duodenal wall. In all doubtful cases of differentiation, between duodenal ulcer, pyloric ulcer, and gallstones, the authors recommended making an incision through the right rectus muscle, one inch to the right of the median line. Gastroenterostomy best met the indications, in that it diverted the gastric contents. In acute perforation, suture was recommended, with suprapubic drainage, with after-treatment, and exaggerated Fowler's position, sitting posture. The 46 cases were divided into five groups: (1) Acute perforation of chronic ulcer, 4 cases, 2 deaths. (2) Acute hemorrhage in chronic ulcer, 1 case, one death. (3) Duodenal ulcer with gastric complications, 25 cases, one death. (4) Duodenal ulcer, with gall-bladder and liver complications, usually due to adhesions from chronic peritonitis, 9 cases, one re-operation, no deaths. (5) Eight cases, chronic pain and distress with debility, no deaths. Total, 47 operations, 46 cases. Five operations for acute conditions, with three deaths; 42 operations for chronic conditions, with one death.

Dr. E. Wyllys Andrews of Chicago had seen in the last year or two several cases in which a marked hyperplasia, patches of exudate, with thickening of the wall of the duodenum, ulceration of the first inch and a half of the duodenum connected with a similar condition of the pylorus, had produced such a degree of massive thickening that clinically, at the time of operation, it was indistinguishable from carcinoma. In one such case the operation, which was a McGraw elastic ligature gastro-enterostomy, left him in a dissatisfied state of mind, as he feared he should have done a more radical extirpation, and yet, in this particular case, it was his fortune to do a second operation for obstruction a year after the first operation, and he found, very much to his surprise, absolute disappearance of the thickened massive wall, which had formed in the first place and simulated carcinoma. This was what Mayo himself called attention to, namely, when the obstruction was relieved, when the flow was permitted from some other point, the inflammation, or ulceration, at any rate, the hyperplasia disappeared at the point of irritation, and secondary to this again, when obstruction had been relieved by drainage below, the drainage below ceased to act, and again the opening became closed, so that the surgeon had to do sometimes a secondary gastroenterostomy.

Dr. John B. Murphy of Chicago said the practical lesson the paper taught was the frequency of occurrence of duodenal ulcer; that it was not recognized, and that it was not differentiated from gastric ulcer or gall-bladder disease, whether it was of infective or of stone origin.

Dr. Alexander Hugh Ferguson of Chicago asked Dr. Mayo if he had outlined for himself the class of cases in which he would do a posterior gastroenterostomy: also the class of cases in which he would do gastrojejunostomy or Finney's operation. The speaker mentioned one case in which he did a pylorectomy, removing the end of the pylorus, and a portion of the duodenum, with an excellent result.

Dr. Mayo, in closing the discussion, and in replying to the remarks of Dr. Ferguson, said he did not know that they had ever tried to excise any of these ulcers excepting in connection with Finney's operation. They were irregular and thick; they led to large vessels, close to the common duct, and it was difficult to get a good stump. He thought the best thing to do was to make a gastro-enterostomy, which would afford, at least, temporary relief, but the gastroenterostomy opening was very likely to contract, so that food would after a time continue to pass down over the duodenal ulcerated surface, and sometimes these patients would return for a second operation.

Complete Removal of the Shaft of the Tibia, with Restoration of the Bone.—Dr. George Ben Johnson of Richmond, Va., detailed seven cases of this operation.

Dr. De Forest Willard said it was greatly to be regretted that not only the family physician, but many surgeons, treated such cases as Dr. Johnston had reported for rheumatism, when there was really no sign of that disease, and they were, from the beginning, cases of acute suppurative osteomyelitis. Then came the septic symptoms. The physician treated them for typhoid fever and other conditions, until they drifted into the hands of surgeons, with bones absolutely destroyed, the majority of them crippled for life, with deformity of the legs. These cases from their incipiency were virulent in type, and the only time for treatment was forty-eight hours after the onset, and the quicker the surgeon got inside the bone, the better. If cases of appendicitis demanded early operation, surely it was doubly important that cases of acute osteomyelitis should be diagnosed and operated early.

Dr. A. J. Ochsner stated that in a large porportion of cases in which the shaft of the bone was entirely loose,

when the periosteum was incised, if the bone was left in place, there would be a regeneration of a considerable portion of the apparently dead bone. If one took such cases as had been described, made an incision which extended from one end of the bone to the other, split the entire periosteum, made it necessary for the flow of lymph to be away from the tissues, left bone there as a bone graft, he had found in a considerable number of cases that there would be a regeneration of a large portion of this bone.

Dr. John Collins Warren of Boston said the subject was one that should be thoroughly discussed, and a message given to the profession to realize the importance of this septic process, so that cases of acute osteomyelitis might be sent to surgeons early and treated properly. As to treatment, the great point was to prevent the spread of sepsis. This might be accomplished by trephining the bone, by proper disinfection, by a comparatively moderate operation, or, it might be necessary in certain cases to do quite a radical operation.

Dr. P. S. Conner of Cincinnati, Ohio, said that in some of these cases the disease originated superficially. The cases were uniformly mistaken for erysipelas. The redness of the overlying skin was taken as an indication of the existence of the disease. Then, we had a condition simulating typhoid fever after the disease had existed for a considerable length of time, or rheumatism for a while, then typhoid fever, when the condition did not subside. Early boring of the lower end of the tibia would put a stop to the trouble. A moderate incision would not infrequently end the trouble if boring did not.

Dr. S. H. Weeks of Portland, Me., said that while many of these cases began as a periostitis, requiring a simple incision down upon the bone, there were many others which commenced as an acute osteomyelitis in the medullary canal, and he believed under such circumstances when an incision was made down to the bone, there should be an opening made into the medullary canal, and that canal drained.

Unavoidable Post-operative Calamities in Abdominal Surgery.—Dr. Maurice H. Richardson of Boston read a paper with this title, which was based upon his experience more especially in abdominal surgery, and related exclusively to fatal cases. Four classes of calamities were considered: (1) Suppression of urine; (2) inexplicable deaths, with symptoms of local and general sepsis, but without any detectable bacterial source; (3) uncontrollable capillary hemorrhage; (4) pulmonary embolism. Suppression of urine could be regarded as an unavoidable accident only when it took place after the urine had been shown to be normal by the most searching study. The influence of ether alone in causing suppression after operations was not regarded as sufficient and sole cause of this calamity. It was doubtless true that failure of the kidneys properly to perform their functions was due to some pathological change in the secreting substance, if not a pathological change, a tendency to glomerular irritation or real inflammation, but a change or tendency which could not be detected beforehand. Such suppression of urine, however, might be prevented by the avoidance of all but imperative operations whenever there was the least evidence of renal disease, especially an insufficiency in the elimination of urea. Renal suppression was not believed by the writer to be the result of etherization alone. In certain very rare instances death had taken place after abdominal operations without any pathological cause whatever. In one illustrative case, after an aseptic, though difficult and bloody operation, the patient presented the typical clinical picture of fatal general peritonitis. The pathologist at the Massachusetts General Hospital could find no evidence whatever of bacterial infection at the autopsy or in the laboratory. That there was an infection the essayist had no doubt, but by a germ which produced none of the usual physical signs of sepsis, which failed to grow on ordinary media, and which was not stained by the ordinary media. Uncontrollable capillary oozing might be regarded as unavoidable, and beyond power of prediction only when it took place after careful examination of the blood with reference to its coagulability, and other possible evidences of a tendency to bleed. Capillary hemorrhage from jaundice might be in certain instances uncontrollable. It could be regarded as uncontrollable only when operation must be performed in spite of the evidence of the tendency to hemorrhage. The coagulation tumor did not reasonably assure safety against bleeding, even if it was shown experimentally to be brief. The author's last fatal hemorrhage in jaundice took place from the capillaries of the lesser curvature of the stomach, remote from the operation area, though the blood coagulation tumor was perfectly satisfactory. In another case a fatal and uncontrollable capillary ooze followed an operation upon the common duct after a year of biliary fistula. In this case no bile had entered the intestine during the existence of the biliary fistula. The most frequent of such rare calamities was sudden death from pulmonary embolism. The cause of death could be neither predicted nor prevented. It occurred with no peritonitis. The probability of embolism being the result of a phlebitis was considered. In the author's experience, in a considerable number of deaths there were no premonitory symptoms whatever, while in cases of phlebitis, definite and unmistakable, no such accident occurred. Pulmonary embolism had been observed most frequently after pelvic operations upon women with large uterine or ovarian tumors, and especially in women long exsanguinated by fibroids.

Papillary Cysts and Papillary Tumors of the Ovaries.—Dr. Samuel Pozzi of Paris, France, read a paper on this subject, in which he summarized as follows: (1) Papillary tumors of the ovary, cystic or solid, must not be considered as always malignant. Some of these tumors never undergo malignant degeneration, and do not relapse after removal. Some relapse after a long time, and locally without metastases. (2) A careful distinction must be made between carcinomatous generalization, which takes place through the lymphatics and blood-vessels, and simple grafts which result from contact, or from the growing over the peritoneum of detached papillary vegetations of the ovary. This process is benign and can be compared to the grafting of papillomas and warts of the skin. (3) Some of the tumors undergo a malignant degeneration which is for some time limited, but may later extend all over the mass, and which at last brings on a real generalization with cancer metastases. Before this last period, and at the outset of the malignant transformation, it is quite impossible to discern it with the naked eye, and microscopical investigations are needed. The prognosis is always uncertain in operations of this kind before a thorough pathological examination. Even such examination may lead to misinterpretation, if it has not been carried all over the tumor, for the degeneration may be limited to a small part of the growth. (4) When positive symptoms of malignancy are absent, such as cancerous cachexia or visceral metastases, operators must always treat these tumors as if they were benign, and proceed to remove, to the largest extent possible, the neoplasm. The disseminated growths, or even small parts of the papillary tumor detached and lost in the peritoneal cavity may disappear. In other cases they may be the origin of local recurrence. But these relapses can be treated successfully by secondary operations. (5) Frequency of successive invasion of both ovaries by papillary tumors, furnishes an indication to remove the adnexa on both sides, even if one is still healthy, at least in women who are near the change of life. In young women it would be better to preserve a non-diseased ovary. (6) In bilateral papillary tumors the operative technique can be greatly improved by performing partial or total hysterectomy, according to the case. (7) Drainage is not necessary when the cysts

have no outside vegetations, and when there is no ascites. But in case ascites exists for some time, it would be well to drain the peritoneal cavity. Incomplete removal, or even an exploratory section, in unoperable cases, is often accompanied by a real diminution of ascites, with local and general improvement."

Ankylosis Treated by Arthroplasty.—Dr. John B. Murphy of Chicago spoke on this subject. He mentioned three types of ankylosis, namely, ankylosis from periarthritis; ankylosis from capsular lesions, and bony ankylosis. Bony ankylosis could be relieved. Tissue could be interposed to prevent reëstablishment of bony union, and with the recognition of the changes which occurred in fat close to the aponeurosis, a joint could be produced with a serous-secreting surface. His experimental work had shown that after the removal of the hip-joint in a dog, cartilage, synovial membrane, and the articular surfaces in their entirety, with replacement of tissue in the acetabulum, and replacement of bone again, he had produced a typical synovial membrane in the sense of a hygroma. In the production of hygroma pressure on fatty tissue had a tendency to bring about a coalescence of the small fatty capsules. The shaft of these capsules produced a serous secretion, and there was developed a condition which was seen in housemaid's knee, over the trochanter of the boilermaker, and over the wrist of the stonecutter. A serous-secreting surface was brought about. This could be done in a joint. The surgeon could restore joints to practically their normal condition. The first case he reported was one of bullet wound of the abdomen. The bullet passed through the abdomen a little to the right of the median line, passed across the abdomen, perforated the intestine eight times, fractured the head of the femur, lodged in a pocket, remained there, worked its way out through ulceration, and was finally voided through the intestine. The wounds in the intestine were sewed up, and the patient recovered, with a sinus. The speaker saw the patient with ankylosis of the leg at right angles. He passed around a skiagraph which showed bony union. After removing the head of the femur transperitoneally, curetting and removing the bony débris from the ilium, the wound was allowed to heal, and a plan was devised for the restoration of the joint and the relief of deformity. He decided that it was necessary, first, to expose the joint and to secure bony tissue for the new head. Second, it was necessary to interpose between the fragments not only muscle, but fascia, covered with fatty tissue, because the fatty tissue here, subject to pressure, like the fascia lata of the trochanter, formed hygromata. A U-shaped flap was made, carrying with it fascia lata and all the superficial tissue and skin, then the joint sawed from around the trochanter major. None of the muscles was divided. A circular chisel was used to chisel out the bone in all directions, and with the assistance and leverage of the femur and chisel a fracture was produced at the base of the cavity, and the head, which was new bone formation, as the original head was removed, was thrown out in connection with the neck, rounded off with bone-cutting forceps, and curette used to enlarge the cavity. The next step of the operation was to separate the fascia lata with its fat and a few fibers of the gluteus muscle; a flap was swung in behind the muscular attachments, and the trochanter major put in around the head of the femur and sewed to the neck. The neck was made short to prevent reunion of the fibrous portion of the capsule which remained, because if the capsule remained in its fixed position, the ankylosis would continue, and this was one of the practical points he derived from this particular case. The trochanter major was sutured to the neck, the head replaced, the trochanter major rounded off, the flap turned down and the wound drained. The result of the operation was ideal. Dr. Murphy passed around a photograph showing the patient as he stood in the erect position, and the degree of flexion obtained at the end of four months after operation. The patient now had perfect motion and flexion. He mentioned other cases on which he had operated by this method, with gratifying results. The method was largely intended for the treatment of joints with ankylosis.

New Aids in Diagnosis of Surgical Diseases of the Kidney.—Dr. A. T. Cabot of Boston read a paper on this subject. His conclusion from the experience he had had and from his study of the work of others, were that segregation of the urines was of great use sometimes in deciding the question as to which kidney was diseased, or even as to which was most affected, Determination of the functional capacity of the kidney by testing the elimination through it might be of assistance by adding strength to what evidence we had, but would be often misleading if too implicitly relied upon for deciding operative measures.

Report of a Case of Acute Pancreatitis Associated with Gallstones.—Dr. James Bell of Montreal said that the demonstrated facts in his case were: (1) That in March, 1898, there were all the characteristic lesions, as well as the signs and symptoms of acute pancreatitis, and at the same time an apparently quite healthy liver and gall passage, with two or three stones in the gall-bladder. (2) That all signs and symptoms of pancreatitis disappeared, the patient recovering, and considering himself quite well until nearly two years later, when a new train of symptoms developed, which were characteristically those produced by gallstones. (3) Three years after the attack of acute pancreatitis it was demonstrated that while extensive and serious pathological changes had taken place in the gall-bladder and bile ducts, all local signs of acute pancreatitis had during the same period of time entirely disappeared (subperitoneal fat necrosis, and swelling of the pancreas); that was to say, that acute pancreatitis developed before there were any pathological changes in the gall-bladder and bile ducts, and that while such changes were taking place the pancreatitis was recovered from. These facts would seem to be at variance with modern views of the etiology of acute pancreatitis, which tended to attribute this condition in a general way to a pathological change in the common bile duct due to the passage of gallstones from the gall-bladder to the intestine.

The Treatment of Congenital Cleft Palate: A Plea for Operations in Early Infancy.—Dr. Truman W. Brophy of Chicago read a paper, by invitation, on this subject. After referring to the work of Lamonier, Kirmisson, Roux, and many others in this field, the essayist stated that after having studied carefully the literature and the methods pursued by other operators, he had endeavored to overcome the objections and to avoid the difficulties with which the older surgeons contended, and he was satisfied that the most desirable time to select for operating was within three months after birth. In operating at that time one was able to secure more satisfactory results than later in life, and avoided the objections usually raised by surgical writers. He believed in operating at as early an age as practicable after birth, preferably within three months, and his experience of twenty years in operations performed for the closure of cleft palate, at from ten days to fifty years of age, including 927 operations, had more and more justified the practice. Among the advantages mentioned in favor of early operations, were the following: Surgical shock was less because the nervous system of a young child was not well developed, and it was not, therefore, capable of receiving the same impressions that it would later in life. Furthermore, young children usually reacted better. All mental apprehensions were eliminated, and alarm and dread were among the most powerful factors in producing shock. Following early operations there was much less deformity, for all the tissues, bony as well as soft, developed naturally and according to accepted types. When the operation was

postponed for a few years, it was very difficult to secure as good results. When the operation was made in early infancy, the parts were sufficiently developed to give possibility for normal speech when the child had reached a speaking age. The author described his method of operating on cleft palate in detail, a description of which has heretofore been published in both dental and medical journals. In conclusion, the author stated that if operations were made later in life, the patient should be placed under the instruction of one who had the perseverance, the ability, and the patience to teach him how to overcome the defective speech which he had acquired.

The Evolution of Surgery.—Dr. J. Ewing Mears of Philadelphia read a scholarly paper with this title. He divided this unfolding of surgery into three periods of time. (1) That which extended from the beginning to the time of Ambroise Paré, 1517-1519; (2) the use by Johns Collins Warren (1846) of ether as an anæsthetic in surgical operations, and (3) the discovery and introduction into general use by Sir Joseph Lister (1860-1875) of the antiseptic treatment of wounds. Each period was taken up and considered in a masterly manner.

A Mechanical Device for Gastric and Intestinal Anastomosis.—Dr. F. B. Harrington of Boston described a ring for the purpose of intestinal anastomosis. The advantages of this ring were stated as follows: (1) Safety and speed. A complete resection and suture can be easily done in fifteen minutes, and with as great speed as by any more protracted method. (2) Cleanliness. Assisted by clamps, the purse-string sutures prevent even a mucous ooze, while the continuous stitch is being placed. (3) The intestinal suture is more easily done over the ring than without it. (4) It is safe to use a single layer of continuous stitches, since the ring allows a perfect approximation to be made, and afterward protects the suture until adhesions have formed. (5) The handle is very useful for holding the intestines in convenient positions for sutures. (6) It is not necessary to sew up any of the layers, since a study of specimens from animals and human beings shows that the mucous membrane will slough in any case, and that repair is more rapid when the mucous membrane is not sutured. (7) The presence of the ring guarantees a free opening at the site of operation. (8) In case the continuous stitch should be improperly applied, the weak spots are protected by the ring itself for at least three days, until the ring breaks down. This allows strong adhesions to form. (9) After operation the ring holds the suture immovable, and acts like a splint. The weights of the individual segments of the ring vary, as most other appliances of a similar nature.

Dr. J. W. Draper Maury of New York City, by invitation, stated that instead of using the elastic ligature at the Laboratory of Columbia University, they had been employing twine. The specimen which he exhibited was made with the elastic ligature put in by a square knot, thus differing from Dr. McGraw's technique; but for the last three months he had obtained as good results by using simple twine instead of the elastic ligature. The method of introducing the twine might follow the McGraw technique, although the triangular stitch possessed a very distinct advantage over it. This stitch punched out as much tissue as might have been included in the triangle. As to time, it would cut through in less than three and a half days. It must be very tightly tied. This was the sole requirement to success. Dr. Maury demonstrated on a chart the technique of introducing the triangular stitch, and stated that he included about one-third the circumference of the gut in the stitch. The gastric triangle should, as a rule, be made larger than the intestinal. He then passed around photographs of specimens made by this method, and a preparation from the gut of a pig, which demonstrated how free an anastomosis might be established. He also showed a number of circular bits of twine which had been used in executing the technique. They had cut the triangle out and had been recovered after their passage through the rectum.

The Subtle Force of Radium.—Dr. Robert Abbe of New York City narrated his experience with this new therapeutic agent, saying that radium had a powerful and seemingly beneficial effect upon cases of recurrent carcinoma. Cases were cited in point. He mentioned one case of virulent, typical carcinoma of the scirrhous type, in which the carcinomatous nodules were reduced to one-third their original size by radiomization. The agent had been used in cases of lupus, superficial epitheliomata, carcinoma, rodent ulcer, superficial sarcomas, etc. In cases of superficial recurrent carcinoma of the breast, if radium was applied to the diseased area for a considerable time, say an hour, then the patient permitted to go, and the agent reapplied at intervals of two or three days, the carcinomatous masses would melt away in some cases. In other instances, these masses would disappear under the use of the *x*-ray, still others would resist the action of the *x*-ray, while radium would act beneficially. Radium had an extraordinary power in inhibiting the growth of malignant cells in some cases.

Dr. W. W. Keen of Philadelphia said that one positive fact was worth a dozen negative ones. One could not get away from the facts presented by Dr. Abbé and others in regard to the use of radium. On the other hand, members of the profession ought to report their negative as well as positive results. He had had an experience now covering twenty-two cases in which radium was used. Whether his results were due to the quality of radium, to a difference in the character of the growths, to the method of using it, or what not, he did not know. But to sum up his experience, in not one single case had there been the slightest benefit, except in one feature, and that was as to pain. Unquestionably in cases of carcinoma, patients had suffered less and in a large number pain had disappeared. In one case of tic douloureux of the lower jaw the man left the hospital at the end of a month practically well. In the course of six or eight weeks the patient wrote him that he had had a recurrence of the pain. Dr. Keen wrote him to return for treatment, but had heard nothing from him since, and whether the pain had disappeared or not, he did not know. He had used the German instead of the French radium. Some of his specimens had varied from 17,000 radio-activity up to a larger radio-activity, until finally he was able to obtain one specimen with 1,800,000 radio-activity. He regretted to say that his experience had not been satisfactory with the use of radium.

Gastrostomy in Œsophageal Stricture.—Dr. James H. Dunn of Minneapolis, Minn., said that cicatricial stricture was the most serious benign affection of the œsophagus. Retrograde and through and through treatment of certain œsophageal strictures had been recognized since the operation of Loretta, in 1883; but discoveries and improvements in operative technique had finally completely changed the situation, leaving surgeons in a position to approach one of these cases with a very safe and certain technique, and to fill the following indications: (1) A gastric fistula which would not leak, and close spontaneously. (2) To get a reliable guide through the canal with perfect safety and certainty. (3) To divide the scar tissue sufficiently. (4) Relative asepsis and rest of the wounded surface, prevention of stagnation of food, and for a time the irritation of its passage. The value of the Stamm-Keder form of gastrostomy was generally understood, but it was only when one fully appreciated by experience that any œsophageal stricture might be commanded perfectly and with precision by means now at hand, through very small gastric fistulæ, even the size of a No. 20 French catheter or less, that all the advantages of the method appeared. The steps of the operation were described. A modification of Dunham's wire and spindle bougies was suggested as somewhat simpler and more

handy. The writer had not found it necessary to use guards to prevent the epiglottis and stomach fistula from chafing. By this plan but one anæsthesia was necessary in each case. The fistulæ had not leaked and had promptly healed spontaneously. A caliber admitting of free swallowing was reached in from one to three weeks, and an approximately normal caliber achieved in from two to four months, after which the tendency to relax had been imperceptible. The author reported three very severe cases, one in a girl, aged nineteen, following typhoid ulceration, and two in children, aged nine and two years, from the ingestion of concentrated lye. Repeated attempts had failed to reach the stomach through the mouth in all these cases.

The Bridging of Nerve Defects.—Dr. Chas. A. Powers of Denver, Col., said the difficulties in the way of preparing a satisfactory paper on this subject were due to the indefinite manner in which nerve suture was treated in medical literature, to the widely scattered and badly indexed material collected and published by Chipault, to the fact that much of the material in the literature of the subject described operations upon animals, that a large proportion of operative cases in men were reported before the establishment of a permanent result, and to the fact that in case of failure, it was not easy to say that a given bad result was due to a faulty technique in the operation itself, as a similar result might have followed direct suture of the fragments. The author reported in detail a personal case of transplantation of four inches of the great sciatic of a dog to the external popliteal of a man. Union was prompt. The fragments stayed in place, and the immediate result seemed to be encouraging, but the ultimate result was a total failure. Examination and report were made eight years after operation. Cases of the bridging of nerve defects gathered from literature showed the following number: Grafting, 22; flap operations, 11; implantations (anastomosis), 10; resection of bone, 7; *suture à distance*, 3; tubulization, 1. Analysis of these cases showed that grafting was a failure and should be discarded, while the results in flap operations and anastomosis were about the same, something over 50 per cent. of the cases being successful. While these last operations were not very promising, they seemed at present to be the methods of choice.

Final Results in Secondary Suture of Nerves.—Dr. Emmet Rixford of San Francisco, Cal, reported three cases of secondary nerve suture, of the ulnar at the wrist, of the musculospiral and the facial at the stylomastoid foramen, six, four, and two years respectively after operation. In the first case the atrophic thenar, hypothenar, and interosseous muscles regained their normal volume and function, save in so far as motion of the fingers was limited by adhesions, the result of fixation and chronic arthritis. In the second case the musculospiral nerve was sutured eight weeks after rupture, complicating a fracture of the humerus. A defect of three centimeters was overcome by shortening the humerus that amount and the result after four years was complete motor and sensory restoration of function, with slight atrophy, one-half centimeter difference in circumference in the forearms. In the third case the facial nerve was severed by a narrow tooth beneath the mastoid process. Complete facial paralysis. Suture at eight weeks after the injury. In order to secure tissue for the sutures, the mastoid process was cut away with the surgical engine, and the external wall of the fallopian canal removed for five or six millimeters. Result after two years: Face symmetrical, when in repose; eye closes in sleep; may be closed at will; angle of mouth, tip of nose and chin can be drawn to the paralyzed side. The prognosis in secondary suture was but little, if at all, inferior to the prognosis in primary suture. In the presence of infection, secondary suture was preferable to primary. All scar tissue should be removed, including the whole of terminal neuroma of central segment, the nerve ends united by absorbable suture with the least possible traumatism. Defects, if not too great, could be overcome by stretching which should be done before section of the nerve ends or by shortening of the bone in certain cases.

Primary Carcinoma of the Liver.—Dr. Leonard Freeman of Denver, Col., reported a case of primary carcinoma of the liver on which he had operated, with freedom from recurrence at the end of sixteen months. After dealing with the different methods of operating, he reported his case in detail.

Thyroidectomy for Exophthalmic Goiter.—Dr. Chas. H. Mayo of Rochester, Minn., in a paper with this title, said the subject of goiter was still unsettled, both as regards etiology and treatment, although hundreds of articles had been written upon it. Recent investigations concerning the lymphatic system and ductless glands rendered the subject very interesting at this time. Exophthalmic goiter was a distinct type, with many symptoms, involving the mental, muscular, digestive, and circulatory functions, the most common being the tachycardia without other cause. While the mortality was comparatively high, it was among those cases which had already run the gauntlet of most known remedies for the disease, and should not be entirely laid at the surgeon's door. The surgical methods were exothyropexy ligation of the thyroid arteries, removal of the cervical sympathetic ganglia, thyroidectomy, and the physiological effect of operations upon other regions. The author and his brother had operated upon 130 goiters; 40 were of the exophthalmic type, and of these, 6 died, as the result of the operation. In the first 15, there were four deaths due to lack of judgment in accepting almost moribund cases. There were but two deaths in the last 25 cases. Very severe cases were subjected to *x*-ray exposures, and with belladonna given internally for a few days or weeks previous to operation. Their own cases showed marked improvement in all who survived the operation. Of these 50 per cent. made a very early recovery, especially of the severe symptoms, such as tachycardia, nervousness, and tremor; 25 per cent. did so after several months, and 25 per cent. were improved, yet suffered from irregular recurrence of some of the major symptoms.

Gallstones in the Common Bile Duct.—Dr. S. H. Weeks of Portland, Me., read a paper on this subject, in which he considered the diagnosis and prognosis, and said that impaction of a gallstone in the common duct rarely caused marked distention of the gall-bladder; it caused dilatation of the branches of the hepatic duct, and might result in pronounced and even fatal jaundice. Obstruction of the common duct was always accompanied by jaundice. The jaundice was intermittent or remittent where the calculus floated in an enlargement of the common duct, because the system would eliminate the coloring matter of the bile in the interval. The cystic duct might be occluded, and give rise to grave symptoms, without there being any trace of jaundice or any history of biliary colic. Jaundice with distended gall-bladder not due to gallstones was presumptive evidence of malignant disease. Jaundice without distended gall-bladder favored the diagnosis of cholelithiasis. The treatment was necessarily surgical.

Dr. A. F. Jones of Omaha, Neb., read a paper on "Primary Splenomegaly, Accessory Spleens, Splenectomy," and reported an interesting case.

Dr. S. J. Mixter of Boston, reported a case in which he removed the upper jaw for extensive osteosarcoma, with an excellent result, considering the formidability of the operation.

Dr. Rudolph Matas of New Orleans, La., exhibited and described a new interdental splint which he had recently devised for the treatment of fractures of the jaw, particularly the lower jaw, without bandages.

Dr. Alexander Hugh Ferguson of Chicago exhibited a patient upon whom he had performed renal decap-

sulation for chronic interstitial nephritis three and a half months ago, with an excellent result.

Officers.—The following officers were elected: *President*, Dr. Geo. Ben. Johnston of Richmond, Va.; *Vice-Presidents*, Dr. Emmet Rixford of San Francisco, Cal., and Dr. James Bell of Montreal; *Secretary*, Dr. Dudley P. Allen of Cleveland, Ohio; *Treasurer*, Dr. Geo. R. Fowler of Brooklyn, N. Y.; *Recorder*, Dr. Richard H. Harte of Philadelphia; *Counselor*, Dr. N. P. Dandridge of Cincinnati, Ohio.

San Francisco, Cal., was selected as the place for holding the next meeting, the date to be decided by the officers and committee of arrangements.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held April 28, 1904.

Dr. A. PALMER DUDLEY, CHAIRMAN.

Occiput Posterior Positions of the Vertex.—Dr. JOHN O. POLAK of Brooklyn read this paper. (See page 55.)

Occiput Posterior Positions.—Dr. S. MARX read this paper. (See page 54.)

Dr. MALCOLM MCLEAN continued the discussion and said that a great deal had been written on this subject, but unfortunately there seemed to be an extension of words without conveying much clear and definite teaching, but the paper of Dr. Polak was the best he had ever heard on the subject of occiput posterior positions.

In occiput posterior positions one of the greatest dangers encountered was from the injudicious interference with forceps. The majority of these cases, if left alone, he said would rotate to the front and become practically normal; but, unfortunately, such labors are very tedious, slow, and uncertain. He had never yet seen a normally acting uterus in occiput posterior positions; therefore, it had been suggested that some malposition of the fœtus causes it to act in an irritable way, with short pains, etc., and the short, inefficient pains, or contractions, kept up an unusual number of hours which was so trying to the patient, to both her mental and physical condition, to the family and to the attending phycisian. Such an existing condition often drove the physician to performing operations in an improper manner and at an improper time. This was his experience in the average run of these cases in the average physicians' hands. The consequence was that when the occiput was at the right sacroiliac synchondrosis, the forceps would be placed to the sides of the child's head before a correct diagnosis had been made. This he had seen done time and again, and the result invariably was that as soon as the forceps was applied with the view of bringing what was supposed to be the high occiput on the left, down and spirally to the front, an obstruction impossible to pass was made mechanically. The result was that the women were very much injured by the operation, and it was only after the forceps had slipped after many wretched and repeated attempts had been made, that it became apparent that a correct diagnosis of the position had better be made. Then it was to late to do much. The position should have been discovered at the earliest moment and then the methods tried that were advocated by Dr. Polak.

Dr. McLean said that one of the greatest difficulties encountered in occiput posterior positions was the rotation of the body of the child in order to secure proper anterior position of the occiput. After getting the occiput in the anterior plane it should be kept there; it was easy to get it to the front but very difficult to keep it there. In many of the cases of occiput posterior positions, manual interference was required, because the head was in such a relation to the pelvis that it tended to maintain its posterior position; it was not the result of improper flexion only, but there was a positive tendency of the occiput to remain in the posterior position. He had again and again seen attempts made by different methods to bring the occiput to the right anterior plane, holding the occiput there until a pain brought it down, then forceps applied and there resulted the same old story, the occiput was on the posterior of convex side of the forceps. Now, why? In a great many cases the body of the child influences the head, and, in many cases, this influence was produced by the cord being passed around the shoulder and neck of the infant. Therefore, when attempts are directed to bring the shoulders around they will not come beyond a certain point, they will just describe a certain part of the arc of a circle and no more. Continual attempts to produce this mechanical rotation produces torsion of the spine of the child, because of the fixation of the body. The moment that difficulty of this kind is encountered he caused the occiput to rotate all the way around to the left anterior and this with perfect ease. He had gone to see cases prepared to do podalic version and had found the cord, in some cases, was only six inches in length from the placenta to the shoulders of the child. The cord was shortened by the position of the child, and in such cases he said it was much easier to take the long circuit and bring the occiput to the left anterior plane rather than to the right; thus bringing the body of the child right around and unwinding the involved cord which had acted as a check to rotation in the opposite direction to the right.

Dr. EGBERT H. GRANDIN said that about ten years ago, at a meeting of the American Gynecological Society, held in Brooklyn, he read a paper before an audience composed of men from all over the United States and dealt with the same topic, occiput posterior positions. At that time he had charge of two maternity services, and it had then been his experience to see sixteen cases of occiput posterior positions within six weeks. He made that statement and surprise was expressed at the frequency of the position. He said he was glad to know that the prevalence of this position was now clearly recognized. To his mind it was the most common position which called for interference in the ordinary type of obstetrics. Nowadays he did not do much obstetrics, but in 95 per cent. of the cases in which he was called in consultation he felt pretty sure that he was being called to see cases of occiput posterior positions, as a rule in the cavity or impacted at the outlet. The conclusion which he reached ten or twelve years ago had suffered but very little modification as the result of a greater experience. As a rule, occiput posterior positions occurred because there was some disproportion between the presenting part and the pelvis, either the pelvis being too small or the fetal head too large.

Dr. Grandin said that he failed to see how the "new school" could recognize an occiput posterior at the brim or in the cavity, because this school tried to tell us *not* to make internal examinations but to rely entirely upon external manipulations for diagnosis. He did not think the average man could recognize such malpositions by external examination. With the occiput posterior and at the brim, with the membranes unruptured, with the cervix dilated or dilatable, it was his custom to do a podalic version followed by quick extraction of the child. In that class of cases with membranes ruptured and the head descended posteriorly into the cavity, he asked what should be the rule of procedure? It was in this class of cases that the reader of the paper used axis traction. Dr. Grandin said that if it was simply a question of merely rotating the head he would agree with the method advocated but it was not simply a question of rotating the head. The head could be rotated through a certain circuit without damaging the fœtus, but one could not rotate it a great ways without killing the child because the trunk of the child would not follow the head in its rotation. Therefore, he thought the method advocated was not rational. The object should not be rotation of the head but rotation of the body of the child and here was where the point raised by Dr. McLean entered in; rotate both head and body and while the patient was under

deep surgical anæsthesia; the entire hand in the vagina should grasp, not the head, but the shoulders of the child and rotate the fœtus in the direction it went the most easily. If one tried to rotate it to the left and found it would not go it meant that the cord was interfering and then rotation should be made in the other direction. If the head was found at the outlet and impacted he said there was but one thing to do in the interest of the mother, operate upon the child. Of late years he said he had learned more about this class. Dr. Isaac Taylor, two or three months before his death, asked Dr. Grandin to select from his stock of instruments what he desired and then, after his death, to give the balance to the Maternity Hospital. Dr. Grandin selected a short-handled forceps, which he carried nowadays with his action traction forceps and angiotribe. If the head was impacted at the outlet, with a living child, he applied these short-handled forceps in the inverted sense and so secured flexion; flexion once secured one could then deliver the child. Get flexion and deliver, although with loss of integrity of the pelvic floor. Dr. Grandin said that ten years ago he was severely criticised when he advocated manual manipulation at the brim; now he advocated version.

Dr. Joseph Brown Cooke agreed with all that Dr. Grandin had said and believed that occipitoposterior positions were much more common than generally supposed. It was an easy presentation to diagnose by abdominal palpation. In his experience he had found the postural method to be of but little value because the rotation of the head was almost always to the front in spite of it. He believed it to be inexcusable for anyone to attempt to apply the forceps without a definite knowledge of the presentation. Before the application of the forceps there should be a dilated or a dilatable cervix and the patient should be completely under the influence of the anæsthetic.

Dr. Robert A. Murray referred to an unusual number of cases of occipitoposterior presentations that had occurred at the Maternity Hospital between the years 1890 and 1893, and he thought this was due to the fact that there were so many women of foreign birth and with deformed pelves. Whenever such a position occurred he said that it was necessary to determine *why*. It was, as a rule, not due to the size of the child but to some malformation of the pelvis. One should know exactly just what the size of the child's head was and its relation to the pelvis, and if this could not be done readily then the patient should be placed under complete anæsthesia and the hand introduced into the pelvis for a more thorough examination. The mortality in these cases he considered to be very great, and was apt to be complicated with embarrassing circumstances, such as lacerations, eclampsia, prolonged labors, bleeding, etc. He believed that many of these cases should be treated by version. In most of the textbooks it was stated that, in the mechanism of occipitoposterior positions, the head instead of extending was forced down to the floor of the pelvis and gets under the spine of the ischium and then commences to rotate, *i.e.* cannot rotate until it gets beneath that spine. Dr. Murray said that it could if one endeavored to correct this extension by efforts at flexion, pushing up the frontal portion and so allow the forehead to come down. He said that out of one hundred cases of occipitoposterior positions four or five would rotate into the hollow of the sacrum. In these cases it was very difficult to apply the forceps; to apply them transversely was almost an impossibility. One could not pull the head straight down because of the great damage done; the child might be killed and the mother greatly injured.

During the years 1890 and 1893 there were 957 cases; among these there were 119 low forceps operations and 12 high forceps. In 9 labor was induced, in 4 there was eclampsia, in 6 hemorrhage, in 28 version, in 1 cæsarean section was performed, in 1 laparotomy, in 7 craniotomy, and in 7 episiotomy. Among these cases there were 4 deaths, 3 from eclampsia, and 1 from ruptured uterus. There were no deaths due to the use of forceps or to version.

Dr. A. Palmer Dudley said that his experience in these cases had been purely surgical. He said he had never done a craniotomy and had had one case of ruptured uterus.

Dr. S. Marx said he was not so much afraid of occipitoposterior positions as he once was. The early operative treatment of these cases he believed to be a mistake. When there was occasion to operate one should operate quickly and before the membranes ruptured if possible. He did not know how many of occipitoposterior presentation he had seen but in not one of them had the membranes *not* ruptured early. If the membranes had ruptured he would hesitate to interfere because in 90 per cent. of the cases rotation would occur spontaneously during the course of the labor. Manual rectification had not been successful with him. If he should find it necessary to go into the uterus and if he was in a position to do version he said he would do an elective version. If this was undertaken late in the progress of labor it would be a difficult thing to do, and then it might be a better procedure deliberately to perforate the child's head. Dr. Grandin stated that by rotation with the axis traction forceps, it would wring the child's neck; he asked if the same thing would not occur with the hand in the uterus and attempts made at rotation.

Dr. Robert A. Murray said that when he made the statement regarding the correction of the position of the child's head, he meant that the hand should be passed up to grasp the shoulders and efforts made at rotation of the shoulders as well as of the head.

Dr. Marx said that he did not believe the question of contracted pelvis entered at all into the consideration of this subject any more than the consideration of the condition of the child's head in its relation to the spinal column. If the child was in the dolichocephalic condition in position with the spinal column in the middle part of the base of the skull there would be a question whether the head would extend or take a position of semi-flexion. The relation of the head to the spinal colume should be kept in mind. The moment it struck the superior plane of the pelvis flexion occurred and, in the mechanism, more had to do with the condition of the child's head. The question arose as to what constituted a "contracted pelvis." He did not know unless it meant that the head was too big for the pelvis.

With regard to making a diagnosis of occipitoposterior positions by external manipulation alone he agreed with Dr. Grandin in what he said in reference to the so-called "new school." This new school made the diagnosis so easily because in 95 per cent. of all cases the head presents and, when certain things operated, it was only necessary to say "occipitoposterior position" and you would almost always be correct. He said that he examined as often as he deemed it necessary and guided the head with his hand in the vagina around to the anterior.

With regard to the rotary axis traction he said he was not often compelled to use it. In spite of what Dr. Grandin said in criticism of it he believed that Dr. Grandin would use it before he died.

It was rather interesting for him to hear Dr. Murray speak of the cases occurring in the early 90's because those cases occurred while he was assistant surgeon to the Maternity Hospital and were his, Dr. Marx's, own work. In a great many cases he believed that perforation should be the method of election. During every year he had about one dozen perforations to do in his consultation practice.

Dr. George Tucker Harrison took issue with those who said they should make as many examinations as they choose. He believed the fewer examinations made the better, because of the difficulty of getting the hand perfectly aseptic. He did not apply forceps to correct

positions of the head; if the head was high he preferred podalic version. With this method he had satisfactory results and, therefore, did not care to change.

Dr. JOHN O. POLAK closed the discussion and said that he believed all were in accord with the position assumed by him, *i.e.* in cases of head above the brim, treat by version; and in those cases with the head engaged in the cavity or on the floor, treat by forceps. In those cases of occipitoposterior positions with the membranes unruptured he believed in giving Nature a trial and not interfering. In a case with membranes ruptured, with the head at the brim, if the head was engaged in the pelvis and could be rotated to the front with rotation of the body, it then was better to deliver by forceps than to attempt version, if the operation was to be done by one not an expert. He said this because all were not experts in the management of the after-coming head and in extracting the arms.

The position taken by Dr. Marx regarding craniotomy he said deserved praise and also comment. He had seen two cases of rupture of the uterus caused by the application of the forceps when the head was not engaged, while at the pelvic brim and in both of these cases the child was dead. It was to him surprising how many difficulties could be overcome by intelligent craniotomy, and for three or four years he had been doing craniotomy when the mother's life was endangered.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 2, 1904:

	Cases.	Deaths.
Measles	369	23
Diphtheria and croup	386	50
Scarlet fever	130	9
Smallpox	1	1
Varicella	61	...
Tuberculosis	330	150
Typhoid fever	33	12
Cerebrospinal meningitis	...	39

A Strange Result of Iodoform Dressing.—H. McNaughton-Jones reports this case. The patient, a woman of thirty, had recently undergone an abdominal operation. The course was favorable until the third day after the operation. Irritation and some smarting in the neighborhood of the wound was then complained of. The wound had been stitched with celloidin-zwirn, a pad of moist sterilized 10-per-cent. iodoform gauze being placed over it covered with coeletin. On raising the dressing the nurse found some slight swelling and redness along the area of the incision. The irritation increased and the next day the iodoform was removed and the wound lightly sponged over with some weak formalin solution, dried and dusted with dermatol, covered with plain sterilized gauze, and protected with coelitin. The distress continued and the next day several large vesicles appeared. The arms and hands now became involved, later the legs. There were no constitutional symptoms. The skin healed by first intention. It was learned that many years before the patient had had an ulcer on the leg. This had been dressed with iodoform with much the same results as in the present instance. From her childhood the patient had suffered from an eczematous tendency.—*Medical Press and Circular*, February 24, 1904.

Report of a Case of Perforation in Typhoid Fever in a Child of Six Years.—John H. Topson describes this case. The child was a male Hebrew child who had been healthy up to the time of this present illness. For two weeks he had been suffering from malaise, fever, cough, and headache. Diarrhœa and abdominal pain developed, which seemed to be located in the right iliac region. The day before his admission to the hospital he began to vomit. Examination showed his lungs to be clear. The abdomin was distended and tender, particularly in the right iliac region. There were a few suspicious spots. Projectile vomiting developed. When seen by the writer, the temperature was 98.8° F., pulse 120, respiration 48 There were noted, abdominal distention, generalized rigidity, tenderness, especially in the right iliac region, absence of liver dulness, thoracic type of respiration, and absence of peristaltic sounds. The general condition was fair, considering the advanced local symptoms. A diagnosis of intestinal perforation during typhoid fever was made. Operation showed the perforation to be in the ileum, about eight inches from the colon, about the diameter of an ordinary lead pencil. The after-history was like that of many cases of operation in the presence of general peritonitis. Improvement followed for twelve hours, but at the end of the first day vomiting and other signs of peritonitis occurred, the pulse weakened, and at the end of seventy-two hours the patient died. The perforation probably occurred at least twenty-four hours before operation. After death the perforation was found to be firmly occluded and water-tight. Perforation is rarely encountered at such an early age as in this child. The writer believes that the case of this patient is possibly the youngest yet reported.—*Archives of Pediatrics.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 2, 1904.

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
California, San Francisco	June	12–19	1	..
District of Columbia, Washington	June	11–18	4	..
Florida, at large	June	18–25	7	1
Georgia, Macon	June	18–25	1	..
Illinois, Chicago	June	18–25	1	..
Danville	June	18–25	1	..
Louisiana, New Orleans	June	18–25	5	3 imported
Maryland, Baltimore	June	18–25	2	..
Massachusetts, Lawrence	June	18–25	1	..
Michigan, Detroit	June	18–25	3	..
Missouri, St. Louis	June	18–25	9	..
Nebraska, Omaha	June	18–25	2	..
South Omaha	June	18–25	1 imported	
New Hampshire, Manchester	June	18–25	6	..
New Jersey, Jersey City	June	12–19	2, 1 imported from Baltimore.	
New York, Buffalo	June	18–25	1	..
New York	June	18–25	1	..
Niagara Falls	June	18–25	1	..
Ohio, Toledo	June	18–25	2 imported.	
Pennsylvania, Altoona	June	18–25	1 imported.	
Johnstown	June	18–25	1	3 cases in suburban districts.
Philadelphia	June	18–25	7	1
Pittsburgh	June	18–25	1	..
Tennessee, Memphis	June	18–25	8	..
Washington, Tacoma	June	13–20	1	..
Wisconsin, Milwaukee	June	18–25	6	..

SMALLPOX—FOREIGN.

Belgium, Brussels	June	4–11	..	1
China, Hongkong	May	14–28	5	2
France, Marseille	May	1–31	..	4
Paris	June	4–11	10	..
Great Britain, Glasgow	June	10–17	20	3
Leeds	June	11–18	3	..
London	June	4–11	21	..
New-Castle-on-Tyne	June	4–11	8	1
Nottingham	June	4–11	3	..
Sheffield	May	28–June 11	3	..
India, Bombay	May	24–31	..	16
Italy, Palermo	June	4–11	1	..
Java, Batavia	May	7–14	8	..
Mexico, Mexico	June	5–12	5	1
Russia, Moscow	May	28–June 4	11	4
Odessa	June	8–16	2	..
St. Petersburg	May	28–June 14	15	3
Warsaw	May	21–18	..	23
Spain, Cadiz	May	1–31	..	1
Turkey, Constantinople	June	5–12	..	4

YELLOW FEVER.

Mexico, Tampico	June	11–18	1	..
Vera Cruz	June	26	1	imported from Progreso.

PLAGUE—INSULAR.

Hawaii, Honolulu	June	21	1	..

PLAGUE—FOREIGN.

China, Amoy	May	31	Increasing.	
Hongkong	May	14–28	..	60
Formosa	May	14–28	596	489
India, Bombay	May	14–31	..	109
Calcutta	May	21–28	..	90
Karachi	May	22–29	..	53

CHOLERA.

China, Hongkong	May	14–28	13	12
India, Calcutta	May	21–28	..	15

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Original Articles.

PYELITIS COMPLICATING PREGNANCY.*

BY EDWIN B. CRAGIN, M.D.,
NEW YORK.

THE occurrence during pregnancy of a marked rise of temperature with pain and tenderness on the right side of the abdomen is always a source of anxiety to the obstetrician, and its diagnosis and prognosis are matters which deeply concern him.

Although several able articles, by Vinay,[1] Reed,[2] Brigand,[3] Häberlin,[4] and others, have appeared describing the condition, it is not generally recognized by either specialist, or general practitioner, that pyelitis is a not infrequent cause of the above symptoms.

The condition was first accurately described by Reblaud at the surgical congress in 1892. That it is not rare in occurrence is evidenced by the fact that during the past winter the writer has met with five cases in private consultation work, and including these has seen ten since September, 1900.

The etiology of the condition seems to depend, according to Vinay, upon two factors: (1) Compression of the ureter by the pregnant uterus. (2) Infection of the urinary tract above the point of compression.

1. Compression of the Ureter by the Pregnant Uterus.—Experiments upon animals have shown that the urine is excreted under low pressure. Ludwig demonstrated that the pressure in the renal pelvis normally does not exceed 10 mm. of mercury. It requires, therefore, but little compression of the ureter to retard the current.

That compression of the ureter with resulting dilatation does occur in pregnancy is proven by the records of autopsies on pregnant women by Stadfeld, Olshausen, Loehlein, and others. Stadfeld in 16 autopsies on pregnant women, found 9 dilated ureters. In all the writer's cases and in all the authentic cases of pyelitis in pregnancy which he could find reported the lesion was primarily right-sided and usually confined to the right side. Many explanations of this have been given. According to Olshausen,[5] the right ureter is the one most often compressed and dilated in pregnancy. In 16 cases of dilated ureter found by him in autopsies on pregnant women, 12 were unilateral, and of these 12, 10 were right-sided and two were left. As causes of the greater compression of the right as compared with the left ureter the following have been suggested:

1. The greater prominence, at the brim of the pelvis, of the right over the left common iliac artery exposes the right ureter to greater pressure between the uterus and the iliac artery of that side.

2. The rotation of the uterus on its long axis from left to right, forward, places the uterus and its contents more in the right oblique diameter of the pelvis than in the left, and thus exerts more pressure upon the right ureter than upon the left.

3. The greater frequency of the fetal head in the right oblique diameter of the pelvis increases the frequency of pressure upon the right ureter

In support of this view may be mentioned the fact that in 8 of the writer's cases the position of the fetal head was noted, and in these 8 cases, the head occupied the right oblique diameter in 7; there being 6 in the L. O. A. position, and one in the R. O. P.

Theoretically one would expect, from the greater tone of the abdominal and uterine walls, more compression, and hence more cases of pyelitis, in primigravidæ than in multigravidæ, and that was borne out in my cases, there being 7 primigravidæ and 3 multigravidæ. This is contrary to the experience of Vinay, among whose 9 cases there were only 2 primigravidæ and 7 multigravidæ.

2. Infection of the Urinary Tract above the Point of Compression.—From the frequent appearance of the bacillus typhosus in the urine of typhoid-fever patients and from experiments on animals, it would seem that in many infective processes the organisms may be eliminated by the urine without appreciable injury to the urinary tract, provided this tract is in no way obstructed. On the other hand, the experiments of Reblaud and Bonneau on animals show that after an aseptic ligature of the ureter, the injection into a distant part of the body of either streptococci or colon bacilli can produce a pyonephrosis, it being a descending infection.

Hence with a ureter compressed by the pregnant uterus, the infection of it and the renal pelvis is favored. The infecting organism in the pyelitis of pregnancy is usually the colon bacillus. This was the organism found in three of my cases, the only ones in which the urine was examined bacteriologically, and has been found to be the infecting organism in all reported cases examined bacteriologically with two exceptions—one by Vinay, in which the streptococcus was found, and one by Lop which showed the gonococcus.

The period of pregnancy at which the pyelitis is most likely to occur is between five and eight months. In all but one of my 10 cases the attack appeared at that time. In 3 it occurred at five months; in 2 at six months; in 3 at seven months; in one at eight months, and in one at term.

During the last two years I have also met with three cases of pyelitis developing during the puerperium. These were probably of the same origin as those occurring during pregnancy, and recovered under the same treatment, but as no bacteriological examination of the urine was made, and as ascending infection could not be positively excluded, they are not included in the present discussion.

The general course of pyelitis in pregnancy may be seen from the following brief abstracts of cases which have come under my observation:

CASE I.—Mrs. F. G., aged twenty-five, IV gravida. Admitted to the Sloane Maternity Hospital, September 13, 1900. For five weeks previous to admission she had suffered with frequent and painful micturition, and for the last three weeks with pain in the right lumbar region, increased by coughing or other

*Read at a meeting of the American Gynecological Society in Boston, May 24, 1904.

motion. For the week previous to admission there had been a rigor each morning, followed by fever, sweating, and headache. On the day following admission, her temperature was 102.6° and there was tenderness over the right kidney. Her urine was acid and contained many pus and epithelial cells. She was delivered of a full-term child September 15, two days after admission. Position of child L. O. A. On the day following delivery the afternoon temperature was 103.8°. She was given a urinary antiseptic, and on the fifth day the temperature came to normal and remained so thereafter. The urine gradually became clear. Her highest temperature while in the hospital was 103.8°. It remained above 100° for four days.

Case II.—Mrs. L., aged twenty-three, primigravida. Admitted to the Sloane Maternity Hospital, August 31, 1901. She was in the seventh month of pregnancy, anæmic, and complained of pain over the right side of her abdomen. Her urine showed pus cells and a trace of albumin. Her temperature on admission was 102.8°. She was given a urinary antiseptic, fluid, diet, and large draughts of water. Her temperature and tenderness over the right kidney subsided in four days and the urine gradually cleared. Her highest temperature was 102.8°. It remained above 100° four days. She was normally delivered November 11, 1901, and made a good convalescence. The position of the child was L. O. A.

Case III.—Mrs. M. G., aged twenty-three, III-gravida. Admitted to the Sloane Maternity Hospital, September 19, 1901, complaining of severe pain in the right lumbar region. Her pregnancy was seven months advanced, and she stated that she had had fever in the afternoon for several days. Her urine was acid and showed pus and epithelial cells. There was a trace of albumin. Her temperature on admission was 102.8°. She was given a urinary antiseptic, milk diet, and large draughts of water. Her temperature reached normal on the eighth day and remained so thereafter, the urine gradually clearing. Her highest temperature while in the hospital was 104°. Her temperature remained above 100° for seven days. She was normally delivered two months later. Position of child L. O. A. Her puerperal temperature did not reach 99°.

Case IV.—Mrs. M. H., aged thirty-seven, XIII-gravida. Admitted to the Sloane Maternity Hospital, April 20, 1903, complaining of sharp pain over the right kidney. Her urine was acid and contained pus and epithelial cells. Her pregnancy was seven months advanced. By May 12 the pain had ceased and the urine was nearly clear. At no time during her stay in the hospital did she show any rise of temperature above 100°. The position of child was R. O. A.

Case V.—Mrs. D., aged twenty-four, native of United States, primigravida. Admitted to the Sloane Maternity Hospital, May 18, 1903, stating that for two days she had suffered with pain in the right lumbar region and fever. On admission her temperature was 102.4°. Her urine was acid and showed pus and epithelial cells. Her leucocytes numbered 22,000. She was delivered of a full-term child on the day following admission. Position of child R. O. P., rotating to R. O. A. In spite of urinary antiseptics, ice-bags to the kidney, fluid diet, and large draughts of water, the patient gradually grew worse, and on June 3 the right kidney was removed by Dr. Joseph A. Blake. The kidney showed several small abscesses in its substance, and bacteriological examination showed the colon bacillus. After a tedious convalescence the patient completely recovered. Her highest temperature previous to the nephrectomy was 104°. Her temperature prior to the nephrectomy was above 100° for sixteen days.

Case VI.—Mrs. M. G., primigravida, seen in consultation with Dr. Palmer A. Potter of East Orange, N. J., October 14, 1903. Her pregnancy was five months advanced. She had had an irregular fever for several days with an occasional epistaxis. Her temperature when I saw her was 104°. For three days prior to my visit she had complained of pain in the right lumbar region. The case looked a good deal like typhoid fever, and that was my first probable diagnosis. The Widal test, however, was negative, and subsequent examination of the urine showed it to be acid with pus cells, renal epithelium, bacteria, and a trace of albumin. She was given a urinary antiseptic, fluid diet, and large draughts of water. On the third day following the commencement of the urinary antiseptic, the temperature came to normal and remained so thereafter. Her highest temperature was 104°. Her temperature remained above 100° for nine days. The urine gradually cleared. She subsequently went to term and was delivered of a living child. Puerperium normal.

Case VII.—Mrs. G., aged twenty-six, primigravida, seen in consultation with Dr. George E. Steel of New York, December 13, 1903. She was six months pregnant, and for forty-eight hours had been complaining of pain on the right side of the abdomen in the region of the vermiform appendix. Her temperature was 102°, pulse 130. The site of greatest tenderness was near the McBurney point. It looked like a case of appendicitis, and that was my probable diagnosis on my first visit. Examination of the urine next day, however, showed it to be acid and to contain pus cells, hyaline casts, and albumin. Previous to the attack of pain, the urine had been normal. The diagnosis was changed to that of pyelitis, and she was given a urinary antiseptic with fluid diet, large draughts of water, and an ice-bag over the right kidney. Her pain and temperature subsided in three days and she made a speedy recovery, although the urine showed pus cells and casts for more than a month. Her highest temperature was 102°, highest pulse, 130; the temperature remained above 100° for four days. She was delivered at term, March 10, 1904. Position L.O.A. Puerperium normal.

Case VIII.—Mrs. C., aged twenty-seven, primigravida, seen in consultation with Drs. C. T. Adams and F. F. Ward of New York, March 4, 1904. She was five months pregnant, and for the month previous had complained of pain and tenderness on the right side of the abdomen, especially in the region of the right kidney, which could be felt enlarged and tender. Her temperature during the month prior to my visit had been a varied one, ranging from normal to 104° with intermissions of several days when the temperature was normal. No malarial organisms were found and the Widal test was negative. Her urine was acid and contained pus cells, a trace of albumin, and a few hyaline casts. The diagnosis of pyelitis was made and she was given a urinary antiseptic, fluid diet, and large draughts of water with an ice-bag over the right kidney. Her temperature and pain subsided in two weeks after beginning the urotropin, but the urine contained pus for a month longer. Her highest temperature was 104°, highest pulse 118. Her temperature was above 100° for sixteen days. She is now progressing normally in her pregnancy.

Case IX.—Mrs. P., aged twenty-four, primigravida, seen in consultation with Dr. D. E. O'Neil of New York, April 10, 1904. She was about six months pregnant and for three weeks had been

complaining of pain on the right side of her abdomen. She had had several slight rigors. Her micturition had been frequent and painful. On examination her right kidney was found enlarged and tender. Her urine was acid and contained considerable pus. The filtered specimen showed no albumin. Cultures from a catheterized specimen showed the colon bacillus. She was given a urinary antiseptic with fluid diet and large draughts of water. Her temperature and pain subsided in about ten days after beginning the urinary antiseptic. She is now progressing normally in her pregnancy, but the urine still contains a little pus. The position of the child is L. O. A.

Case X.—Mrs. B., aged twenty-eight, primigravida, seen in consultation with Dr. Edwin Sternberger of New York, April 29, 1904. She was about five months pregnant, and for two days had been complaining of pain on the ride side of the abdomen, especially in the appendicular region and in the back. This pain at times was intense. Her urine was acid, contained a trace of albumin, considerable pus, and the bacteriological examination showed abundant colon bacilli. Her right kidney could be palpated, was enlarged and tender. For several days her pain was much worse every other day.

On May 10 her leucocytes were 14,400; red cells, 4,120,000; urea, 296 grains. May 16, leucocytes 16,000. From April 27 to May 6, in spite of the pain in the region of the right kidney and ureter, the temperature did not rise above 100.4°. On May 7 the temperature reached 101.2°, and on May 10 104°. For the next three days she became progressively worse, her temperature on the evening of May 13 reaching 105.6°, and it seemed to me that operative interference would be demanded on the following day. The next morning, however, found the patient better, and under the advice of Dr. Willy Meyer of New York operative interference was postponed. The patient steadily improved, the temperature reaching normal in four days. This case has been characterized by more pain than any of the others under the observation of the writer. Opiates in some form have been frequently required. Her highest temperature was 105.6°. It remained above 100° for seventeen days. The temperature at the time of writing is normal, but the pain, although less severe, has not entirely disappeared. Aside from opiates for the relief of pain, her chief treatment has been with urinary antiseptics, fluid diet, and large draughts of water.

From the above cases the symptom-group can fairly well be pictured:

Pain in the right lumbar region sometimes very acute, sometimes only elicited by palpation or motion. The pain often follows the course of the ureter from kidney to bladder. *A rise of temperature*, usually quite high at some time during the attack, 102° to 105°, although in one of my cases (Case IV) the temperature did not reach 100°. In cases with high temperature rigors are not infrequent.

Irritability of the bladder with frequent and painful micturition is common, but the infection is a descending one, and the cystitis, when it does occur, is usually secondary to the pyelitis and ureteritis. *The right kidney can usually be made out enlarged and tender. The urine is acid, at first may contain only a trace of albumin and perhaps a few casts, to be soon followed by pus cells, renal epithelium, and bacteria.* The filtered urine often shows no albumin. The pus cells are usually more abundant as the pain and temperature subside. The urine often contains pus cells for a month or more after the constitutional symptoms have disappeared.

One of the features of chief interest in pyelitis complicating pregnancy is the diagnosis. In many cases this is easy if the possibility of the condition is borne in mind. Pain and tenderness in the region of the kidney, a rise of temperature, and an acid urine containing pus may point at once to the diagnosis of pyelitis. On the other hand, it must be remembered that when an abdomen is occupied by a uterus pregnant from five to eight months the palpation of the other abdominal organs is often difficult. Furthermore, there are other conditions which may give symptoms resembling it. The three conditions most likely to be confused with pyelitis in pregnancy are, judging from the writer's experience, appendicitis, typhoid fever, and salpingitis.

In some of my cases, especially Cases VII and X, the point of greatest tenderness has corresponded closely with the McBurney point, and appendicitis has been strongly suggested. In each of these cases the diagnosis was made from the condition of the urine. The reason for the point of tenderness corresponding with the McBurney point seemed to be that pressure at this point forced the uterus back against the ureter and thus increased the pain. The leucocyte count in these cases of pyelitis resembling appendicitis has seemed to the writer lower than one would expect in an appendicitis case correspondingly ill.

In Case VI the irregular fever and the epistaxis resembled typhoid fever, and it was only after the negative Widal test, the explanation of the epistaxis by the amenorrhœa of pregnancy, and the examination of the urine that the correct diagnosis was made.

The differential diagnosis between pyelitis and salpingitis can usually be made by the history, the bimanual examination, and the careful examination of the urine.

From the above cases it will be seen that the chief aid to the diagnosis of pyelitis in pregnancy is the careful examination of the urine; chemical, microscopical, and bacteriological.

Although the pain may be very severe and the temperature high, even 104° or 105° for a few days, the prognosis of pyelitis complicating pregnancy is usually good. With the exception of Case V, in which the pyelitis started at term and in which the substance of the kidney was infected as well as its pelvis, all the cases of my series recovered under medical treatment, the temperature and pulse subsiding to normal in from four to thirty days; the urinary changes perhaps persisting for a month more.

Judging from my own cases and from the reported experience of other observers, if the kidneys have previously been healthy, pyelitis complicating a pregnancy of from five to eight months advancement, which is the usual period of the complication, justifies a favorable prognosis of complete recovery under medical treatment.

In a few cases, however, there are recurrences during the pregnancy, and the possibility of a pyelitis becoming a pyelonephritis, as occurred in case V, just referred to, must not be lost sight of. This latter possibility seems more likely the nearer the complication approaches full term and the puerperium.

The medical treatment which the writer has employed in all the cases under his observation is as follows: Rest in bed; fluid diet, especially milk; large draughts of water; urinary antiseptics; ice-bag over the kidney, and, if this fails to relieve the pain, an occasional opiate. In many cases, saline catharsis has given marked relief. If, in spite of this treatment, there is evidence of extension of the infection

to the kidney substance, surgical interference by nephrotomy or nephrectomy is indicated.

Interruption of the pregnancy is seldom, if ever, necessary or advisable.

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10 West Fiftieth Street

THE TRUE EDUCATION OF MIND AND BODY.*

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To anyone who stops to think a moment, it must be very plain that there is an incalculable waste of power and energy in human life. Man's spiritual, mental, and physical powers are capable of almost infinite development. It is true that we are hampered by many limitations, the span of our life is so short, and so much of this brief space must be given up to learning what has already been done by others in any particular field, not to mention the entire purview of human knowledge, that there is only a short time left for original investigation. Furthermore, only a fairly brilliant mind is capable of absorbing the existing store of human knowledge in any one profession or science, and only comparatively few men and women have the opportunity, the industry, and the physical and mental strength to become really learned. This, however, is by no means equivalent to saying that any man during his life on earth makes the best practical use of his time and opportunities.

Most men are engaged in the sordid pursuit of money, and spend a great deal of energy and thought in endeavoring to circumvent their fellows and accumulate money which may never benefit them. The struggle for bread is so fierce and our love of ease, of sensual enjoyment and social distinction is so pronounced, that nine men out of ten think they have no time for self-improvement, either mental or physical. This is far from true. Practically any man or woman might be wiser, happier, and healthier than he or she now is. There is unfortunately an inadequate and one-sided notion of education prevalent in America. Not only do we ordinarily neglect the physical side of education, but we are wont to look upon a college degree as itself an end, and as the distinguishing mark of an educated man. Whereas it at best only marks the end of one period of his development. The only true and satisfying attitude of the mind toward education is that of the historian, Freeman, who wished it to be said of him that he died learning. Neither the mind nor the body can safely be allowed to stagnate. If there is no progress there will surely be retrogression.

A non-functionating attribute invariably deteriorates. This is an immutable law of nature, and is perhaps in no respect more strikingly manifested than in the non-developing minds of those who do not study. A man's conduct may improve and his experimental knowledge of the world increase with years, but unless he actually studies and exercises his mental faculties, his intellectual horizon will not broaden, nor his mental vigor increase as he grows older. On the contrary, his prejudices will take deeper root and the bonds of conventionalism will bind him more closely. This mental inactivity we call conservatism; but it is really a state of mental inertia, in which prejudice, or a blind adherence to previously formed opinions, takes the place of thought and independent judgment.

Of course the majority of non-thinkers have never exercised their minds enough to have learned to think clearly and logically. Stevenson said that he "had only to read books to think, but the mass of people are only speaking in their sleep." How often do we see professional men, teachers and others, who have reached an intellectual status after which any further progress seems impossible. What is more lamentable than a self-satisfied professional man, who fancies that he has nothing more to learn? Unfortunately he is no exception to the universal law, and if there is no advance in his mental condition, there will be recession.

A principal, if not the principal, cause of human unhappiness is the mental unrest, which is caused by the unsatisfied craving for the exercise and development of our God-given intellectual powers. This craving is born in all mankind, it has been called the divine unrest, because it leads man ever to struggle toward knowledge, toward righteousness, and toward freedom. Only the minds that have freed themselves by powerful and regular exercise of their own functions can shake off the shackles of superstition and the bonds of fear. Only minds so disciplined can be at rest and await with calmness the unfolding of fate, can bear with fortitude the struggle with their own limitations, and the increasing bodily infirmities which tend to occlude their vision and thwart their best efforts. Of such a mind the good Sir Edward Dyer said three hundred years ago: "My mind to me a kingdom is." Nor is the development of the highest type of mind possible without a healthy and vigorous body. Nor can this, on the other hand, be developed without persistent, careful, and properly regulated exercise. In other words, leaving out of consideration those human anomalies whom we call geniuses, there is no way that a man can fit himself to do good work, either mental or physical, except by a thorough, painstaking development of his mental and bodily powers.

Unfortunately the average man leads, strictly speaking, no intellectual life. He does not really think, he does not read anything that requires mental exertion, he does not study. And if we turn our thoughts to the gentler sex what do we find? A remark of Harriet Martineau's that the poor health of American women was due to the vacuity of their minds, was unquestionably in a measure true. This was made, of course, some years ago, before the proliferation of the female college, and the entrance of women into the professions, etc. On the other hand, an editorial in a leading medical journal about a year ago, in commenting upon the comparative sterility of American women, says: "But with her growth in brain power, she has declined in physique." To this statement the writer takes unqualified exception. American women in our day have smaller families than their ancestors it is true, but proof is entirely lacking that they are of inferior physique, and their comparative sterility is due chiefly to an improper and unphysiological avoidance of conception. This is not to say that there are not numerous cases of nervous breakdown amongst women, educated and uneducated, from overstudy, overwork, etc. However, the percentage of American women injured by overstudy must be inconsiderable compared to the whole number of women of childbearing age.

The faulty methods of education now prevalent are but too obvious and there is no question about the handicaps which bear upon every woman who undertakes to develop her mind. Nor can the ex-

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periment of giving a woman a man's education be successfully carried out in general, unless girls shall be fitted for the contest by a better heredity and a more physiological method of life. They must develope their muscles and their lungs and live more in the open air in childhood, and grow up without the impediments of corsets, high-heeled shoes, tight clothing and similar abominations, which cramp and distort their growing members, impair their digestions and lay the foundation for the nervousness, dyspepsia, and the numerous bodily infirmities of after years.

What women suffer from chiefly is want of physical development. Had they man's muscu'ar strength they could easily outstrip him in mental acquirements, for at least the first few years of life, by reason of their quicker and more elastic minds, their greater devotion to their duties and their greater freedom from dissipation and immorality. The mistake that our educators have made is to take advantage of the girl's willingness to work her intense love of approbation and her more rapid mental expansion, which is commensurate with her rapidly developing body, at the age of puberty, to force her along too fast without regard to the consequences. A woman's bodily health will be as surely benefited as a man's by a thorough intellectual development, but she is more easily injured in the process because she is without any question the weaker vessel.

I had begun to hope that the once prevalent notion hat a man cannot be learned and physically strong at the same time, was becoming *passé*, and yet in a book on health copyrighted last year the following appears: "It is an error also to think that great muscular development is desirable in a brain worker. The two are incompatible." This is one of the hoary fallacies which have encumbered medical literature, and misdirected medical thought from time immemorial. One would fancy it to have been originally the *ipse dixit* of some lazy and ill-developed medical writer, who having no muscle himself and being too indolent to acquire any, soon proved to his own satisfaction the undesirability of having any. And subsequent medical writers have slavishly followed this erroneous light, as they have many others. There was a kindred notion prevalent a generation ago from the tyranny of which we have by no means entirely escaped, viz., that a man is born into the world with a certain fixed amount of energy, which he is at liberty to expend in any way he chooses, but cannot replenish; so that if our physical side is developed, our mental must be dwarfed. Can anything be more absurd, or more at variance with nature's well known laws? And yet, I well remember a professor of philosophy, whose name is known on two continents teaching that very doctrine to his class, of which I was a member, about thirty years ago; and there are many prominent teachers, preachers and medical men, who believe or affect to believe the same fallacy to-day.

I remember reading in my boyhood in an excellent family paper called the *Evangelist*, this same false doctrine, which made a deep impression on my youthful mind and gave me serious doubts as to whether it was right for me to work in the garden in conformity with my father's commands, because it seemed a serious thing to impair my chances of acquiring an education, merely for the sake of raising a few vegetables. And it also filled me with consternation to reflect that this vigor or energy, which it was assumed that we must carefully conserve for the development of our brains, might be so easily dissipated, and could not be expended at the same time on both bodily and mental exercise any more than one can both eat his cake and keep it.

That the *Evangelist* meant well in general on matters of hygiene was evidenced by the sentiments expressed in an editorial article upon washing the feet, which also deeply impressed my boyish mind, and I may say had a decidedly favorable influence upon my habits. As I remember it now, the gravamen of the article was that the feet should be washed several times a week, instead of once; and the statement was made that the skin of the feet has great powers of absorption, and that the offensive matter which is excreted through its pores would be reabsorbed into the system were it not washed off.

This, so far as it goes, is true, and the advice is sound and may be applicable to-day to at least some of the readers of the *Evangelist*.

Even in those dark ages of sanitary science there were glimmerings of the greatly aroused interest which we at present note on this important subject. And the fact that an influential religious paper and the organ of a branch of the Presbyterian Church, did not esteem an editorial upon washing the feet beneath its dignity nor out of place in its editorial columns, was an evidence of good sense, and reflected credit upon the editor. It showed further that the readers of that paper, like the readers of current literature to-day, wanted more light, perhaps I should say needed more instruction, upon the proper methods of living.

No one in our time who reads the newspapers or who attempts to keep abreast with the tendencies of modern American life, can fail to notice the ever-widening interest displayed not alone in athletic sports, but in all matters in any way pertaining to bodily health and development. This is the day of the physical culturist in all his forms and with all his or her different theories, appliances, and maneuvres, by which vigor is to be attained, lost manhood restored, dyspepsia banished, and the doctor avoided. One "professor" offers for the insignificant sum of a dollar to sell to anyone a book containing directions which, if followed out, will save the purchaser from the necessity of ever paying another doctor's bill. There are all sorts of health foods and drinks advertised; all sorts of systems of diet, exercise, and bathing are promulgated. One man teaches that all food of whatever kind should be eaten uncooked. Another denounces the eating of any form of meat, while a third instructs us that the consumption of nuts will give the most strength, which reminds one of the butcher boy in David Copperfield, whose preternatural strength was attributed to the beef suet with which he annointed his hair.

This is the day of the man who advocates chewing each morsel of food thirty-two times, once for each tooth, said to have been a maxim of Mr. Gladstone's. Of the man who goes without breakfast; of him who lives on eleven cents a day; of him who eats no salt, and of him who cooks all the fruit he eats; of him who never takes liquid with his meals, and of him who advocates only one dish for dinner. We are told to sit or lie naked in the sun, to wear only wool next the skin; or linen, or silk, or cotton, according to the predilection or self-interest of the adviser.

The disciples of an alleged school of hygiene in our own State lie naked in the earth for several hours a day. Some one in Chicago is just now preaching against all forms of bathing, while other people advise baths for the cure and prevention of every form of disease. I have heard doctors in good practice advise wearing high-heeled shoes to "maintain the integrity of the arch of the foot," while large numbers of people claim to have received benefit from the Kneipp cure, a part of the regimen of which is to walk barefooted in the dewy grass.

Perhaps the most revolutionary statement which

I have met with lately is that of a "professor" who guarantees to increase the stature of any one paying him $10, and using his method, from two to five inches. This seems to controvert the scriptural statement that one cannot add to his stature by taking thought, but the world moves and our modern "professors" are wonderful fellows.

One teacher advises against diaphragmatic breathing; while others hold that it is the only physiological method of respiration. Some would have us exercise entirely without apparatus or implements; others tell us that only by using the mechanical devices in which they are interested can we make true progress.

In Missouri, a State which will ever be famous as the home of Osteopathy, a sect of dirt-eaters has been started, and we are told that two hundred and fifty students in the State University there have pledged themselves to eat only twice daily for the next four months. A college trainer last fall forbade the members of the football team to wash in fresh water, forcing them to perform all their ablutions in salt water; and so it goes; I might, by a little research, indefinitely prolong this somewhat grotesque list of more or less peculiar performances, which are at present vaunted as conducive, if not absolutely essential, to health and long life. The above list, while incomplete and fragmentary, serves to illustrate the point which I wish to make, viz., that there is to-day a great and constantly spreading interest in all matters relating to the education and care of the body. Our colleges spent last year in sports over $1,000,000. At Harvard $250,000 is to be spent for a stadium, from the seats of which athletic games shall be witnessed by about 40,000 people, while the president of the university makes his annual plea in vain for a suitable building in which to house adequately and make available the books now in the college library. In spite of the protests of a large part of the medical profession, of the so-called leaders of thought, and of many clergymen, professors, and thinkers, the love of athletic sports increases day by day. How many learned opinions have I read in various publications, lay and medical, about the evil effects immediate and remote which must follow muscular development, as surely, if not as speedily, as night follows day.

Sir Benjamin Ward Richardson, an English medical writer of some note, said a few years ago that he did not believe that there was living in England at that time a professional or celebrated amateur athlete over fifty years of age who did not present symptoms of heart disease. Many of us can remember a novel by Wilkie Collins called "Man and Wife," written in great measure at least to decry the then increasing love of athletic sports in Great Britain. The late Senator Evarts is said to have attributed his long continued good health to the fact that he never took exercise. There used also to be a great deal said about the brutalizing tendencies of athletic sports. I remember my own father, after giving a reluctant consent to my rowing in a crew when in college, adding the admonition that I should not, if I rowed, allow myself to become a rowdy. Rowing men are not rowdies and athletic training teaches self-command and moderation rather than otherwise. How well I remember the words of a celebrated Boston surgeon of a generation ago, who told his son that rowing in races would surely lead to heart disease. This young man took little or no exercise in college, while his chum was in the university crew. Shortly after graduation from college, the former pricked his finger in the dissecting room and died of blood poisoning in a few days; whereas the rowing man is now alive and in good health, and has practised medicine for nearly thirty years. I might add that the brother of the first mentioned young man was a foot-ball player in college, and is now alive and well.

There have been unfortunately too few observations upon the subsequent careers of university crew men, and it has been easy for medical writers, in discussing the subject, of the effect of exercise on the heart, to fall into that spirit said by Huxley to be engendered by the habit of speaking without the expectation of a reply.

Of course there are writers and speakers of considerable power and acumen who take the attitude that if the facts do not fit their theories, it is so much the worse for the facts. And there is also a habit of the medical mind to forbid all practices of the safety of which there can be a reasonable doubt, so that it is easier to say do not do that, it may hurt you in after years if not immediately, than to say candidly I do not know what the effect of severe exercise will be upon the heart. Fortunately a number of accurate observations have recently been made upon rowing men during training, and immediately after the races, and now G. L. Meylan reports the results of an investigation of the subsequent health of one hundred and fifty-two Harvard oarsmen who rowed in boat races from 1852–1892. He chose oarsmen for investigation, inasmuch as there can be no question of the severity of the exercise and its liability to produce immediate or remote effects upon the heart, if any exercise can. His observations coincided with those of Dr. Morgan, published in England in 1873. This gentleman followed up two hundred and ninety-four Oxford and Cambridge oarsmen who rowed in University races in the forty years from 1829–69. All this testimony shows that severe training and rowing four-mile races does not produce heart disease, nor any other form of disease, and that oarsmen live longer and are happier, healthier, and the fathers of larger families than other educated men generally. And Meylan's investigation shows that a larger percentage of these oarsmen have attained distinction in letters and in the learned professions than college graduates who did not row.

It shows that of the college graduates whose names appear in "Who's Who in America," of the average graduate the percentage is 2.1; of the Phi Beta Kappa men it is 5.9, and of the oarsmen it is 8.3.

It is now up to these gentlemen who have said such sweeping things about the injury which severe exercise in general, and rowing in particular, may inflict upon the health, to produce some trustworthy evidence in refutation of Dr. Morgan and Mr. Meylan, or to confess, what the writer has all the time suspected, that they were going to their imagination for their facts, or relying upon hearsay and unverified evidence in support of their preconceived notions.

The observations of Dr. Morgan and Mr. Meylan must be very comforting to many anxious parents, who cannot keep their sons out of the college crews, as well as to numerous writers and thinkers, who have the welfare of their race at heart. For truly one might as well try to make water run up hill as to try to stem the present rage for athletics.

A brilliant writer said to me the other day, that the world seems to be reverting to the old Grecian love of physical prowess and admiration for the body beautiful. Of course, we are a long way from this yet. Fancy our hollow-chested, pigeon-toed women with their square hips and hour-glass waists dressed as the Greeks used to dress. Fancy our average business man with his protuberant paunch

and skinny arms posing as a Greek hero. Sad as this thought is, there is room for encouragement. Our people, both men and women, are improving in size, figure and carriage, and will continue to improve. Whether the general intelligence and mental development will ever reach as high an average among us as it did among the Athenians, is quite another question.

The great truth cannot much longer be kept from the man of average intelligence and education, that the condition of the general health is all important, and the special diseased conditions are the exception and are frequently the result of preventable causes; and that in the majority of cases, when a man is sick, the doctor can do him no good except with advice, and that he must rely upon his own constitution and his general health to pull him through, if he is to get through.

The desire for strength, for bodily vigor and comeliness, is perfectly natural and is born in all men and women. As I have just said, it is impossible even were it desirable, to stop the present interest in all things athletic. On the other hand, now is the opportunity for the real lover of mankind to confer inestimable benefits upon the race by guiding and directing them in the way that they must walk, if they would attain real physical excellence.

First, and most important of all, is to instil into the receptive mind of the child the physical conscience. He must be taught that it is just as wicked to injure his health or to deprive his body of its needed rest, recreation and exercise, as it is to steal, or lie to commit any sin. The sins against chastity, so disgustingly and alarmingly common, are also sins against the body, not only because of the immense risk of contracting venereal disease, but chiefly because no high-minded man, who truly respected his body, would be guilty of such baseness.

The medical profession must take stronger ground and be more outspoken against fornication, against alcoholic drinks, against tobacco, against confectionery, against gluttony, sloth and weak self-indulgence—in fact, against all the physiological sins which are daily and hourly committed in every part of this broad land—in the palace of the rich, in the hovel of the poor. But our duty is not done when we have forbidden all these injurious things, we must enjoin the physical exercises and the rules of correct living, without which, the body cannot be built up.

It is a great misfortune that the injunctions in the Scriptures to keep our bodies in subjection and mortify the lusts of the flesh, etc., should have been interpreted to refer to all bodily pleasure, and practically to all physical exercise and recreation. I submit that we are commanded to restrain our appetites, to curb our lust and contend with that craving for stimulants and narcotics which is born in every man, but it is inconceivable that we are not enjoined to educate and develop our physical powers *pari passu* with our minds, and our morals, if we wish to accomplish the moiety of the work in this world of which the properly developed man is capable.

There is absolutely no attribute or power of the human being, mental or physical, which does not need development and exercise and prolonged use before it can come anywhere near perfection. As M. Georges Demeny says, "The essential of physical education is voluntary motion." Massage, rubbing, etc., are at best only substitutes for voluntary exercise of the muscles. President Faunce of Brown University has said, in speaking of the "advantages of disadvantage," that college boys take up athletics to compensate themselves for not having been brought up to work on a farm. In other words, not having previously enjoyed an opportunity to acquire the physical basis necessary for years of mental work and nervous strain; they take to athletic sports in college with great avidity, and according to the learned gentleman just quoted, in a measure make up for their bodily deficiencies in this way.

You may tell me that certain men have achieved greatness in spite of feeble and ill-developed bodies. While this may be true in some cases, it is not generally so. So far as known, the world's leaders have, generally speaking, been of powerful physique, and have also been men of simple tastes and abstemious lives.

It has even been asserted that no man in this country has risen to eminence in either the medical or legal profession who has not at some time in his life worked with his hands. I may be met by the objection that strong and muscular men need much physical exercise to keep their robust frames in good condition, and that professional men cannot spare the time for this. This objection is more apparent than real, because all men whether muscular or not, need some exercise to keep them well, and fifteen minutes hard exercise in the morning beside the cold bath, that every gentleman is supposed to take, is enough to keep a stalwart body in good health. Always provided, that the diet is strictly limited and the man leads a correct life in other respects.

Whatever view of the spiritual life of man one may take, a moment's reflection will show that healthy and vigorous thinking cannot go on in a diseased brain, nor in an improperly nourished brain, nor in the brain of an overfed man. Every one knows that if he eats too heartily he cannot think clearly for some hours afterward, and he also knows, if he has watched men at all, that inordinate feeders, not to mention drinkers, are of apathetic minds and slothful bodies. Whether the brain is a dwelling place for the soul, or whether it is a secreting organ, and "secretes thought as the liver secretes bile," there can be no question that it must be healthy and well-developed, and a part of a healthy and well-developed body, in order to do its best work.

All life, as it manifests itself to our senses, is characterized by action, growth, recession, and decay. There is never-ceasing change so long as life lasts. It is also evident that under varying conditions, plants and animals develop in ever-varying ways, so man grows, reaches maturity, decays mentally and physically, and dies. Is it reasonable to assume that his complex and wonderfully formed body can grow up and develop itself properly without thought or care, on its owner's part?

No one disputes with a cattle-raiser or a horse-breeder, or even a chicken raiser, about the advantage, in fact the necessity, for applying the best and most recent scientific knowledge to the development and care of his charges. Even chicken fanciers make their poultry exercise during the winter by hanging their food nearly out of their reach, so that the chickens must jump for it; or burying it under leaves or straw, so that they must scratch for it. And shall we not make a more thorough study of the health and well-being of the human animal? Herbert Spencer says, "The raising of first-rate bullocks is an occupation, on which men of education willingly spend much time, inquiry, and thought; the bringing up of fine human beings is an occupation tacitly voted unworthy of their attention." However, history repeats itself, while the leaders of thought have disdained to busy themselves with the proper nurture and development of the human body, the natural instinctive love of strength and bodily vigor which is born in every Anglo-Saxon breast has reasserted itself, and, as I said before, the interest in

everything pertaining to bodily development grows apace. And has grown and spread mightily during the recollection of men yet young.

I should not like to leave this subject without a few more words upon the mental aspect of education in its relation to the physical. I say without hesitation that the body cannot and will not reach the highest state of physical health unless its mental powers be also developed.

This paper is a plea for a symmetrical bodily and mental development. Many men will acknowledge that for the best mental health a strong and vigorous body is needed, but I doubt whether it is generally appreciated that for the best physical health a clear and well-educated mind is essential. In fact, we speak of mental and physical health as though they were two distinct states, capable of existing separately. Nothing can be more erroneous. Health is the normal condition of bodily and mental vigor, which every human being should possess, and it is as absurd to speak of an insane person as being healthy as to say that Stevenson was healthy when dying of consumption, although his magnificent intellect was apparently still undimmed.

We have Sandow's authority for the statement that one cannot develop a muscle or set of muscles without concentrating his mind upon those muscles. He says that "It (physical development) is the mind. All a matter of the mind, the muscles really have a secondary place;" and again . . . "A man with strong concentration of mind will develop quicker in the quality of his muscles, than will he who cannot concentrate his mind upon the matter."

And these statements I believe to be true. I believe also that the bodily and mental powers are so interdependent and so indissolubly joined, that neither can be exclusively developed without injury to both. The body is not only a highly complex machine, it is a growing, developing, ceaselessly changing, living entity. If a locomotive is so constructed that the boiler will generate more steam than the steam box can hold, there will be an explosion as soon as there is a strain put upon the machine; and if the boiler, the cylinders, and the steam boxes are remarkably strong, while other parts of the machinery are weak, there will soon be a breakdown and the engine will spend most of its time in the repair shop.

In this last condition is the highly educated man who has neglected his body. He has brains, but not brawn, and while he is capable of much good work, he cannot endure prolonged effort, nor the constant hammering which is necessary to achieve anything really worth while, half so well as he might have done had he more bodily vigor. But suppose in our locomotive that the running gear is all right and every part of the machinery of the first class, except the boiler, no pressure of steam can be generated, and the fine and complex machine is comparatively useless. In this state is the man with the great muscular development, who lacks in mental force and application. The stupid and brutal prize fighter, without any book knowledge, is as much of a *lusus naturæ*, a mistake and the result of one-sided training as the college honor man who breaks down about the time he takes his degree, or shortly afterward; or the neurasthenic college woman, who divides her time between reading Ibsen and languishing on a couch. Perhaps there is no more striking illustration of the want of mental balance which comes in many cases, at least from a want of bodily development, than the hysterics of the popular preacher. How much more real good would these men accomplish, if their fervor were tempered with moderation, and their zeal with that sane and rational frame of mind, that patience, courage, and self command which hard and long trials of strength and skill engender, and which we especially note in men of deep chests and stalwart muscles. Not in men like the "lean and hungry Cassius, who could not sleep o' nights."

We want the all around man who does not disdain a good meal and pleasant society, a man who likes, in moderation, pleasure and sport; in short, a well-balanced man who works hard, plays hard, lives moderately, sleeps soundly, and is, in short, *fortiter in re suaviter in modo*. A man who heeds the dictates of his moral and his physical conscience, who lets neither his mind nor his body deteriorate prematurely by disuse on the one hand, or ill-judged over-exertion or weak self-indulgence on the other. Who is honest with himself and cultivates a spirit of charity toward mankind and reverence toward his Maker. Only in such men do we find the cheerfulness and contentment which come from work well done. The poise of spirits, the serenity of a well acting mind, and the subjugation and regulation of the bodily instincts and passions, which are necessary to a well-ordered manhood and a serene old age.

How often do we note nowadays in both men and women, a condition of mental dyspepsia due to improper mental pabulum, to overfeeding the mind with fiction and sensational literature; which shows itself in the all too prevalent disordered fancies and silly theories, which the half-educated call wisdom. There is a lamentable lack of a true sense of proportion in the mental attitude of many teachers and writers, partly due, I think, to their own ill-developed or pampered bodies.

It is a common saying of the day that educators and clergymen are as a class lacking in judgment. It is they who support and sympathize with the quack and the irregular practitioner. It is they who mistake hysteria for piety, effrontery for skill, and a flattering tongue for true learning.

In closing, let me put in one word the great truth this paper is meant to inculcate.

Struggle as we may against it, the conclusion is unavoidable that work, steady, regular, persistent work, both mental and physical, is necessary for the average man; without it, he will not only not accomplish anything of value, but he will be miserable, because while he may not be able to appreciate the reason he will be abundantly sensible of the fact that he is a failure.

Only the workers have tasted the sweets of living. They have been happy because they have

"Girded their spirits and deepened the streams
That make glad the fair City of God."

Our bodies, our mental faculties, our special senses are all tools with which the indomitable spirit works. These tools may be rough, badly forged, and badly tempered, or they may be even, smooth, well forged, and exquisitely polished; with which think you will the best and most enduring work be accomplished?

Concerning the Practical Value of Recto-Romanoscopy—S. Kelen discusses the value of the rectoscope recently introduced by Strauss, in which the examination of the rectum is simplified by inflating that organ and the sigmoid flexure with air. The method is particularly effective in ascertaining the condition of the rectum at higher levels than those brought into view by the ordinary instruments, and the author claims that it is possible to make a diagnosis of lesions in the ampullæ or the beginning of the sigmoid flexure. He has also been convinced that the rectal tube introduced for the purpose of giving a high enema does not pass beyond the ampullæ, and suggests that the tube be introduced through this instrument after the latter has been inserted about 25 c.c. and the lamp removed. In this way the liquid is certain to get into the sigmoid flexure.—*Pester medizinisch-chirurgische Presse.*

A STUDY OF INTESTINAL PERFORATION AND PERITONITIS IN TYPHOID FEVER, WITH A REPORT OF THREE SUCCESSFUL OPERATIONS, AND A STATISTICAL INVESTIGATION OF 295 OPERATIVE CASES.*

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THE immortal phrase "The resources of surgery are rarely successful when practised on the dying" has been most wonderfully negatived in the operative treatment of perforative peritonitis in typhoid fever. Surgery has reclaimed many otherwise irremediable conditions. It was a great step when Sims suggested abdominal section for intestinal perforation for gunshot wounds, which daily rescues many victims. It was a great step when Fitz and McBurney taught us the frequency and means of relief of perforation of the appendix, which has saved so many valuable lives. But it is a still greater achievement to be able to succor the hopeless sufferer from the onslaught of a fatal peritonitis from perforation in typhoid fever.

The possibilities of this latter achievement, however, have not yet been appreciated keenly enough by the profession. It is almost a score of years since Mikulicz did his first operation in 1884. Since that time, I am only able to collect, from all sources, by the most diligent search through the literature, together with cases personally communicated, 295 cases that have been subjected to operation up to May 1, 1903. Granting that there have been as many, or twice as many, cases that have not been reported or found, I still claim that the total sum is pitiably meagre. For we have only to reflect that an estimate of 500,000 cases a year occur in this country alone, and with a general death rate of 10 per cent. to 15 per cent., 50,000 or 75,000 souls perish annually from this terrible scourge which we daily implore families and municipalities to prevent.

Osler says that one-third of the deaths from typhoid fever are due to intestinal perforation. Taylor thus estimates that 25,000 deaths occur yearly from this accident. On the basis of a possible 30 per cent. recovery by operative interference, he further concludes that 7,500 persons perish in the United States each year who might be saved.

The reasons for this are complex. They are partly preventable, and partly irremediable at this time. One explanation is the reluctance with which the practitioner invokes the aid of surgery in the presence of such forbidding general symptoms. Another is the likelihood of death even with the operation; but the greatest of all is the great difficulty of making a positive diagnosis in the early stages. This difficulty will always exist with our present methods of diagnosis. It may be considerably lessened by a proper appreciation of even the suspicious abdominal symptoms, intelligent alertness, and frequent examination.

Perhaps the greatest stumbling-block is the classical picture of perforation which needs erasing: the drawn, pinched features, pointed nose, profuse sweat, cold extremities, rapid, feeble pulse, short, sighing respiration, distended and motionlesss abdomen, restlessness and delirium—these are the late and lethal manifestations of peritonitis, and not of perforation.

I regret that we have not as characteristic a picture of the early symptoms of perforation. Some cases are fairly typical, but others presenting such presumably typical symptoms are found not to have perforation. Again, peritonitis may be the first symptom. Given a man in the third week of a mild attack, without abdominal symptoms and pursuing a regular course, who is suddenly seized with an acute, paroxysmal pain in the right lower quadrant of the abdomen, that causes him to cry out, that is unrelieved by ordinary measures, followed by collapse, subnormal temperature and rapid pulse, which are succeeded by a rise in temperature in a few hours, associated with continued pain, considerable tenderness and right-sided rigidity, together with a rapidly increasing leucocytosis, the diagnosis of intestinal perforation is reasonably certain—not absolutely—but surgically. All such cases should be operated on as quickly as possible.

The difficulty is that all cases do not present this typical grouping.

No abdominal symptoms, objective or subjective, occurring in typhoid fever, should be considered trivial. Pain is usually the first note of alarm.

My study of the reported cases develops that a sudden severe colicky pain is present in a large majority of cases. Collapse is an infrequent attendant of perforation, and was present in only about 6 or 7 per cent. Fall in temperature was not constant, but rise in pulse was rather uniform. Of the physical signs, tenderness (sensitiveness) was found to be the most constant. And studied in the order of their development, and more especially their significance, it was found that pain, then tenderness, then rigidity, and then localization in one spot occurred.

Persistence of symptoms serves to distinguish them from colic which should disappear in a few hours or change its location.

Recognizing the difficulties and limitations in diagnosis, exploratory incision should be regarded as a necessary and final aid in diagnosis.

The facts about intestinal perforation, which I have deduced from a statistical study of the cases, may be summarized as follows:

1. It occurs more often in men than women—80.9 *vs.* 19.1 per cent. It is, like hemorrhage, rare in children.

2. It occurs in about 2.5 per cent. of all cases of typhoid fever.

3. 3.31 per cent. occur in the first week; 20.19 per cent. in second week; 38.94 per cent. in third week; 14.90 per cent. in fourth week; 9.13 per cent. in fifth week; 5.75 per cent. in sixth week; 7.21 per cent. from seventh to eleventh week, and has been observed as late as the one hundredth day (Curschmann). Holmes operated on one case after four months.

4. It naturally occurs more frequently in severe attacks, but may occur in mild attacks, and it may be the first real symptom of so-called walking typhoid.

5. It occurs in the ileum in 95.5 per cent., usually in 18 inches of cæcum (Osler), always in 3 feet (Loison). In the large intestine in 12.9 per cent., and is most often situated in the ascending, transverse, and descending colon, sigmoid and rectum, in the order named. It may occur, also, in the appendix, Meckel's diverticulum, and jejunum.

6. The perforation is single in 84 per cent. There may be two or more, and in one case there were twenty-five (postmortem). Cases with diarrhœa and tympany are more likely to have perforation. Six out of thirty cases occurred with hemorrhage. (Osler.)

7. The death rate given by Murchison is 90 per cent. to 95 per cent. Osler says he could not recall a

*Read before the American Association of Obstetricians and Gynecologists, Chicago.

single case in his experience that had recovered after perforation had occurred.

Occasionally the careful observer and conscientious surgeon, in his earnest effort to interpret signs aright, and to operate before general peritonitis has rendered the patient hopeless, may open the abdomen to find no lesion whatever. This has been done by the most expert, and will sometimes happen until we devise some absolutely early sign. Commonly the patients progress and get well, as though nothing had been done to them. It has demonstrated the fact that these patients will bear the surgery necessary to make a positive diagnosis in suspected, but doubtful cases. Indeed Finney advises exploratory laparotomy under cocaine anæsthesia in suspected cases. To be sure, there is some chagrin attaching to a seemingly unnecessary operation, but it is much better to do such an operation upon a mistaken diagnosis, than to neglect to do it upon a case that demands it.

To avoid this embarrassment Connell has ingeniously devised recently a procedure based upon the fact that sulphuretted hydrogen will, when passed through a solution of acetate of lead, turn it black by the formation of sulphide of lead. He proposes, as the result of animal experimentation, to introduce an ordinary trocar and cannula into the lower part of the abdomen in suspected cases of intestinal perforation, to insufflate filtered air, which, mixing with the intestinal gas in the peritoneal cavity, is allowed to escape through another cannula at the upper part of the abdomen, into a solution of acetate of lead. If sulphuretted hydrogen be present as a result of a perforation, the reaction will take place.

Other experiments were made by injecting sterile salt solution, and withdrawing it in from three to twelve hours. Where the intestine had been intentionally punctured or opened, and the salt solution allowed to mix with the fecal extravasation, when it was withdrawn, ammonia could be detected by Nessler's reagent, indol by sodium nitrate and sulphuric acid and proteoses by the biuret test.

None of these tests were positive in air or fluid injected and recovered from the normal peritoneal cavity. The method appears to be harmless, but lacks additional confirmation as to its uniformity and reliability. Meanwhile the diagnosis of perforation must rest upon the minutest scrutiny of suspicious signs, which, if deemed reasonably certain, should demand an exploration; or upon the advent of peritonitis, it should be imperative. The mild and early symptoms are the important ones. The severe symptoms usually mean peritonitis.

t is surgically immaterial whether a perforation exists or not if there is peritonitis. It is more apt to be localized if there is no great extravasation. Peritonitis in typhoid fever may be due to migration of bacteria through the intestinal walls without actual perforation, as evidenced by the number of cases of peritonitis without perforation. It may result from ruptured abscess of the liver, rupture of the spleen, or of the gall-bladder or ducts, of the mesenteric glands, appendix, and from gangrene of the intestine caused by thrombosis.

The surgeon should stand in close relationship with the physician in typhoid fever, as is now the quite general custom in appendicitis. Cushing advises that he should be consulted at the first indication of a localized peritonitis, and should perforation and extravasation occur, operation may be undertaken without delay. Osler advises—"In doubtful cases patients should be given the benefit of the doubt and operation urged (*The Lancet*, February 9, 1901). Keen says "We should operate in practically every case of perforation, unless the condition is such that recovery is evidently hopeless." (*Journal of the American Medical Association*, January 20, 1900.) Further, "after perforation has occurred operation should be done at the earliest possible moment, provided that we wait till the primary shock, if any be present, has subsided."

Case I.—My first case was in 1898, and reported in the Transaction of the Southern Surgical and Gynecological Association, 1899. Woman, nineteen years of age, married eight months. In the third week of severe typhoid fever with delirium, a tender swelling developed in the right iliac region, that was quite frank and prominent. When I incised it, the gas and pus were forcibly ejected from the tension in the sac. It was larger than a cocoanut, and well walled off. The cavity healed in about three weeks. The fever progressed with increasing severity and she died from toxæmia, three and a half weeks after operation in the seventh week of the disease. Widal's test positive. No autopsy. This case is very similar to case 122, in Keen's list, reported by Munro, which is recorded as a surgical recovery.

Case II.—July, 1901. Boy, nine years of age with mild typhoid fever, with some tenderness and slight rigidity in the right iliac region that inclined us to diagnosis of appendicitis. On the nineteenth day he developed symptoms of localized peritonitis in the right iliac region. Incision over the slightly dull tumor at my clinic at the University of the South revealed a fairly well walled-off area, the walls of which were almost in apposition, the sides and bottom of which presented three perforations; two appeared to be in the inner wall, composed of small bowel, and one in the outer wall or colon; no pus but a slight amount of fecal fluid. All of these openings were sutured and drainage established. A fecal fistula appeared on the third day and persisted. He remained in bed with typhoid symptoms and temperature for ten weeks, and developed a left suppurating parotid. I closed the fistula eighteen months afterward with success.

These two cases were examples of the two types of local peritonitis: perforation with abscess formation and perforation with walling-off by adhesive peritonitis, the perforation still patent.

Case III.—Example of free perforation. Male, aged thirty-four, in previous good health. He was under the care of Dr. Sugg of Beachville, Tenn. On October 8, 1903 (the twelfth day of the disease), the temperature was 101°, instead of 100° as usual; the pulse 92 instead of 72 or 80. An enema was given, which acted well. At 11 o'clock the patient was seized with sudden, severe colicky, abdominal pain. The pain abated somewhat, and when the doctor reached him the temperature was normal and pulse 72. An enema was ordered and a turpentine stupe applied. At this time there was little or no tympanitis, nor had there been in the entire progress of the case. At 2 P.M.—three hours after the onset of pain—the patient was still suffering with considerable abdominal pain. There was slight tenderness over the abdomen, which was most pronounced in the right lower quadrant, extending a trifle to the left of the median line. There was slight abdominal distension. The temperature had risen to 104° and pulse was 120. The face was anxious and apprehensive.

Dr. Sugg made the diagnosis of perforation. The patient was ten miles in the country, and I reached him seven and one-half hours after the onset of pain. The conditions were unchanged, except that the temperature had receded to 102.6° and the pulse was 116. The sudden onset of acute abdominal pain in the second week of a mild case of typhoid fever, followed

by rapid rise in temperature and pulse-rate, the anxious facies, the undiminished pain, the distention, tenderness, and rigidity indicative of beginning peritonitis, pointed quite strongly to perforation. Although it was after night-fall, in a three-room farm house, with no facilities for operating, yet in the face of an otherwise fatal issue, and with the patient's consent, preparations were made as rapidly and completely as possible, and abdominal section was made eight and one-half hours after the onset of pain. When the peritoneum was opened in the right semilunaris, a quantity of free, odorless, chyme-like, yellow fluid made its escape. The cæcum was at once located and pulled up with the appendix for inspection. The latter was found to be normal. The adjacent ileum was deeply injected and presented a modena-color, and was slimy from being bathed in the pea-soup effusion. It was passed between the fingers for a few inches, and at about twelve inches from the cæcal extremity the perforation was found. The actual opening was small and situated in the center of an indurated area about as large as a five-cent piece. Upon manipulation there exuded from the perforation yellowish intestinal contents corresponding in color and odorlessness to the free fluid found in the cavity. The knuckle of gut containing the perforation was surrounded by gauze pads, and the indurated area containing it was inverted by five Lembert sutures of small silk. A second layer was placed above and between the first row and at the angles.

The sutured area was temporarily surrounded with gauze and replaced in the cavity pending the peritoneal toilet. As much of the pea-soup material as possible was sponged out of the right iliac fossa and the pelvis, and then the cavity was filled with salt solution poured from a pitcher. The small quantity that was prepared in the limited time was exhausted before the cavity was at all clean, and here came the greatest technical difficulty of the operation. There was an abundance of boiling water, but no cool boiled water. A by-stander was sent to the spring with a clean pitcher for water which had to be dipped up, this delayed us some minutes. I thought the unsterilized water was less harmful than the known septic fluid. The irrigation was satisfactorily completed, and the patient turned on his side and all fluid allowed to run out. The gauze around the injured intestine was replaced by two clean gauze strips which met under the perforation, and were so disposed as to bring that portion just under the incision. A gauze strip was introduced into the bottom of the pelvis, and another in the right flank, and the wound closed by interrupted worm-gut sutures. The entire operation comprised thirty-eight minutes, including the delay.

The pulse at completion was 96, and not above 84 on the following day. The temperature did not exceed 100.8°. On the second night the temperature reached 102°, and the pulse, after the excitement of being told of his serious condition by his wife, went to 120. With that exception the pulse did not go above 108. The facies during the second night was anxious, the legs flexed, the respiration difficult, nausea was persistent and vomiting frequent and offensive. There was considerable distention and severe pain, requiring $\frac{1}{8}$ gr. morphine, with marked subsidence of the symptoms. Flatus was passed in considerable quantity toward morning and the patient was more comfortable, but the mind was not clear. The gauze was removed in forty hours, being loosened by hot salt solution introduced by a glass catheter, which was allowed to run into the abdomen until it came back clear. The bowels moved well after this, and the case progressed satisfactorily with a morning remission to 100° and an evening exacerbation to 101°, pulse varying from 84 to 96.

On the twenty-second day of the fever and the tenth day after operation the temperature remained normal for two days and the stools appeared normal. On the twenty-fourth day he had a relapse, the temperature reaching 102.6° and the pulse 108. The tympany returned, rose-spots again appeared on the chest and abdomen, and the stools became loose and offensive. Defervescence occurred in the fifth week, the temperature returning to normal, and the belly became scaphoid. The patient became brighter and hungry. He was again considered convalescent, but after three days of convalescence he became somnolent and listless; the urine diminished in quantity and was found to contain albumin in considerable quantity. He was greatly weakened, but was able to leave his bed in the eighth week and has remained well since.

Technique.—Inasmuch as the usual site is near the ileocæcal valve the right iliac incision should be chosen. In cases of general peritonitis a central incision is better. The ulcer when found, may be trimmed or excised, or simple invertion suture seems to be competent. The mattress suture has the advantage of only one knot for two threads. The second row may be continuous to save time, and a third may be added if it does not constrict the lumen too much. Sutures may be transverse or longitudinal. Care should be taken not to cut off too much of the circulation when the ulcer is situated near the mesentery.

The Cargile membrane is recommended for additional protection. Search should be made for other perforations and any thinned areas inverted by suture. Resection may be practised if there is much destruction, but the formation of an artificial anus is best in the majority of cases in greatly debilitated subjects. Escher saved three out of four cases by ileostomy. Copious irrigation is essential in extravasation or general peritonitis. Sponging out is better in localized and walled-off areas.

Drainage by the vagina is preferable in women. Lumbar punctures and drainage by tube and gauze is expedient in men. Most of the wound may be left open with advantage and the damaged area cofferdammed with gauze and located very near the incision. To facilitate drainage and localize infection in the less vulnerable pelvic peritoneum, instead of the fatally absorptive diaphragmatic area, Fowler advocates sitting the patient up at an angle of 40 degrees. Murphy reported six cases—consecutive—of general peritonitis (one typhoid) in which recovery followed when this was done. I have for some years been turning the drained cases of appendicitis on the right side from the start with this idea in view.

Statistics.

Westcott collected 83 cases in 1897 (published by Keen) with 16 recoveries, 19.36 per cent.

Tinker collected 75 cases in 1898 (published by Keen) with 21 recoveries, 26.66 per cent.

I have collected 137 cases (published and unpublished) with 43 recoveries, 31.31 per cent.

This makes a total of 295 cases, with 80 recoveries, 27.11 per cent.

Of this grand total only 246 were sufficiently complete for purpose of study. Of this number there were:

89 cases of free perforation, with 29 recoveries, 36 per cent.

19 cases of localized peritonitis, with 9 recoveries, 47.3 per cent.

138 cases of general peritonitis, with 29 recoveries, 21 per cent.

There were 16 cases at Johns Hopkins up to 1901, with 6 deaths, 37.5 per cent. Cushing had 11 cases with 5 recoveries, or 45.5 per cent. He predicts that

the percentage of recovery will soon be from 50 to 60 per cent.

I feel that a saving of over 27 per cent. in all cases, good and bad, extending over a period of twenty years is a most encouraging showing, and that 36 per cent. in cases of free perforation should encourage us to a more prompt diagnosis and the invocation of surgical relief to these otherwise hopeless subjects.

A more general appreciation and application of the possibilities of operation for typhoid perforation will not only be a great surgical triumph, but will add many precious years to the span of human life.

IMPROVEMENTS IN ANÆSTHETIC APPARATUS AND TECHNIQUE.

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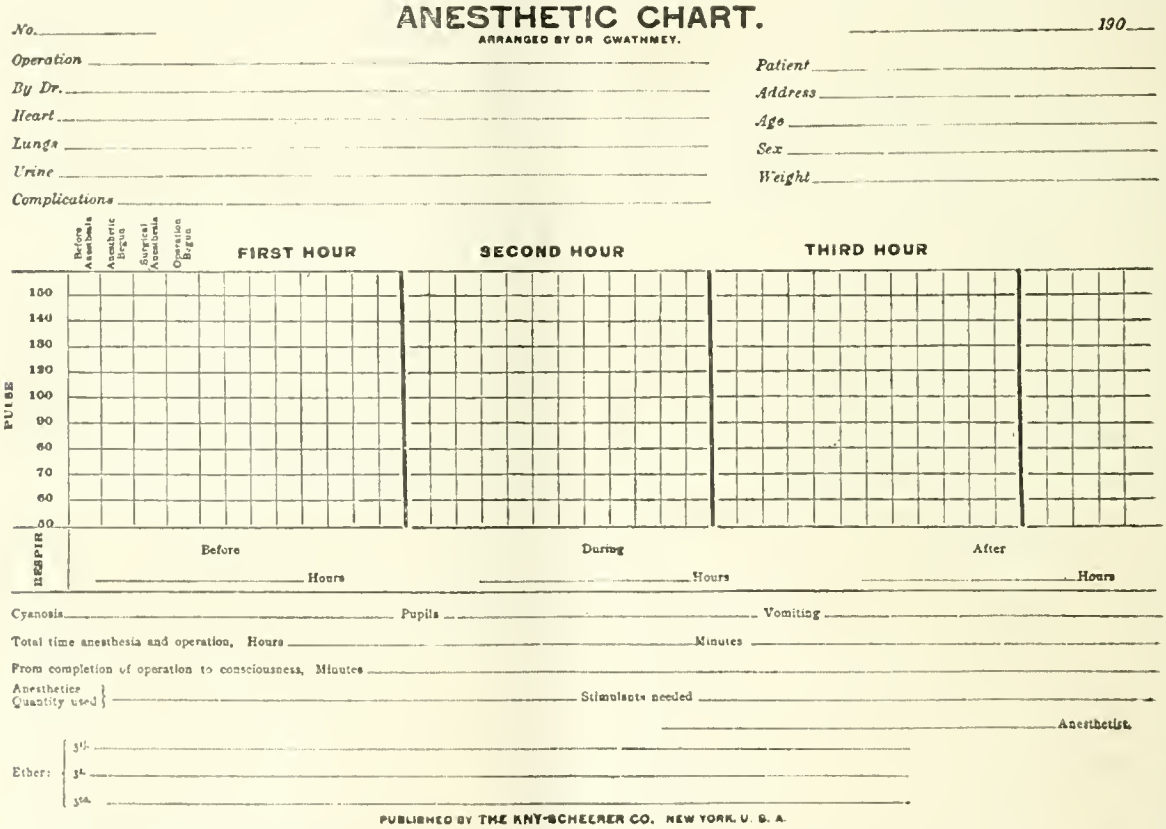
In a progressive science like that of anæsthetics we must constantly expect improvements. A few new ideas and methods that have been tried and found of value are herewith offered for what they may be worth. In order to facilitate the acquirement of more exact knowledge by everyone concerned, an anæsthetic chart should be in every hospital, regardless of the method or anæsthetic used.



The surgeon would thereby get more exact data on all cases, and the hospital interne be compelled to give closer attention to details. In all chloroform anæsthesias the pulse should be taken every five minutes, the time recorded at the top of the chart and the rate by a dot on its respective line. This should also apply to all chloroform mixtures, as the A. C. E. (alcohol 1 part, chloroform 2 parts, ether 3 parts) or C. E. (same as above with the alcohol left out). During ether narcosis, the pulse-taking would depend entirely upon the patient's condition and the nature of the operation, but, as a general rule, the pulse should be recorded as above. The charts are arranged in book form with a carbon sheet, so that one chart may either be placed on file (if a hospital case) or given to the surgeon, the other kept by the anæsthetist. The amounts given in similar cases for the same length of time, and by different methods, would also prove of inestimable value.

If the case is a difficult one for the anæsthetist, the pulse should be taken by the non-sterilized nurse. There are many other reasons for an anæsthetic chart in both public and private cases, but the above are sufficient.

That Junker's Inhaler is not more often used in our hospitals in operations about the head, is due, in the writer's opinion, almost entirely to the idea of giving chloroform through a closed inhaler and mask with valves. Take the margin of a German ether inhaler as a model for the face-piece, having this perforated with holes around the inner margin, and the rest of it made as an ordinary chloroform mask. Covering this with two layers of gauze, and using a two-ounce bottle with a stopper and catch (instead of a screw stopper), we have a very simple form of inhaler. If the small mask is found to be in the way, the metal tube may be substituted and used also as a retractor, the anæsthetizer thus becoming an assistant to the surgeon, instead of hampering him. I have used this inhaler in over fifty very difficult cases, most of them over three hours and two of them over four hours in duration. Several of these cases were athletic alcoholics, such as give most trouble to the anæsthetist, but it has never failed to give satisfaction. For extirpation of the tongue and similar operations where the surgeon prefers an analgesic rather than an anæsthetic state, when a cough or swallowing movement materially aids in clearing the throat, this level of narcosis can certainly be maintained by this method more easily than by the drop method.

The Gwathmey chloroform inhaler then (a modification of Junker's) consists of a two-ounce bottle with a metal tube running to the bottom, and connected on the outside with the afferent tube from the hand-bellows. The efferent metal tube simply perforates the rim of the bottle, and is connected with the mask by another rubber tube. The bottle is graduated to hold 8 drachms, which is usually

sufficient, although in the case of alcoholic subjects an extra 4 drachms should be added. On pressing the bulb, air is passed through the anæsthetic and the chloroform vapor carried to the mask by the efferent tube. If at the end of six minutes the patient is not unconscious, additional chloroform should be sprinkled upon the mask. While it is not the intention to go into details in an article of this kind, it may be well to state here that after the patient has become quite unconscious, "only small doses are required to maintain anæsthesia, as it is

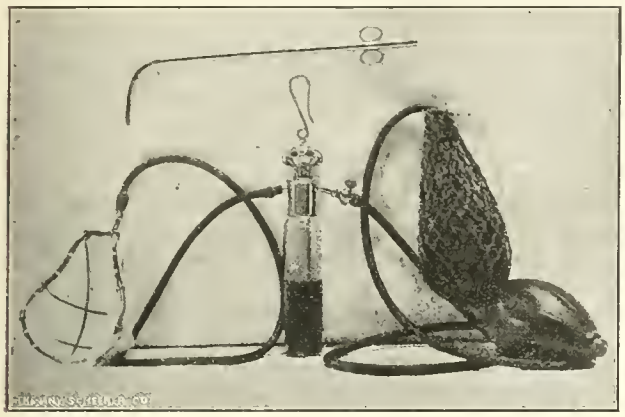


Fig. 1. The Gwathmey oxygen-chloroform inhaler.

necessary to introduce only so much further chloroform as is required to replace what is lost by exhalation, and thus to maintain in the blood that percentage of chloroform which at first was required to induce anæsthesia." (Luke.) A metal stop-cock has been placed on the efferent tube, and by turning this, the percentage of chloroform vapor can be easily regulated.

Whenever possible, the nitrous oxide-ether sequence should be used as a preliminary, the change to chloroform being cautiously begun with the

Fig. 2. Bulb on the floor—giving the anæsthetist the use of both hands.

return of the reflexes, such as a cough or swallowing movement. When the above method is used, "chloroform anæsthesia may be maintained with a risk to life which is so small as to compare very favorably with, if it does not actually reach, that of ether anæsthesia" (Hewitt). If at any time, the patient is troubled with shallow breathing, a few drops of ether on the mask will quickly remedy this condition. "Overdosage is less apt to occur with a Junker's Inhaler than with the drop bottle" (Blumfield). Many surgeons have recommended this method whenever chloroform is indicated. If it is necessary for the anæsthetist to keep the throat clear of blood, etc., during the operation in addition to maintaining the level of anæsthesia called for in order to have the use of both hands, he simply drops the bulb on the floor and makes the necessary pressure with either foot. The metal tube and mask are

Fig. 3. Combination gas-ether narcosis.

to be sterilized before and after every operation. If any chloroform is left in the bottle, it should be thrown away.

From experiments recently made by myself with this apparatus—using a closed inhaler—and killing between 50 and 100 cats. I can state that a mixture of oxygen and chloroform is three times as safe as one of air and chloroform and almost as safe as ether

Fig. 4. Combination oxygen-ether narcosis.

and air. Details regarding the results of these experiments will be given in a subsequent article.

Since the introduction of gas-ether inhalers into our hospitals, the criminal carelessness with which they are treated deserves attention. Because they are on the anæsthetist's table the surgical nurse or whoever may have charge of the instruments seems to think that it is unnecessary to give any more attention to them than to an ether or chloroform bottle. Doubtless many cases of pneumonia have

already been contracted from these septic inhalers. All the metal parts of the inhaler should be boiled, and all rubber parts should be treated with a carbolic solution, 1-20, and dried carefully. They should not be put together until the anæsthetist is ready to use them again. In all operations where the anæsthetist may come in contact with the surgeon or his instruments, the inhaler and all instruments of the anæsthetist should be sterilized, a sterilized towel should be placed over the anæsthetist's table and sterilized gauze wrapped around the chloroform bottle and ether can. If the above is carried out, the anæsthetist may with propriety "wash up" and put on white sterilized gloves, but otherwise it is nonsense.

As the valves of the Gwathmey gas-ether inhaler are absolutely independent of each other, two combinations are possible with this inhaler, that cannot be given with any other. With the ether chamber turned on full, and the expiratory valve on the face-piece open, keeping the gas-bag connected with the gas tank and maintaining a positive pressure in the bag, thus allowing the gas to flow through the ether chamber, a very satisfactory combination gas and ether narcosis can be given. At every third or fifth breath remove the mask and allow an intake of fresh air. A soft, easy breathing, with a slow pulse, is thus secured and maintained. This anæsthetic is indicated where for any reason it is desired to abolish the reflexes and yet give as little ether as possible. By this method a deeper anæsthetic than gas and air or gas and oxygen is secured, but not as deep as ether alone. The cases must be selected—middle-aged women and feeble men can be easily carried several hours. Athletes and alcoholics will not take it so readily. It requires close attention, for as soon as the mask is removed, the patient recovers, and if properly given there will be no nausea or vomiting. ℥xxx of ether every five minutes is usually sufficient.

The combination of oxygen and chloroform has been given thousands of times by placing a tube from the oxygen tank under any ether mask, but this means unknown quantities of both oxygen and ether. By allowing the oxygen to flow continuously through the ether chamber (as in the gas and ether combination) the oxygen carries with it the ether fumes. This anæsthetic is indicated in all conditions of shock and collapse. I have given this for over one hour and a half to a patient with intestinal perforation. The radial pulse could not be felt at any time before or during the operation, but the pulse continued good, and the general condition was better after the operation than before. In ordinary cases the pulse will go as high as 115 or 120 with the commencement of oxygen, but will drop back again to normal in five to ten minutes, and so remain.

For the tri-sequence, one should use the gas-ether sequence as a preliminary, and then ether in the usual way. If the operation lasts over two hours, continue the anæsthetic as in the gas-ether combination. In other words, in all long operations the last part should be more of a gas than of an ether anæsthesia. By this method the patient is thoroughly conscious at the end of the operation, and there is always less nausea and vomiting.

Too little attention has been paid to this sometimes most distressing part of an operation. A prominent surgeon said, "The only way to prevent this, is to cut the patient's head off." But in over 90 per cent. of all cases this condition can be prevented by the observance of the following well-known but usually neglected rules: (1) Keep an open-air way at all times (not an easy thing) by keeping the head to one side and the jaw pressed well forward. (2) As soon as the anæsthetic is removed, replace the ether odor by any other stronger smell, salts or cologne (if not too sweet). This is on the theory that the olfactory nerve is largely responsible for at least the initial symptoms, and results would seem to indicate that this is correct. More than merely "not to kill the patient" is demanded of the anæsthetist of to-day. Close attention to technique and nicety in every detail have elevated anæsthetization to the place it now holds.

124 East Sixteenth Street.

HAY-FEVER, SOME PRACTICAL SUGGESTIONS AS TO ITS MANAGEMENT AND TREATMENT.

By RALPH WAIT PARSONS, M.D.,
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Of the many diseases to which man is heir, few are more intractable, and as regards the results of treatment, few more unsatisfactory, than the condition commonly known as hay-fever. Particularly is this the case when the patient either declines, or is unable to avail himself of the services of a physician who is skilled in the treatment of the diseases of the nose and throat.

Some patients with hay-fever do not experience much inconvenience from their malady; but, in a large number, the discomfort and actual suffering are so great as seriously to interfere, at times, with their business pursuits and social enjoyment.

Hay-fever being essentially a chronic affection, time and patience are important elements in the treatment of the disease.

I feel confident that if the hygienic and therapeutic measures herein advocated are adopted, many patients suffering from hay-fever will find considerable relief from the annoying symptoms of the disease, and some will be permanently cured. The patients should be urged to carry out the physician's directions carefully and systematically, in order that the best results of treatment may be obtained.

A few words as to the predisposing causes of the disease. It is generally conceded that there are three conditions which are necessary for the production of hay-fever, namely: (1) An irritant to the nasal mucous membrane, such as pollen, dust, etc.; (2) a neurotic habit; (3) an obstructive lesion in the nose.

It is not my intention in this paper to enter into the discussion of the pathology or symptomatology of hay-fever. These have been so thoroughly described in textbooks on the diseases of the throat and nose, and especially in the admirable work of Dr. Bosworth, that we need not dwell upon this branch of the subject. Suffice it to say that Dr. Bosworth lays stress upon the fact that he considers hay-fever as being due to a vasomotor paresis of the walls of the blood-vessels lining the nasal cavity, while the asthma which in many cases, sooner or later, makes its appearance in the course of the disease, is a vasomotor paresis of the blood-vessels of the mucous membrane lining the bronchial tubes.

Treatment.—The treatment of hay-fever may be most conveniently discussed under three separate heads, namely: (1) Constitutional; (2) local; (3) treatment of the exacerbation.

1. Leading authorities on the subject of hay-fever are agreed that the disease occurs in the large majority of cases in persons of a neurotic temperament, and that the treatment adopted should be directed toward building up the tone of the nervous

system, with especial reference to the local nervous instability, which manifests itself in the nose, as above mentioned.

(*a*) One of the best agents for securing a good tonic effect upon the nervous system is the daily morning cold plunge, which is to be taken immediately on rising. The immersion need only last for half a minute, followed by vigorous rubbing with a coarse towel. The use of the bath should be commenced several weeks before the usual time for the hay-fever to make its appearance. For those not in robust health, cold sponging of the neck and chest should be resorted to.

(*b*) The mode of life, diet, and exercise should be regulated.

(*c*) Patients suffering from hay-fever are very susceptible to taking cold. They have a tendency to perspire easily, and if they allow themselves to cool off too suddenly, or expose themselves to a draft, they are very apt to bring on a paroxysm of sneezing. Hence suitable clothing and shoes should be worn.

(*d*) The sleeping-room should be well ventilated.

(*e*) Nerve tonics, such as strychnine, arsenic, and phosphorus, are indicated.

2. In nearly all cases of hay-fever there is a pathological condition in the nose, which acts as a predisposing cause to the development of the disease. This being the case, a thorough examination should be made of the nose and nasopharynx of every patient suffering from hay-fever. If any chronic inflammatory condition be found, it should be alleviated; if any obstructive lesion exist it should be removed. All sensitive points should be touched with a caustic, such as a solution of nitrate of silver.

As a rule, hay-fever patients do not come under observation until the onset of the exacerbation, which, however, is not a favorable time for the treatment of the intranasal conditions above mentioned. Whenever possible, patients should be urged to place themselves under treatment in the spring, or at least, several weeks before the time when the symptoms of hay-fever usually make their appearance. By relieving any hyperæmic, or hypertrophic condition, or by removing any nasal obstruction, such as polypi, spurs or deflection of the septum, the severity of the onset of the attack may be more or less diminished. This plan of treatment may need to be renewed at the same period for two or three years, before marked improvement in the severe cases can be expected.

3. The theory that the uric-acid diathesis should be considered as a factor in the production of hay-fever, as taught by such authorities as Haig of London, Bishop of Chicago, and Wilson of Elizabeth, N. J., should be given due weight in our consideration of the treatment of the exacerbation. Dr. Norton L. Wilson (*New York Medical Journal*, December 26, 1896) makes a strong plea for the uric-acid theory in the production of hay-fever. He recommends the adoption of active measures for the treatment of the uric-acid diathesis six weeks or two months before the expected onset of the exacerbation. He suggests the administration of aromatic sulphuric acid, or phosphoric acid, for a time, followed by small doses of salicylate of sodium, three grains three times a day, and cutting off the acid-producing drinks, such as beer, wine, cider, lemonade, etc. The following acid-producing foods, especially meat, should be avoided: all glandular organs, strawberries, coffee and tea, meat extracts, vinegar, sour pickles, preserves, sugar, potatoes, and other starchy food. Ham and bacon may sometimes be allowed. The diet should consist principally of cereals, eggs, fish, fresh fruits, vegetables, milk, and cocoa. Water should be drunk freely. Dr. Bishop recommends that the patient should take one or two teaspoonsful of acid phosphate in a glass of water at bedtime and on rising in the morning.

According to many observers, notably Dr. Beaman Douglas, the most satisfactory agent at our disposal, for internal treatment of hay-fever, is the saccharated extract of the dried suprarenal gland, while the active principle of the suprarenal gland is very efficient in solution in the form of a spray. In the proper doses, the extract of the suprarenal gland, slows the heart, and increases the force of the systole. It retards the pulse and stimulates the constriction of the blood-vessels. The blood-pressure is increased. If a solution of suprarenal extract be applied to a mucous surface, the capillaries become markedly contracted, and the tissues become more or less blanched. Congestion of the nasal mucous membrane is diminished and the watery secretion is rendered less copious and less irritating. The same is true when the active principle of the gland is used.

Dr. Douglas, in his paper, "The Treatment of Hay-fever by the Suprarenal Gland" (*New York Medical Journal*, May 12, 1900), gives 5 gr. every two hours, day and night, until giddiness or palpitation is observed, or until the remedy seems to be controlling the vasomotor paralysis in the nasal mucous membrane. Then the dose may be given at longer intervals, say every three hours, and later every six hours. The amount may even be diminished to two doses of 5 gr. each a day, which are to be continued during the hay-fever season. If disagreeable symptoms of hay-fever recur, the dosage should be recommended as already described. He looks upon it as almost a specific in some cases.

The solution of adrenalin is best used as a spray in the proportion of 1-5000 in normal salt solution. The strength may be increased if found necessary. Prior to its use a spray of some mild alkaline solution may be used, and after its use it is well to apply a bland oily spray. It must be borne in mind that the solution is prone to decompose if exposed to the light. It is therefore necessary to keep it in a dark bottle, and it is also well to protect the bottle attached to the atomizer with a piece of dark paper.

I would advocate beginning the use of the suprarenal extract about two weeks before the time the attack of hay-fever usually occurs, taking 2 gr. three times a day with a view to retarding and mitigating the attack, as far as possible.

The quantity and irritating quality of the secretion of the nasal mucous membrane is diminished by (1) treatment of the uric-acid diathesis; (2) treatment of the intranasal pathological conditions; (3) the use of the suprarenal gland.

Next to the congestion of the nasal mucous membrane, the most important symptom which presents itself is bronchial asthma. According to Bosworth, bronchial asthma occurs, sooner or later, in a large number of cases of hay-fever. In his opinion, the asthma accompanying hay-fever is due to the principal predisposing cause of the disease, namely, a pathological condition in the nose. By directing our treatment to these local causes of irritation the hay-fever and accompanying asthma will be greatly benefited, and in many instances cured.

As regards the medicinal treatment of cases that have more or less asthma during the hay-fever season, the use of the suprarenal gland, both internally and in the form of spray, will be found of service, by improving the tone of the nasal and bronchial mucous membrane. Mention might also be made of the smoking of stramonium leaves. The dried stramonium leaves, as found in the shops, when smoked in a pipe, are kept ignited with considerable

difficulty. A good way to remedy this condition, is to separate the leaves and soak them thoroughly in a saturated solution of nitrate of potassium, then place them on a dish in the oven until thoroughly dry. After being thus treated, the stramonium leaves will burn much more readily, besides obtaining whatever therapeutic advantage there may be in the use of the nitrate of potassium.

When severe paroxysms of asthma occur, compound spirit of ether is of service.

For the relief of the bronchitis, which is often very annoying, the following medicines will be found useful: hydrastis canadensis, terpine hydrate, and cubebs. Dr. Saenger of Magdeburg (editorial, *New York Medical Journal*, May 15, 1897) recommends the use of the fluid extract of hydrastis canadensis in doses of from twenty to thirty drops four times a day, in chronic bronchitis with an irritating cough. I have, myself, found this remedy beneficial. Hare states that terpine hydrate is of value in the bronchitis of hay-fever, by increasing the production of mucus. Cubeb troches are useful and convenient.

One of the drugs which is not much used, but which will often give temporary relief in hay-fever, is camphor. It can be administered either by olfaction or internally. It has a tendency to relieve the congestion and sneezing and to diminish the watery running of the eyes and nose. Its use has an additional advantage, in that it has a tendency to quiet nervous irritability, which is at times a marked symptom in hay-fever patients. Internally, it can be given in the form of spirit of camphor, five drops every fifteen minutes for the first hour, and repeated at longer intervals as required. It should be given well diluted in water.

Aside from medicinal treatment, one of the best methods of obtaining relief from the disagreeable symptoms of hay-fever, is the cold spinal douche, for from fifteen to thirty seconds, at a pressure of from twenty to thirty pounds to the square inch, at a temperature of 60°. This acts as a powerful tonic to the central nervous system. It also relieves the congestion in the nose in a reflex manner, by inducing the contraction of the capillaries in the nasal mucous membrane. The beneficial effects thus obtained may last for two or three hours, or longer. The cold plunge, shower, or cold sponging may be used, but the results obtained are not so favorable nor so lasting. There are few patients who cannot soon become accustomed to the douche, if properly administered and followed by a brisk rub. If an apparatus for giving the douche is not at hand, water from a pail should be dashed over the patient's back, the operator standing at a distance.

Another excellent method of obtaining considerable relief from the nasal congestion and asthma is the use of the ice-bag. The ice-bag is to be partially filled with cracked ice, the pieces being about as large as a white walnut, and then applied to the back of the neck and the upper fourth of the spine. The ice-bag should be kept in this position for ten or fifteen minutes, and then removed. If the application is made as above directed, the relief of the symptoms characteristic of hay-fever is very marked and lasts for several hours. It may be used two or three times a day without untoward symptoms. If applied at night before retiring, the nasal and asthmatic symptoms will be much relieved, so that the patient will be able to get several hours' quiet sleep.

A large number of hay-fever patients find a change of climate beneficial. Most patients are greatly improved by a sojourn in the mountains, and some obtain absolute relief. Others find benefit at the seashore, and by bathing in the ocean. The benefit derived from the surf bathing is not merely due to the stimulant and astringent effect of the salt water, but also to the force with which the water enters the nostrils, acting in a mechanical way, by inducing the contraction of the capillaries and dilated veins. The beneficial effect resulting from a bath in the surf is often marked and lasts for hours. Care must be taken, however, not to remain in the water too long, or after the patient begins to feel chilly, for by so doing the results sought for will not be obtained to their highest degree.

The ocular symptoms in hay-fever are often very annoying. There is apt to be more or less conjunctivitis, which may be rendered more intense by strong sunlight and the irritation of dust. There may be considerable lacrymation and the secretion may be very irritating. For this it is well to use Agnew's eye-water three times a day (boric acid grs. 10, camphor water, 1 oz.). I would also recommend that hay-fever patients wear tinted glasses during the active period of the exacerbation, as at times the reflex action of the bright sunlight on the eyes induces attacks of sneezing, which still further increases the nasal congestion. They also protect the eyes to some extent from irritating dust.

In the treatment of hay-fever we should avoid the use of opium in any form. It should be used only as a last resort, and after all the other means, above advocated, have been given a fair trial.

I would also recommend that the use of cocaine be avoided. We should always bear in mind that the cocaine habit may be formed by its use in a spray. In a large number of cases it will be found that the use of the suprarenal gland, both internally and locally, will give as much relief as was formerly obtained by the use of cocaine.

Patients should be advised to abstain from the use of tobacco during the exacerbation of hay-fever. It has a tendency to produce irritation of the mucous membrane of the respiratory tract and to aggravate any chronic inflammatory condition that may exist.

We should also advise our patients not to indulge in alcoholic stimulants.

In giving directions to our hay-fever patients concerning their diet, mode of life, etc., it will be well to instruct them to avoid walking too fast and getting overheated, especially if the weather be warm and damp or foggy, as under these circumstances asthmatic symptoms are apt to be aggravated. They should also be cautioned against cooling off too quickly, or exposing themselves to draughts.

Patients should be advised to avoid driving in the dust, if discomfort is experienced thereby, such as a paroxysm of sneezing and increased nasal congestion. I know of one case, and have been informed of another, in which the smell of the sweat from the horse when out driving would cause great nasal congestion and discomfort. The first of these patient's could ride in a trolley car or railway car without discomfort, showing that it was not merely the dust that set up the irritation.

In conclusion, I would say that, if the patient can be induced to live in a hygienic way as regards diet, baths, ventilation of sleeping room, exercise, etc., and will carefully carry out the directions of his physician, his attack of hay-fever will be considerably mitigated; and his condition will be still further ameliorated if he can be persuaded to submit to the necessary rhinological treatment, as previously outlined. With patience and perseverance on the part of both physician and patient, it is certain that considerable and, in some cases, lasting benefit may be obtained as the result of treatment.

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IMMUNITY AGAINST INFECTION IN ABDOMINAL SURGERY.

THE prevention of infective disease may be effected in one of two ways, either by offering an obstacle to the entrance into the organism of the offending microbe, or by so strengthening the powers of resistance of the organism that it is able successfully to repel the microbic invasion. The same principles should apply in the domain of operative surgery, since postoperative wound infection is entirely analogous in origin to pneumonia or diphtheria, and in fact we see that they do apply. But in general surgery the first of the two modes of prevention just mentioned, that of exclusion of the germs, is so simple in execution and so certain in result that a resort to the less simple and less certain preventive inoculation would be unjustifiable in most cases. Indeed this method of treatment, which may be called the Jennerian in distinction from the Listerian, has hitherto, with few exceptions, been confined to the prevention of tetanus, unless we may regard the Pasteurian treatment of threatening rabies as a surgical measure.

There is one extensive field of surgical endeavor, however, in which the application of antiseptic principles, while of course not altogether useless, is uncertain in its results because of the impossibility of sealing the wound so as to prevent a subsequent invasion by pathogenic microorganisms. This field is the abdomen. Here then is an opportunity to apply the Jennerian principle in surgery—but how? Manifestly we cannot immunize against the colon bacillus by antistreptococcus serum, nor against Staphylococcus pyogenes by immunization with a strain of Bacillus coli, and it is even doubtful whether we could protect against all the strains of the colon bacillus by a single serum. This being the case, the problem of the prevention of peritonitis after abdominal operations must be attacked in another way.

One possible solution of the problem was the subject of a very interesting discussion by Professor von Mikulicz-Radecki of Breslau in the Cavendish Lecture which he delivered before the West London Medico-Chirurgical Society on June 24 (*The Lancet*, July 2, 1904). After rejecting the suggestion of a specific serum and showing the impossibility of disinfecting the mucous membrane of the stomach and intestine preparatory to operation, he said that the only resort of the surgeon was to increase the power of resistance of the peritoneum against intestinal bacteria by producing an artificial leucocytosis. A number of investigations have shown that, whether the bacteria are destroyed by active phagocytosis alone, or whether the leucocytes produce alexins which kill the bacteria outside the cell body, or whether those two processes work together, general leucocytosis certainly does play a very important part in the struggle against bacteria.

This condition of hyperleucocytosis has been induced artificially by injections (intraperitoneal or subcutaneous) of albumose, decinormal saline solution, bouillon, nucleic acid, and tuberculin. Of these Mikulicz and his clinical assistant, Miyake of Japan, obtained the most satisfactory results with nucleic acid. They found that by subcutaneous injections of nucleic acid in guinea-pigs, it was possible to increase the resistance of the peritoneum to such an extent that even a considerable quantity of intestinal contents could be placed in the peritoneal cavity without causing damage, but without previous treatment an acute, rapidly fatal peritonitis followed almost without exception.

The result of these experiments was so satisfactory that a practical application of the method was employed in man. A two-per cent. solution of nucleic acid was employed and about 50 c.c. was injected beneath the skin of the chest. In the experiments upon guinea-pigs the optimum hyperleucocytosis occurred about seven hours after the injection (the immediate effect during the first hour or so was a hypoleucocytosis), but in man this occurs somewhat later, and Mikulicz has therefore determined upon twelve hours as the proper interval between injection and operation. This ensures that the operation will be performed at the time of the rising tide of leucocytosis.

The proof of a theory lies in its practical working, and the satisfactory demonstration of this can be furnished only by a large number of cases in the hands of many operators. The results of Mikulicz's own cases, however, are such as to encourage others to make a trial of his method. He gave the injections preliminary to forty-five cases of laparotomy, in which the peritoneum was exposed to infection by the contents of the stomach, intestine, or bile ducts. Of the patients operated upon, thirty-eight recovered, and of the seven deaths, not one was due to peritonitis. In most of these cases, in addition to the injections of nucleic acid, the further precaution was taken to flush the peritoneal cavity with warm decinormal saline solution, and it is very possible that that contributed, in some measure, to the successful outcome, as saline irrigations are known to increase the resisting power of the peritoneum.

THE MEDICAL MAN'S VACATION.

THE opinion lately expressed by a financier, noted for personal economy, that vacations are needless and not beneficial to health, has aroused a considerable amount of interest in the matter. Not that the views of the New York millionaire are considered seriously, but because the time for taking holidays has come and the subject is always worthy of discussion. No one really thinks that vacations are unnecessary evils, and that a cessation from work and a change of air and scene are not for the good of toilers. The majority of people will continue to take an annual holiday, and furthermore will derive benefit therefrom to body and mind. All dwellers in great cities require a temporary respite from the noise and turmoil of

the crowded streets, and a period of rest or distraction from the exciting or monotonous routine of daily business. There are indeed some who by reason of their poverty are unable to get away from the town, but are doomed from year's end to year's end to exist among wretched surroundings, compelled by an unhappy fate to labor unceasingly. No one, however, who knows the inhabitants of the tenement districts, will not say that a stay in the country would do them good. In fact, it may be laid down as an axiom that to those who live in modern towns, a vacation is more or less of a necessity. This statement may be made with greater truth of members of the medical profession than those of any other class.

The recommendations as to holidays are widely different. Some advise a long holiday, others a short holiday two or three times a year. One lays stress upon the importance of fresh air and a change of scene, another holds the view that sight-seeing should be strictly eschewed, while yet another will assert that two or three weeks in bed is the most sensible manner of spending a vacation. Lastly, there is the crusty exponent of materialism, who thinks that the vacation idea is entirely a weariness to the flesh and a vexation of spirit, a needless expense for no adequate return, and a grave mistake in most respects. *Quot homines tot sententiæ.* In such jeremiads there is undoubtedly a substratum of truth, insomuch as vacations seldom come up to expectations, and some are total failures. Nevertheless, although perhaps the ideal holiday is seldom or ever found, it does not alter the fact expressed before, that a yearly vacation is needed by every worker, and by no worker more than by the medical man.

The medical profession is, on the whole, the least holiday-making of all the professions. Not a few medical men are literally wedded to their profession; indeed, sometimes the knot is so tightly tied that they never sleep away from home, and when in bed usually have one ear open for the night bell. A great number of practitioners are perforce slaves to work and must content themselves with a week's or, at the longest, two weeks' vacation in the course of the year. The general practitioner, especially in the country, has the greatest difficulty in leaving his practice even for a short time. He and his patients are on terms of such intimate relationship, that, if, when the vacation time has come, those whom he has known for years are grievously sick, he is unwilling to leave them, and if he does go, departs with almost as great reluctance as he would leave a member of his own family under like circumstances.

With regard to the kind of holiday suitable to the medical man, it would be presumption to advise as well as an impossible task. Men's tastes differ as widely as their appearances, while the tastes of their wives and daughters, who must be considered, differ even more widely. In a general way, however, it may be said that the town doctor will be happier and better "far from the madding crowd" in the sweet seclusion of a country retreat. But, although it is well to regard country life from its picturesque and romantic aspect, the matter-of-fact side of the question must not be overlooked. The beauties of rural scenes and of idyllic dwellings are too often the masks which conceal all kinds of evils. The moss and ivy-covered cottage in the woods is frequently but a whited sepulcher. Its drains are defective, its water impure, and its overhanging creepers and surrounding woods and undergrowth are the home of malaria-bearing mosquitos, and keep the health-giving sunlight from its inmates. Such points should not be neglected when choosing a place in which to spend the summer vacation.

The country doctor, upon the theory, or fact, that a change of life and scene is the best way to spend a vacation, should visit the haunts of his busy fellowmen. Perhaps there is no more healthful and pleasant mode of taking a holiday for the country practitioner than attending the meetings of the American Medical Association and of State and County Medical Societies. Such a meeting, for instance, as that which has recently taken place in Atlantic City afforded unbounded opportunities for instruction and amusement to the medical man. At these gatherings he meets and can listen to men eminent in the profession; men from all countries and of world-wide reputation. Such communion is of inestimable advantage in many ways; he receives new ideas, and some of the rust which has gathered upon him in his necessarily somewhat contracted sphere of life is rubbed off. Over and above these advantages, the mixing in the social life of his equals, denied him to a great extent when at home, tends to enlarge his views. The unaccustomed stir and bustle of the town or of the pleasure resort stimulate his faculties, dulled by the monotonous routine of his daily toil, and elevate his entire being, so that he goes back to his work like a giant refreshed. The feminine part of his family can also participate in the social amusements which are a part of present-day medical meetings with equal benefit.

Surgical Treatment of Chronic Nephritis.

In the *Scottish Medical and Surgical Journal*, for May, 1904, Dr. Francis D. Boyd reviews the above subject. The question of surgical interference in chronic nephritis has been greatly to the front within recent years, and especially in this country has gained much ground. Dr. Boyd says that Harrison seems to have been the first to advocate incision of the kidneys in cases in which there was evidence of increased tension of the organs. In America Edebohls has been the most prominent exponent of this mode of surgical procedure—indeed decapsulation of the kidneys is known as Edebohls' operation. Dr. Boyd, referring to the publications by Edebohls on decapsulation of the kidneys, says: "As in the cases in which full details are given, one cannot in several instances accept the diagnosis, it leaves one with an uncomfortable and unconvinced feeling with regard to the accuracy of the observer's conclusions in the tabulated cases."

From a physician's standpoint, the author considers that one of the most important contributions is from the pen of Senator. He denies the occurrence of one-sided nephritis unless there be only one kidney. Nephritis results from causes which are equally applicable to and equally affect both kidneys. After again referring to and criticising Edebohls' views, Dr. Boyd concludes as follows: (1) That while the kidney may undergo a chronic fibrosis as the result of a local cause, the occurrence of a one-sided kidney has not been proved. (2) In chronic diffused nephritis, in

which medical measures have been tried without benefit, decapsulation of the kidneys may be justifiable, and may be undertaken in the hope that relief of tension may facilitate the circulation through the kidneys, may increase urinary secretion, and may produce decided amelioration. The operation does not in itself seem to be associated with such risk as might have been expected. Many of the recorded cases were in a critical condition when operated upon. The benefit in some was so immediate and marked that it can only be accounted for by the relief of tension and improved circulation through the normal channels, not by the formation of new paths for the circulation. (3) The contention that chronic interstitial nephritis may be cured by operation has, so far, not been proved, as the cases on which the claim is founded are so insufficiently recorded as to leave the observer in considerable doubt as to the accuracy of the diagnosis. (4) Surgical measures in affections purely local and for the most part unilateral, such as calculus, pyelitis, pyonephrosis, etc., are eminently successful. In such cases the fibrosis in the kidney is not a true nephritis, and may be benefited by operation. (5) In cases of nephritis, in which cardiovascular changes are advanced, it is unreasonable to expect anything but amelioration of symptoms from decapsulation of the kidneys.

Medical Electricity.

Electricity used in various forms has come to be a valuable adjunct in medicine and surgery, and undoubtedly will in the course of time be a much more important factor in the treatment of diseases and injuries than it is even now. Medical electricity is as yet but in its infancy. Of the many modes of harnessing electricity to the use of the medical man the production of *x*-rays is the most conspicuous, and is fast taking its rightful position as an almost indispensable means of diagnosis in certain cases.

The *Hospital* of May 28, 1904, contains a résumé of the latest literature concerning medical electricity. Brock and Stanley Green have pointed out, in the *Quarterly Medical Journal*, that the *x*-ray tube is of service in the more complete definition of diseased lung in phthisis. They have now had a number of cases to base their deductions upon, and declare that: (1) In no single case in which the physical signs have pointed to disease have the rays failed to detect the mischief; (2) In some cases in which physical signs have been absent the rays have shown deposits in the lungs, and in these cases physical signs have subsequently been detected; (3) The early diagnosis is certainly helped; (4) That the extent of the disease is in many cases shown to be greater than the physician thinks; (5) That the progress and results of treatment can be watched with greater accuracy.

Chisholm Williams, in the *British Medical Journal*, gives favorable testimony as to the beneficial effects of high-frequency currents in the treatment of phthisis. In 1901 he recorded forty-three cases under treatment, and now of these, three have died of pneumonia, of tuberculous kidney, and of lardaceous disease. He advises that the apparatus be of the most powerful available. In tuberculosis of other parts, joints, etc., the best results have been obtained by general electrification combined with a high vacuum electrode used from the resonator, or the ordinary *x*-ray discharge. Cases of old-standing tuberculous lesions he states to be very amenable to treatment. In the treatment of lupus he finds the *x*-ray tube as reliable and to produce as good results as the light treatment. He urges the use of the high vacuum electrodes with a vacuum high enough to produce fluorescence on an *x*-ray screen. Also the patient should receive on the condensation couch as much as 350 milliamperes and upward. In opening the discussion upon the subject of electro-therapeutics in the treatment of malignant diseases, at the annual meeting of the British Society of Electrotherapeutists, Lewis Jones raised numerous questions of the first importance which demand solution ere much advance can be made. Notably is this the case in the matter of what kind of rays are of most advantage—whether the "*x*-rays," "cathode rays," or a combination of the two. He personally recommends the use of a "medium" tube, and prefers to operate with the anti-cathode red hot. He avoids dermatitis by arranging the exposures suitably, and continues the treatment for three, four, or five months.

Alan Jamieson, writing in the *Lancet*, in referring to the employment of hard or soft tubes in *x*-ray work, states that he has found that weather affects the rays materially, *e.g.* on cold, raw days reactions more readily occur. Wild, in the *Medical Chronicle*, has grave doubts as to the prophylactic value of the *x*-rays in preventing recurrence after operation for cancer. A case of splenomedullary leukæmia reported in the Medical Record, August 22, 1903, has been treated by Nicolas Senn with great success, and other similar cases have been since reported.

On the whole, notwithstanding the many instances in which skin diseases, and even malignant diseases of a superficial nature, have been treated successfully by this means, it is as a diagnostic agent that the *x*-rays have yielded the most brilliant results. As remarked before, however, we are only upon the threshold so far as the use of electricity in medicine and surgery is concerned.

News of the Week.

Enforcement of the Law Regarding the Report of Contagious Diseases.—Dr. Thomas Darlington, President of the Board of Health of this city, has addressed a circular to physicians, saying that the health authorities are very anxious to restrict the prevalence of infectious diseases, and increase the accuracy and completeness of the vital statistics of the city, and that they intend, therefore, to enforce strictly the provisions of the Sanitary Code in regard to the reporting of contagious diseases and births. According to Section 133 of the Sanitary Code, it is the duty of every physician to report to the Department of Health, in writing, the full name, age, and address of every person suffering from any one of the infectious diseases included in the following list, with the name of the disease, within twenty-four hours of the time when the case is first seen: Contagious (very readily communicable): Measles, rubella (rotheln), scarlet fever, smallpox, varicella (chicken-pox), typhus fever, relapsing fever. Communicable: Diphtheria (croup), typhoid fever, Asiatic cholera, tuberculosis (of any organ), plague, tetanus, anthrax, glanders, epidemic cerebrospinal meningitis, leprosy, infectious diseases of the eye (trachoma, suppurative conjunctivitis), puerperal septicæmia, erysipelas, whooping-cough. Indirectly communicable (through intermediary host): Yellow fever, malarial fever.

The American Medical Association in 1905.—The date set for the next session of the American

Medical Association is July 11-14, 1905. This date has been decided on after considerable correspondence. The holiday season for the majority of medical men is from about the first week in July to September, and the schools have by that time all closed. Most of those who live in the east will want to utilize the trip to the association meeting as their summer vacation, and if the date were that usually adopted for the association meeting, these would not be able to attend. In July Portland has a delightful climate, and consequently there need be no fear of hot weather.—*Journal of the American Medical Association.*

The White League of Pennsylvania has been chartered for the purpose of providing open-air treatment for patients suffering from tuberculosis and unable to provide for themselves. A farm has been secured in Luzerne County, near Glen Summit, where a permanent camp will shortly be built. A temporary camp will soon be opened at Trout Run, near Bethlehem, with provision for ten patients. In addition to the camp a hospital is to be built on high ground about ten miles from Philadelphia.

Cholera is epidemic in Teheran, Persia, the deaths numbering several hundred daily. One of the recent victims was a New York merchant who has resided there several years. Dr. Allen, the American minister at Seoul, reports that cholera has appeared at An Tung, and that both of the belligerent armies in Manchuria are in great danger from the spread of the disease. The health authorities in Russia fear that the disease may invade their country from one or both of these sources, and precautions are being taken to prevent such a calamity.

Report on Cancer.—The committee of the Cancer Research Fund made a report at the annual meeting held in London last week. Some of the assertions made are rather too dogmatic and positive, as transmitted by cable, to preserve an altogether scientific tone, but doubtless the condensation of the reporter is accountable in part for that. The committee said that cancer was not caused by a parasite and was not transmissible from one person to another. It was denied that cancer was on the increase, and the effect of civilization on the incidence of the disease was declared to be nil, since animals were sufferers equally with mankind. It was declared that radium had no therapeutic influence on malignant growths, but hope was held out that curative results might be obtained from a serum which the committee had elaborated.

Newport, Ky., Branch Hospital.—In a decision handed down July 8 by Judge Berry in the Circuit Court, the city of Newport is restrained and enjoined from locating or maintaining within a mile of the boundary lines of the Coldspring District any branch hospital or institution where cases of contagious disease may be treated. It was thought that the location of the branch hospital on the Alexandria pike, about five miles out of Newport, had proved a solution to a very vexing problem. Four thousand dollars was paid for the ground and house, and about $1,000 was expended in fitting the place up, after numerous other attempts to locate a branch hospital had proved futile, because of the hostility of persons residing in the vicinity. The city will probably take an appeal.

The Association of Surgeons of the Baltimore and Ohio Railway met in the parlors of the Hamilton Hotel in St. Louis, June 29, 30, and July 1. At the meeting Dr. H. B. Stout of Parkersburg, W. Va., introduced a measure to secure the cooperation of the surgeons in a general plan to give lectures and instructions to conductors, engineers, brakemen, and firemen at all division points regarding the treatment of injured persons. Officers elected were as follows: *President*, H. Slicer Hedges of Brunswick, Md.; *Vice-President*, N. R. Eastman of Belleville, Ohio; *Secretary-Treasurer*, G. A. Davis of Summit Point, W. Va.

Joint Meeting of the International Association of Railway Surgeons and the American Academy of Railway Surgeons.—A joint meeting of these two societies was held in Chicago, Ill., June 1, 2, and 3. The convention met in the Assembly Hall of Northwestern University. During the first day the sessions were presided over by Dr. James H. Ford of Indianapolis, President of the International Association of Railway Surgeons, and the sessions of the second and third days by Dr. S. C. Plummer, President of the American Academy of Railway Surgeons. An address of welcome was delivered by Dr. Wm. A. Evans of Chicago, which was responded to by Dr. George Ross of Richmond, Va. President Ford discussed the "Use and Abuse of the Railway Surgeon" in his presidential address; and President Plummer selected, as the title of his address, "Following and Assisting Nature." Many papers were read and discussed. A resolution was introduced and adopted unanimously to the effect that the International Association of Railway Surgeons dissolve its present organization for the purpose of organizing the American Association of Railway Surgeons, provided that a union be made with the American Academy of Railway Surgeons; and also that the executive board of the International Association of Railway Surgeons be authorized to join with the executive board of the American Academy of Railway Surgeons and organize the American Association of Railway Surgeons. The following are the officers of the new organization, the American Academy of Railway Surgeons: *President*, Dr. John E. Owens, Chicago, Ill.; *Vice-Presidents*, Dr. R. W. Corwin, Pueblo, Col.; Dr. G. D. Ladd, Milwaukee, Wis., and Dr. H. C. Fairbrother, East St. Louis, Ill.; *Treasurer*, Dr. T. B. Lacey, Council Bluffs, Iowa; *Secretary*, Dr. H. B. Jennings, Council Bluffs, Iowa; *Editor*, Dr. Louis J. Mitchell, Chicago; *Executive Board*: Drs. D. S. Fairchild, Des Moines, Iowa, and A. I. Bouffleur, Chicago, three-year term; Drs. S. C. Plummer, Chicago, and A. L. Wright, Carroll, Iowa, two-year term; and Drs. W. S. Hoy, Wellston, Ohio, and J. R. Hollowbush, Rock Island, Ill., one-year term. There was considerable discussion relative to the time for holding the next annual meeting, but this matter was left entirely to the executive board. It is probable that the meeting will be held next year some time in the autumn.

New Jersey State Medical Licentiates.—At the meeting of the State Board of Medical Examiners of New Jersey, held at Long Branch, July 5, forty-three candidates for a State medical license, who passed the examination at Trenton on June 21-22, were licensed. The candidates represented twenty medical colleges located in Boston, New Haven, New York City, Brooklyn, Syracuse, Philadelphia, Baltimore, Washington, Chicago, Toronto, and Naples, Italy. The following attained the Honor Roll, or a general average of 90 and upward: Dr. Louise Martha Sturtevant, A.B. of Wellesley, and M.D. of Boston University School of Medicine, attained 91.6; and Dr. Henry Augustus Craig, M.D., of Columbia University, attained 90.7. The following Officers were elected for the ensuing year:

President, Dr. William H. Shipps, Bordentown; *Secretary*, Dr. E. L. B. Godfrey, Camden; *Treasurer*, Dr. Charles A. Graves.

Ohio State Board Examinations.—The Ohio State Board of Medical Registration and Examination announced on July 5 the result of the recent examination. Out of 222 candidates 210 were found to be entitled to a license. Of these, 39 reside in Cincinnati and 30 in Cleveland.

Agitation for a New Milk Law in Chicago.—Dairy inspection as a means to insure a pure milk supply for Chicago is not considered strong enough, as the Chicago Milk Dealers' Association, in a letter to Health Commissioner Reynolds, attacked the present system and made a plea for the permit system. The Health Department Bulletin states that inspectors will be sent into the country for the purpose of conferring with and advising the farmers. During 1900, with one city dairy inspector, only eleven farms were inspected. Without a change in conditions and methods, it is not expected that four inspectors can report upon more than forty-four of the 4,000 dairy farms. The Chicago Milk Dealers' Association believes in trying a system which has been of untold value in other cities. It believes that the city should require that any one who sends milk into Chicago should secure the privilege and make annual affidavits that the sanitary conditions prescribed by the city have been complied with. This plan is incorporated in a proposed amendment to the ordinance which provides that in applying for permits the dairyman furnish information regarding the location of the farm, the number, health, and feed of the cows, the drainage, light, and ventilation of the stable, methods of handling the fresh product, and the health of the employes. The association also advises that the ordinance require shippers to seal milk cans coming into the city, to prevent them from being tampered with while on the way. Instead of fining the receivers of the unsealed cans, as is the present rule, this new arrangement would place the punishment where it belongs, and make the shipper suffer for the negligence.

International Electrical Congress of St. Louis.—An International Electrical Congress will be held in St. Louis, during the week September 12 to 17. The congress will be divided into two parts, namely, (1) A chamber of government delegates appointed by the various governments of the world, invitations to which were issued at the beginning of the year from the United States Government. The transactions of the Chamber of Delegates will relate to matters affecting international questions of electrical units, standards, and the like. (2) The congress at large, divided into eight sections, one of which is for electrotherapeutics. The chairman of this section is Dr. W. J. Morton, New York City, and the secretary is Mr. W. J. Jenks of New York City. Three hundred and forty-three official invitations were issued some months ago to well-known workers in electricity, inviting papers for the congress. One hundred and sixty-eight of these invitations were issued to persons residing in countries outside of North America. As a result of these invitations, 105 American and 59 foreign specially prepared papers are promised to the congress. Of these, 5 foreign and 15 American papers are in the section on electrotherapeutics.

The Late Dr. William E. B. Davis.—The Southern Surgical and Gynecological Association proposes to honor the memory of its founder, Dr. W. E. B. Davis, late of Birmingham, Ala., by erecting a bronze statue of him. The statue will be unveiled at the meeting of the association in Birmingham, December 13 to 15, 1904.

American Academy of Ophthalmology and Otolaryngology.—The ninth annual meeting of this society will be held at Denver, August 24-26, 1904, under the presidency of Dr. Edward Jackson of Denver. The secretary is Dr. Derrick T. Vail of Cincinnati.

The Germantown Hospital, Philadelphia, has, by the gift of Anna T. Jeanes, come into possession of a handsome residence on Locust Avenue, near Chew Street. The income from the rental or sale will be devoted to the purposes of the hospital. Ground has been broken for the erection of a laboratory adjoining the hospital at a cost of $2,500. This is the gift of Mr. John D. McIlhinny, in memory of an infant daughter. The building will be one-story high and will be used for pathological and bacteriological investigation. A new building for pay patients, erected at a cost of $100,000, raised by popular subscription, will be ready for occupancy in the latter part of July. It is a three-story fire-proof structure, containing twenty-five private rooms and a special operating room.

Home for Nurses at Jewish Hospital.—The contract for the construction of the Nurses Home at the Jewish Hospital, Cincinnati, has been let. The building will be three stories in height and cover a plot of ground measuring 35 feet front, with a depth of 67 feet. It will be built of brick, with trimmed stone dressing.

A School in Philanthropy.—The success of the summer school in philanthropic work, which has been in operation in this city for seven years, has been so great that a permanent school of that character is to be established. The first session will begin early in October under the direction of Mr. Edward T. Devine.

Dr. Adam Szwajkart has been appointed by Governor Yates a member of the West Park Board, to represent the Sixteenth Ward. He is a graduate of the University of Cracow, and of the Medical Department of the University of Illinois.

Erection of New Hospital.—Within a few months the Columbus Hospital at Lake View Avenue and Deming Place, Chicago, which is under the management of the Missionary Sisters of the Sacred Heart, will be erected, sufficient funds having been already received to insure the success of the venture. The hospital will be five stories in height, and will be equipped with 150 rooms and 20 nurses.

Hamilton County, Ohio, Coroner's Report.—There were 103 suicides in Hamilton County during the year ending June 30, according to the annual report of Coroner Weaver. Of these all were white, with the exception of two colored women. It is a matter of record that few negroes commit suicide. Coroner Weaver also investigated 32 homicides and 358 accidental deaths. His attention was called to 334 deaths due to natural and unknown causes. Seven persons died from alcoholism and the inquests aggregated 834.

A New Journal.—The Missouri State Medical Association has decided to publish its transactions in the form of a monthly medical journal and the initial number of the *Journal of the Missouri State Medical Association* appeared on July 1. Dr. C. M. Nicholson is editor, assisted by Drs. C. Lester Hall, F. J. Lutz, Woodson Moss, M. P. Overholser, Robert T. Sloan, and L. A. Todd.

Professor Hoffa of the University of Berlin delivered a lecture in Germany's section of the Educational Exhibit at the World's Fair in St. Louis, on June 25. The subject of the lecture was Coxa Vera, and it was elaborated by some beautiful specimens and excellent radiographs. About fifty leading St. Louis physicians attended the lecture and a banquet which was given later in honor of Professor Hoffa.

Dr. Elias Potter Lyon of the department of physiology and dean of the medical department of the University of Chicago has resigned his position to become head of the department of physiology in the medical department of St. Louis University.

Anti-spitting Ordinance.—Moline, Ill., has adopted an anti-spitting ordinance, with penalties varying from one to five dollars for its violation. Signs are to be posted to warn the strangers, the careless, and the unwary against inadverently spitting on sidewalks.

Coroner's Fees Inadequate.—The County Officials of Hamilton County, Ohio, have recently gone back from the salary system to the old fee system. This is welcome to most of them, but in the Coroner's office the salaries amounted to $8,100, while the annual fees amount only to about $4,100. The Coroner, Dr. Weaver, is searching the statutes for relief.

The Chicago Hospital.—The Chicago Hospital Building Company, a corporation formed to build the Chicago Hospital at 452 Forty-ninth street, has given a deed of the property to the Chicago Hospital for a consideration of $135,000. The property is located 110 feet east of Cottage Grove avenue, and has a frontage of 75 feet and a depth of 132 feet. The improvement consists of a five-story brick building. The transfer was made subject to an incumbrance of $30,000, and the grantee has given a trust deed to the Merchants' Loan and Trust Co., to secure an additional loan to John T. Binkley of $40,000 for five years at 5 per cent.

A New Sanatorium at Denver.—The Agnes Memorial Sanatorium, for the treatment of pulmonary tuberculosis, was opened on July 2, Denver, with fitting exercises. The sanatorium was built and furnished by Lawrence C. Phipps in memory of his mother, Mrs. Agnes Phipps.

The California Vaccination Law.—The Supreme Court of California has reaffirmed the constitutionality of the "act to encourage and provide for a general vaccination in the State." The decision was rendered in a case referred from the county of San Diego, where the antivaccinationists have been creating no little trouble for the school board.

St. John's Hospital Made Free.—The board of managers of St. John's Hospital, in Brooklyn, which is under the control of the Church Charity Foundation of the Episcopal Diocese of Long Island, have decided that after July 1, no more pay patients will be admitted to the institution. Hereafter the work is to be of a purely benevolent nature. The number of patients for the present will be limited to the number of endowed beds.

"The Medical Digest" is the name of a new journal published in Portland, Me. The editors are Dr. Ralph Opdyke of New York and Dr. Eugene D. Chelbis of Portland. The paper is to appear monthly, the first number being dated April, 1904. The early issues give promise of a useful and successful periodical.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

BIRTHDAY HONORS—FASHIONABLE BAZAAR FOR VICTORIA CHILDREN'S HOSPITAL—HARVEIAN ORATION—RETURN CASES OF DIPHTHERIA AND SCARLET FEVER—POST-OPERATIVE VENTRAL HERNIA—ST. GEORGE'S HOSPITAL—SLADEN MEMORIAL—OBITUARY.

London, June 24, 1904.

To-day the King's birthday is officially celebrated and a list of honors conferred on the occasion was issued last night. Among them Mr. C. Holman, the zealous treasurer of Epsom College, and Dr. Thos. Stevenson, Home Office Analyst, receive knighthoods. In the order of the Bath, Deputy Surgeon-General Thornton, I.M.S., C.B., and Surgeon-General Townsend, C.B., become K.C.B. Surgeon Ligertwood, formerly surgeon Royal Hospital, Chelsea, and Surgeon-General Fawcett, Army Medical Staff, receive the C.B.

The Queen was present for about an hour at the opening of a grand bazaar at the Albert Hall on Tuesday, in aid of the Victoria Hospital for Children, and subsequently sent a letter to the president, congratulating him on the beautiful appearance of the hall. The sight has been described as "Fairy land in London," the stalls and decorations illustrated nursery rhymes and, of course, the assembly of ladies was most brilliant. On Wednesday Princess Louise, Duchess of Argyle, opened the second day's sale. Yesterday the sale concluded and a grand ball was held in the evening. Over £15,000 was realized, and after all expenses I hear the hospital will receive about £11,000.

The Harveian Oration at the Royal College of Physicians was delivered on Tuesday, by Dr. Richard Caton of Liverpool. He divided his discourse into two parts. The first dealing with Egyptian medicine, in which he gave an account of some of the results which archæological research has arrived at, in reference to the dawn of medical practice. About 3500 years B. C., the medicine-god, I-em-Hotep, whose name means "he who cometh in peace," was probably a priest of Ra, physician and sun god. From inscriptions and papyri his temples, where healing was carried on, were, in fact, hospitals. The later Greek colonists called them *asklepieia*. His priests also practised embalming and so acquired definite anatomical ideas. In the Ebers papyrus is a passage which the orator quoted as "wise advice," the importance of which we have, he suggested, scarcely as yet recognized. It was to the effect that in heart disease, if possible, the heart should be made to rest somewhat, and with this I pass by many interesting remarks to the second subject of Dr. Caton's able oration. This was devoted to the prevention of valvular disease. Why do rheumatic joints recover and the endocardium not? asked Dr. Caton, and replied, because the joint can rest but the heart cannot intermit its labors. But it may be made to rest partially, and this has been his practice for twenty years. He enjoins absolute quiet, the patient to lie with head at low level, made as comfortable as possible, encouraged to sleep, no excitement being permitted, and pain or fever being subdued—in short, he seeks to attain the nearest possible approach to physiological rest, as enjoined by our Egyptian predecessors thousands of years ago. We may add iodides to promote absorption of exudations but chiefly to lower tension, as in aneurysm. Of this plan Dr. Caton spoke most confidently, after carefully following it for over twenty years.

Dr. A. Newsholme read a paper at the Medical-Chirurgical Society on protracted and recrudescent infection in diphtheria and scarlet fever. Protracted infection in diphtheria was recognized by Greenhow and Gresswell, but not until recently has it been observed in scarlet fever. It doubtless occurred before the period of isolation hospitals, and Dr. Newsholme would explain by it the persistent belief in the infectiousness of late desquamation. He examined the explanations offered of return cases, which he said were relatively rare, and did not invalidate the value of isolation hospitals. These cases were generally connected with otorrhœa or rhinorrhœa, though in some cases a dormant infection might be roused into activity by catarrh. Germs multiplying in the patient himself and collecting on the rhinorrhœal lesion with which return cases are generally admitted would be more numerous than the lesser number that could obtain ingress from other patients. That increased activity was caused by hospital aggregation was a mere theory borrowed from that of smallpox. In each case it is a theory in support of a theory. Relapses of scarlet fever were compared with those of enteric, and these are not caused by fresh external infection.

At the Gynecological Society, on the 19th inst., Mr. Ryall exhibited a giant myoma which had been removed by Mr. Jessett, although a previous attempt at another

hospital had been abandoned. Intravenous transfusion was called for. The patient did well. The tumor weighed twenty-six pounds. Other cases were mentioned by those present—one in which the tumor was over twenty-eight pounds, another twenty-two and one-half pounds.

At the same meeting, Mr. Stanmore Bishop started a discussion on the prevention of post-operative ventral hernia, of which he had had four cases in more than 350 abdominal sections. He urged the necessity of securing firm union of the peritoneum, fascia and skin, as well as the combined tendons of the transversalis and oblique muscles. He discussed also the materials for sutures, their sterilization and preservation, and showed apparatus for securing these objects.

Dr. Macnaughton-Jones said he usually closed the abdominal wall in the manner shown in Mr. Bishop's diagram, which was practically the plan of Noble of Philadelphia, who had lately introduced another method of suture (diagram exhibited). The speaker closed the peritoneum by a fine continuous cumol suture, dissected the fascia from the rectus, and united it by continuous suture passing through the fascia and looping up the muscle at either side, before penetrating the fascia at the opposite side, thus closing the wound by complete adaptation or slight overlapping of the aponeurosis through its entire extent. Any apparently weak points can then be secured by interrupted sutures.

Mr. Charles Ryall said the chief thing was to be sure the aponeurosis was united throughout the length of the wound. The union of muscle would not prevent hernia; that of peritoneum did not add much strength though important in preventing adhesions. Prolonged rest after operation was an important preventive.

Dr. J. J. Macau regretted the absence of those who still used the through-and-through suture. Since the almost general adoption of suture in layers, subsequent hernia had been less frequent and less severe.

Professor Taylor (president) had found in the post-mortem room that union which seemed perfect externally might be incomplete on the peritoneal surface. For some eight or nine years he had united the peritoneum with a continuous suture of the very finest silk sterilized by boiling in a benzine solution. He then passed sutures at about one-half inch intervals through skin, fascia, and muscle without including the peritoneum, but before tying these, he united the fascia for the whole length of the wound, with a close continuous suture of the same fine silk as used for the peritoneum, over which, if desirable, a horsehair suture could be tied and passed through the skin. The interrupted sutures supported the fine ones and after ten days were withdrawn. The silk ones were left. He had seen indications of them two months afterward. In another case, reopened after a year, they had completely disappeared. In only three cases had silk given trouble and they occurred before he used benzine.

Mr. Bishop, in reply, said all agreed that buried sutures should be absorbable. Neither wire nor catgut were; the latter was apt to give way, and if used of the thickness often tried (No. 8) was almost impossible to sterilize; if one could rely on catgut being germ-free the difficulty would be met. By his method it was easy to assure one's self by both sight and touch that the aponeurosis was properly united throughout its entire length.

A special court of the governors of St. George's Hospital was held on Tuesday, to receive the report of the committee appointed in March, 1903, to consider the desirability of removing the hospital to a more extensive site. There was a large attendance, and Lord Windsor presided. The majority of the committee were against removal but there was a minority report. In accordance with the majority, a resolution was moved "that it is not desirable at the present time and under existing circumstances to remove St. George's Hospital from its present site." It was urged that this site was one of the best in the world. On the other hand, it was argued that the hospital is spending at the rate of £10,000 beyond its regular income and a sale of the site would cover that. The resolution was carried. A resolution that the present is not a favorable time to appeal for funds for rebuilding was defeated. Resolutions were carried for utilizing the new site lately acquired for the immediate requirements of the hospital, and authorizing negotiations for the acquirement of additional leaseholds. Just before the close of the meeting a letter was read from Dr. Rob Barnes offering £1,000 toward the expenses of the medical school.

Mrs. Percy Sladen, to perpetuate the memory of her late husband, Mr. Walter Percy Sladen, at one time vice-president of the Linnean Society, has undertaken to devote the sum of £20,000 to the promotion of research or investvestigations in natural science, more especially in zoology, geology, and anthropology. Mrs. Sladen has appointed the first trustees of the Percy Sladen Memorial Fund—four in number.

Edward Trimmer is a name appended to thousands of diplomas of the Royal College of Surgeons during the forty-two years he served that corporation as secretary. He retired in 1901. After some months' suffering from malignant disease he has just passed away in his seventy-eighth year.

Sir David P. Ross, late Surgeon-General of British Guiana was M.D., Edinburgh, 1863, and M.R.C.S., England, 1864. The same year he entered the army service. Was for twelve or thirteen years in various medical posts in Jamaica; and his subsequent career in the colonial service has been distinguished. In all his varied positions, from a student onward, he was esteemed by hosts of friends and colleagues.

The death of Mr. A. O. Mackellar, F.R.C.S., Chief Surgeon of the Metropolitan police force and formerly surgeon to St. Thomas' Hospital, occurred on the 15th inst., at the age of fifty-eight. He was M.D. and M.Ch. of the Royal University, Ireland, 1869. He went out to serve as surgeon on the ambulances sent to help in the Franco-Prussian, Turko-Servian, and Russo-Turkish wars, was made Knight of the Military Order of Merit of Bavaria, of the Gold Cross of Takovo, and of the order of the Medjivich.

OUR PARIS LETTER.

(From Our Special Correspondent.)

SERPENT VENOM—MILLIAMPÈREMETER FOR X-RAYS—BREAST-FEEDING FOR THE CHILDREN OF FACTORY WORKERS—X-RAYS IN CANCER—SOCIAL ASPECTS OF MEDICAL CHARITY—POISONING BY CAMPHOR—NAPHTHOL—DEATH OF PROFESSOR MAREY.

PARIS, June 10, 1904.

At the Académie des Sciences, Calmette recently presented the result of his investigations concerning serpent venoms and their antagonistic serums. He differentiated two distinct substances in these venoms, one acting on the blood, the other on the nervous centers. The antitoxic activity of an antivenomous serum is easily determined by experiments in vitro, in which varying amounts of antitoxic serum are made to act on a constant quantity of the defibrinated blood of the horse or of the rat, containing a constant amount of venom. D'Arsonval presented a milliampéremeter intended to measure the intensity of a current circulating in an *x*-ray tube. This method will make it possible to record, rapidly and practically, the strength of the Rontgen rays emitted by a tube.

At the Académie de Médecine, in the session on May 24, Professor Budin made an interesting report on the necessity of breast-feeding for the children of workers in mills and factories. The Academy afterward indorsed this report and forwarded it to the Minister of the Interior. The figures show that among children who die under one year of age nearly half are overcome by diseases of the digestive tract. The great cause of these diseases is artificial feeding; therefore nursing ought to be made possible. The labor organizations should be prevailed upon to permit women to nurse their children. Professor Budin calls to mind the fact that the Italian Parliament enacted a law in 1902 that in all factories occupied by as many as fifty workers there should be a room for nursing.

The Academy should, the speaker urged, express the opinion that in all industries and establishments mothers ought to be authorized to absent themselves regularly to nurse their children, and that créches and special rooms should be established near the places for work, where the children could be cared for and nursed.

At the meeting of the Société des Internes et Anciens Internes des Hôpitaux de Paris, held May 26, Dr. Leredde showed two patients with epithelioma of the face, who had been subjected to the action of the Röntgen rays during only five or six exposures of from thirty to forty minutes each. The photographs of these patients, taken before the treatment, showed considerable epitheliomatous masses, situated in one case on the left cheek, in the other on the forehead. The presentation of the patients themselves gave the opportunity of noting the disappearance of the neoplastic masses. Following this presentation, an interesting discussion arose in regard to the action of *x*-rays on epitheliomata. Cancerous tumors in active proliferation, malignant epitheliomata, seem clearly to be influenced, retarded in growth, and even destroyed by the Röntgen rays. The hard, horny tumors, on the other hand, show no well-marked effect. As to the influence of the Rontgen rays on internal cancerous tumors, this appears to be rather adverse than otherwise. Indeed, Dr. Jacquet cited a case in which the *x*-rays evidently hastened the death of a patient suffering with inoperable carcinoma of the stomach. Dr. Pechon also cited a case of non-ulcerating sarcoma of the thigh, treated by exposure to *x*-rays, which was followed by general sarcomatosis and the death of the patient.

Mesureur, director-general of the "Assistance Publique," delivered a remarkable address, at the same meeting, on

the social rôle of the "Assistance Publique." He showed how, since the adoption of the altruistic ideas advanced by the French Revolution, the dignity of the indigent patient has been actually safeguarded, and how he has not been considered, as formerly, a dangerous element, and one prejudicial to society. Since the alleviation of misery devolves upon the "Assistance Publique" it ought preeminently to consider its prevention by means of social laws. Laws for the protection of the woman and the child give, from this point of view, an immediate and certain return, for in safeguarding their health and their capability for work, both the woman who is to be the mother and the child who is to be the citizen and the soldier of the future are protected.

A great project, the most important, perhaps, which would considerably lessen the debt of the "Assistance Publique," is that which relates to the relief of the aged and incapacitated workers, and to the provision of homes for the superannuated. Thus Society, diminishing little by little the causes of misery, establishing the right of the individual to the consideration of humanity, will finally cancel its debt to humanity. And yet, no laws can wholly do away with misery and illness, for there will always remain some who are starving and some who are ill. The "Assistance Publique" is indeed at hand, as an automatic instrument, to distribute succor, to relieve the hunger of a day, but never, by itself, will it raise up again a being who has fallen. To its official efforts must be added the disinterested help of private individuals who will give that useful counsel, that moral support, which will reawaken dormant energy, will arouse the power for work, and will give assurance for the future.

It is in the hospital that the divers forces of this charity can unite. The patients, in effect, in coming to the hospital, largely pay their social debt by constituting the vast field where science reaps its harvests, where all the youths of our scientific schools find the essential material for their studies. Passive and apathetic, the patients contribute their part to the progress which has made the renown of the French medical schoo so wide spread. The "Assistance Publique" considers that its honor lies not only in the fact that its hospitals afford an asylum for those who suffer, but also in the fact that they constitute a great practical school in which the country may take pride. It demands that the physician love these who so generously offer their sufferings as a means of instruction, love them in order to cure them, and also that he recognize in the patient a human being whom a word can console. It demands that these guardians of science, these intellectual giants, who have dedicated their great powers to the cause of healing, shall endeavor, by arousing a greater sympathy among men, to create a better society, with less of suffering and more of justice.

At the Society of Surgery, the question of intermittent hydronephrosis, of which we spoke in our last letter to the MEDICAL RECORD, was again discussed. Dr. Guinard then reported a case of poisoning by camphor-naphthol, in which a man succumbed a few minutes after its injection into the cavity of an abscess from which the pus had just been evacuated. Kirmisson also cited cases in which camphor-naphthol injections had produced untoward accidents. The symptoms always take the same form, that is, either syncope or epileptiform attacks. Guinard stated as conclusion of his communication and of the discussion which followed, that it seemed to him the administration of camphor-naphthol by this method should be discontinued.

Among the serious losses which the scientific world has recently experienced we would mention the death of Professor Marey, member of the Academy of Medicine and of the Academy of Sciences, whose works on experimental physiology are well known. The sphygmograph and the cardiograph of Marey are instruments too widely distributed, too generally adopted throughout the world, and of a usage too common, for it to be necessary to lay stress on the great discoveries of this savant. During more than forty years, indeed, Marey devoted himself to the difficult problems of the heart and the blood-vessels. His great work was the development of the graphic method, that is to say, the direct inscription through the medium of pens of the biological phenomena observed. By a series of photographs Marey was able to study and to recognize all the phases of the circulation of the blood in men and in animals. Moreover, he made an interesting and valuable study of the flight of birds and of the various movements of their wings.

Health Board Changes.—Commissioner Darlington has again shifted the assistant sanitary inspectors. Dr. Moore, who was sent from Queens to Richmond, two weeks ago, goes back to Queens; Dr. Sprague, who was sent from Richmond to the Bronx, comes to Manhattan; Dr. Murray, who went from Brooklyn to Queens, goes to Richmond. Dr. Pursall, who went from Manhattan to Brooklyn, will remain there one week longer.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

QUINQUAUD'S DISEASE—BERLIN LIFE-SAVING SOCIETY—ECLAMPSIA AND THE NERVOUS SYSTEM—INFANT MORTALITY—FIRST REPORT OF MEDICAL SCHOOL INSPECTORS.

BERLIN, June 4, 1904.

At the meeting of the Society for General Medicine, held May 16, Fürbringe delivered an address concerning the value of Quinquaud's sign. The inquiries of many physicians had caused the speaker to give closer attention than before to the nature of this sign. Speaking of its history, he told how a teacher by the name of Quinquaud, as Maridon made known in 1900, made the following experiment with his scholars in 1893: He had them place the finger tips of a patient against the palm of his hand, and held them there a few minutes. Among the students several were evidently scornful. In a little while crepitation was apparent in the phalangeal joints of the fingers that had been placed in position. This phenomenon can be observed only in the case of drinkers, and then not with moderate drinkers. The degree, therefore, to which alcohol has been misused can be judged by the strength of the crepitation. Fürbringe examined in this way five hundred patients, drawing them from both the hospital and his own private practice. He divided those whom he examined into four groups: almost total abstainers, moderate drinkers, drinkers, and drunkards. He divided the sounds observed into three groups: perceptible, moderate, and strong. In the case of the drinkers, he found it sufficient if they placed two fingers only in position, the two chosen being the ring and the middle finger. He prepared the following table:

	Moderate Drinkers	Drunkards
Absent,	89.5 per cent.	10.5 per cent.
Moderate,	72 per cent.	28 per cent.
Strong,	41.5 per cent.	58.5 per cent.

In brief, it may be said that in the case of the moderate use of alcohol, this phenomenon occurred only to a slight degree, and that where it was more marked, the case was that of a drunkard. In comparing tremor with this sign, Fürbringe made the following table:

	Moderate Drinkers	Drunkards
Absent,	93 per cent.	7 per cent.
Moderate	73 per cent.	27 per cent.
Strong,	22 per cent.	78 per cent.

It is evident from these tables that one can recognize a drunkard with greater certainty by tremor than by Quinquaud's sign. It is to be noticed that neurasthenia and hysteria influence both these phenomena. In no case was there any change in the joints. The phenomenon ceases when the subject is tired, but reappears after a short time. Fürbringe drew the conclusion that Quinquaud's sign should not be taken alone in making the diagnosis of alcoholism, but it is of value in connection with other symptoms.

The recently published report for 1903 of the Berlin Life-saving Society gives the opportunity for a few general remarks concerning the present situation and the outlook. In the case of street accident or sudden illness in a house, the sufferer heretofore would receive help first from the stations established by the Red Cross Society. There are twenty of these stations in Berlin, with their directors and assistant physicians, who, it is said, know how to make a very good practice for themselves from the patients who come to the station, and have made inroads upon the practice of the physicians of the district. In spite of this, the number of stations established was not increased according to the demand. Seven years ago the Berlin Life-saving Society was founded by Morris von Bergmann, and this society at the present day has fifteen head stations, chiefly in the cities and in connection with the royal hospital, and also ten relief stations. In the latter, each physician of the district is on duty from two to four hours every week. Care is taken that one in laying claim to the help of a station does it but once in the course of an illness. The Life-saving Society is doing a very great work through the introduction of a central station for the care and attendance of the sick of Berlin, concerning the great social and humanitarian significance of which movement we shall speak later. According to the yearly report, 6,074 cases were treated in the chief stations, and 10,946 in the relief stations. The increase since last year has been remarkable. A year ago union with the accident stations was refused by the Life-saving Society, but on April 19, 1903, a common agreement for first aid was established.

An interesting discussion took place at the meeting of the Obstetrical and Gynecological Society. It had to do with the still unsolved problem of the cause of eclampsia. Bruno Wolf had repeated the well-known experiments of Blumenreich on animals, in which he removed

both kidneys from a large number of rabbits, some being pregnant, and some not. He made the following important deductions: (1) In the case of a pregnant animal, both of whose kidneys have been removed, the fœtus dies before the appearance of any uræmic symptoms in the mother. (2) Typical uræmic attacks, with convulsions, occur very seldom after the operation—twice out of seventy-four cases. Blumenreich believed that Wolf had overlooked the convulsions because they affect, for the most part, chiefly the neck muscles. Olshausen reported a case in which he, in spite of cutting off the action of the kidneys known to be failing had seen no convulsions. For this reason it was plain that the poison of eclampsia is something different from the uræmic poison due to extirpation of the kidneys. Machenrodt had seen a similar case, and Olshausen instanced the fact that in the end stages of carcinoma which causes suppression, uræmia has been observed, but not convulsions.

For the past week there has been summer weather in Berlin, and already the waiting rooms of physicians, especially of those in the working districts, are full of children. The mortality among infants has increased greatly. At the beginning of last month, much light was thrown on this question at a meeting of the newly-formed society for combating the death rate of infants. Professor Hubner held, in this discussion, that, as a result of the falling off of nursing in Berlin in 1898, the mortality of infants had increased—and that solely because of a lack of patience and will power on the part of the mothers. While out of 1,000 living of the general population 18 die, out of 1,000 living infants 286 die. Since in the Strahlauer Foundling Asylum out of 1,000 children only 40 die, an effort to diminish the death rate of children seems wise. As a return to breast-feeding will take some time, the thing to do now is to improve the cow's milk. Ostertag briefly stated the question from the pathological point of view. The milk from diseased cows is capable of transmitting typhoid fever and tuberculosis, and may become poisonous from diseased udders, and also from medicines or food poisons contained in the milk. The milk of healthy cows may be poisonous when the milking is not done in a sanitary manner, or when the milk is not kept cool, for the bacilli which cause milk to sour are not killed by heat. Concerning the regulation of the milk supply, Engel made the statement that in Berlin over 2,000 children were injured by cheap milk. Through the action of the society many dairy companies have agreed to have their cows, stalls, etc., inspected by veterinarians and physicians. The director of railroads has been asked to have refrigerator cars for transporting the milk. Further action of the society has brought about the following: (1) Copies of regulations will be sent to dairies, physicians, infants' and children's asylums. (2) Midwives will be instructed in regard to the value of breast-feeding. (3) Notices from the society will be sent weekly to the mothers of the new-born, with a list of the inspected dairies, and with instructions regarding the care of milk and the feeding of infants. (4) A relief fund is to be established: (*a*) for poor mothers, so that by better nourishment for them, better nourishment may be assured for the children; (*b*) in order that poor people may be able to buy better cow's milk; (*c*) for providing for the destruction of the milk of diseased cows, after imposing a fine upon the dairy. (5) An agreement is to be entered into with other societies pursuing similar courses, and as many coöpertors as possible won in distant places.

How necessary the improvement in the nourishment of children is, was shown by a recent report concerning the work of the Berlin school physicians, appointed in the spring of the present year. Fifteen thousand children, recently entered in school, were examined by thirty-six physicians. Ten per cent. of all the children were found to be physically or mentally unfit, and excused from school attendance for from one-half to one year. Of these, 25 per cent. suffered from general physical debility, 16 per cent. had not overcome the results of the sicknesses of childhood, 5 per cent. had tuberculosis, 15 per cent. suffered from anæmia, scrofula, or rachitis, 10 per cent. were undeveloped mentally.

A GARDEN PARTY GIVEN BY DR. LORENZ TO AMERICAN STUDENTS IN VIENNA.

(From an Occasional Correspondent of the MEDICAL RECORD.)

Two weeks ago the Anglo-American Medical Association of Vienna—composed chiefly of American physicians who are studying in the various clinics in this Mecca of medical pilgrims—invited Prof. Dr. Adolph Lorenz to dine at the association headquarters and after the dinner give a lecture upon any subject he should elect. Dr. Lorenz accepted the invitation, and gave a lecture on Coxitis and his method of treatment. Following the lecture he spoke at length of his reception in America by the profession, and of the warm hospitality tendered him wherever he went while there. He next spoke of his—heretofore—inability to return any of that hospitality, and he took this opportunity of extending to the members of the association an invitation to come to his summer home, overlooking the beautiful blue Danube, and attend a garden party, the association being privileged to set the date which would best conform to their convenience. The association acted at once upon the invitation and voted then and there to accept the generosity of Dr. Lorenz, and Friday, June 24, was set as the date.

The weather was perfect, cool and pleasant, an ideal June day, the members of the association and their wives met at Alserstrasse station in time for the afternoon train which was to take them to Greifenstein-Altenberg, Dr. Lorenz having insisted upon bearing every expense of the trip for each of his guests. We reached Attenberg about 5:30, and were met at the railway station by the genial doctor, who greeted every one individually in the most gracious manner, then piloted us up a woody mountain road in the delicious coolness and fragrance of the shade and odors of the flowers and shrubs, to an opening commanding a most extensive view of the Danube and its valley for many miles, and of the most glorious country imaginable, mountains in every direction, many of them surrounded by picturesque old castles, and everywhere winding in and out, "like a blue ribbon," the lovely Danube.

The rare beauty of the scene cannot be expressed in mere words. It burst upon our view so unexpectedly that we were spell-bound for several moments. Soon, however, our spell was broken, for as we moved on a little further we were greeted in the warmest and heartiest manner by Madam Lorenz, wife of our noted host, who with her sisters had arranged a booth, under a huge umbrella floating from the top of which were seen the stars and stripes of our own loved country together with the orange and black of Austria. Music was also there, furnished by a company of Vienna musicians. We were invited to seat ourselves upon the grass to rest and enjoy the beauties around us, while we were served with tea, coffee, seltzer and white wine, beer, cake, and cherries. And *such* cherries! One could not find in any land more perfect fruit and more varieties. When we had enjoyed this pleasant refreshing for a time we were invited to continue our walk a little further, through lovely acres of currants, gooseberries and cherries, on down to the beautiful villa of Dr. Lorenz, which nestled about half-way down the mountain. Dr. Lorenz seemed to be everywhere, first in the fore-front, then in the rear and all along the line, and 'twas a long line, as we marched in "geese-walk" as the doctor expressed it (Gänse Marsch) about eighty of us—to his home.

It would be impossible to imagine a more cordial welcome than was accorded us, as time and again our delightful host urged us to "be at home," "be at home."

The villa consists of an original or old part and a very handsome new part. The stones of this new part have come entirely from old and noted Vienna buildings which for one reason or another have had to be taken down, and Dr. Lorenz bought them and had them transferred to his country seat, and when sufficient had been collected in this way he had the beautiful new part of his dwelling put up. The balustrade surrounding the wall and grounds came from an old stone bridge which crossed the Danube near Vienna at one time.

The ladies were taken into the private rooms of the house to remove their wraps, smooth out the wrinkles, and shake off a little of the railway dust, then went out to assemble in the palatial hall, while the doctor with the professional men ascended the stairs. The guests finding places in the beautiful gallery overlooking the hall, Dr. Lorenz stepped forward into a little balcony and addressed his guests in the warmest words of greeting and welcome. He welcomed the wives of the physicians, whom he considered as representing that type of American woman, who, as doctors' wives, shared the hardships of a doctor's life. He "welcomed the two lady doctors, whom he considered as that type of American woman who stood for woman's emancipation, and he welcomed the lady who, as neither doctor nor doctor's wife, was known the world over, and who had done so much for the profession"—Mrs. Armour—who had come out to join the Americans in their pleasant treat at his home.

He spoke again of his appreciation of all the American hospitality which he had received, and said that it gave him great pleasure to welcome us as his guests. Dr. E. L. Swift, of the United States Army, responded to the word of welcome in a very pleasing manner. After this Dr. Lorenz escorted us through his house, showing us the various apartments, the beautiful paintings from the brushes of the old masters; pointing out to us, here and there, some object of special interest. We were even

invited to inspect the kitchens, which were truly works of art, with their spotless tiled floors and wainscoting. Everything of the most approved hygienic make up, which, to quote Dr. Lorenz, "were of American-Viennese manufacture."

The house is truly beautiful. From every window one found the most glorious views of the surrounding country, while within the arrangement of the house, its furnishings and hangings, proclaimed the exquisite taste and appreciation of the harmony of color of the host and hostess.

The sixteen-months old son of Dr. Lorenz claimed considerable attention—a beautiful blue-eyed boy, strongly resembling his noted father, the perfect picture of health and happy disposition.

We were now ushered out to enjoy the beautiful grounds surrounding the house, and a little later escorted to the tennis court, which was most perfect if its kind. Here we found many tables spread with snowy linen and shining silver and flowers in profusion arranged about each place in a most artistic manner. Overhead were strung dozens of very pretty Japanese lanterns. At one side of the court was the dais upon which were seated the Viennese musicians who made music for us during the afternoon. They played and sang many very pretty selections during our meal. The supper was served in the most attractive, dainty manner, and consisted of the most tempting, delicious food one could wish for. Here again our interesting host and his good Frau flitted here, there, everywhere, among their guests, looking after each one's comfort and appetite in a manner delightful to see. Nothing was left undone that could in any way add to the pleasure and content of each and every guest. After the meal the musicians played America, whereupon we all arose and sang the national hymn right lustily. This was followed by the "Wacht am Rhein" and the Austrian national hymn. Professor Lorenz at this juncture presented each guest with a souvenir post-carte upon which was a picture of his villa, and for those who desired it, both he and his wife added their signatures.

The tables were pushed to one side and the musicians began to play dance music in such an inviting manner that the toes of the younger members of the profession could not resist, and soon the scene changed to one of frolic and fun, which lasted until about ten o'clock, when the doctor's carriages drove up prepared to take the ladies to the railway station, a short distance away, and the delightful "garden party" disbanded.

The event was certainly one in a lifetime, an afternoon and evening never to be forgotten by those of America's medical profession who were privileged to enjoy it.

The following physicians were present: W. M. Engelbach, G. A. Gardener, F. G. Harris, J. L. Jacques, O. H. Kraft, W. H. Lamborn, G. P. Marquis, F. R. Morton, Brown Pusey, G. W. Parker, H. Schafer, and J. I. Wernham, of Illinois; A. E. Austin, D. W. Clark, F. J. Hurley, D. J. McSweeney, A. E. St. Clair, of Massachusetts; H. L. Aller, F. Goldfrank, Mary Sutton Macy, Isabelle Thompson Smart, A. W. Booth, of New York; E. S. Geist, D. N. Lando, H. L. Williams, of Minnesota; Francis W. Alter, H. W. Ely, H. H. Wiggers, Tubman, of Ohio; H. L. Akin, E. C. Henry, S. J. Jones, of Nebraska; A. L. Mackenzie, E. A. Mallon, H. G. Wertheimer of Pennsylvania; E. D. Clark, F. N. Hibben, of Indiana; Louis Rassieur, F. L. Stüver, of Missouri; E. D. Chipman, Chas. Fitzgerald, of Connecticut; E. F. Dodds, L. H. Fligman, of Montana; H. J. Schlageter, A. S. J. Smith, of California; J. J. Sullivan, New Jersey; E. Van Hood, Florida; S. K. Simon, Louisiana, C. E. Zerfing, South Dakota; Bernard J. O'Conner, Kentucky; A. C. Behle, Utah; R. P. Daniells, Wisconsin; R. H. Dean, Iowa; J. H. Davis, Colorado; A. W. Ives, Michigan; C. A. Lilly, Kansas; Walter Luttrell, District of Columbia; E. L. Swift, United States Army; A. H. Bennett, Adelaide, Australia; W. H. Goodden, Bristol, England; A. S. Wilson, Aberdeen, Scotland.

PHTHISIOPHOBIA.

To the Editor of the Medical Record.

Sir: I have only lately read the very able plea for "Justice to the Consumptive" made by Dr. S. A. Knopf in your issue of January 2. In quoting me as opposed to the Goodsell-Bedell law, I am sorry to confess that Dr. Knopf does me too much credit. My opposition to this bill was solely on account of some details that seemed to me to make its operation impracticable. I am the rankest kind of a phthisiophobe, though no longer of an age or build to have any personal fear of the disease. Statistics show that, excluding deaths from violence and old age, tuberculosis kills about a quarter of us all, hence its control has just about one-third of the importance of all other diseases together. A parasitic disease which has no necessary intermediate host, which requires no peculiar method of implantation, and which is not synchneident, can, according to our present knowledge, be controlled satisfactorily only by the general principles of quarantine.

It is straining at a gnat and swallowing a camel to subject patients with acute exanthematous diseases—which are all semelincident—to the hardships of quarantine and to allow tuberculosis patients, in the stage of discharge, to go free. I believe that whatever diminution in the prevalence of tuberculosis has thus far occurred, has been due mainly to professional and lay phthisiophobia, and not to any considerable degree to condemnation of cattle, improvement of resisting powers, or therapeutic measures against the existing disease. I believe, also, that just as leprosy was removed from most European countries in the middle ages by enforced segregation, so enforced governmental segregation in sanatoria is the only promising method of dealing with the modern problem of tuberculosis.

With regard to the exclusion of tuberculous immigrants, I agree with the Surgeon-General of the U. S. Public Health and Marine Hospital Service that no immigrant should be admitted who is any way a menace to our own country. Indeed, I would go much further, and admit only a very superior class of prospective citizens. In other words, when the matter concerns the general welfare of my countrymen, I would be absolutely cold-blooded and selfish.

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INFECTIOUS DISEASES IN PERU.

(From Our Special Correspondent.)

Arequipa, May 31, 1904.

The bubonic plague seems to have taken a permanent hold of Lima and Antofagasta. It is probable that from these centers it will extend to the rest of the coast. In Lima the cases are not numerous and are of a comparatively mild character, many of those attacked recovering and the infectivity being low.

Here we are having smallpox and a few cases of diphtheria. The former, when treated early by touching the papules with carbolic acid and also giving the same remedy or salol internally, generally doing well and leaving little disfigurement.

Diphtheria, if treated early by antitoxin and a mixture of tincture of chlorate of iron, solution of ammonium acetate and potassium chlorate taken in lemonade, and the throat swabbed out with peroxide of hydrogen and glycerin, is not very fatal. The infection of diphtheria may last for a long time.

I saw in consultation this month a boy of eight years, suffering from diphtheria. More than two and a half years previously I had seen his aunt with diphtheria in the same house. There was no other known or suspected source of infection. The house had been shut up after the illness of the aunt.

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 7, 1904. **Aciduria (Acetonuria) Associated with Death after Anæsthesia.**—E. G. Brackett, T. S. Stone, and H. C. Low report a number of cases which present certain features in common: Vomiting associated with collapse; a very weak and rapid pulse; an absence of fever until just before death; cyanosis in the fatal cases causing extreme dyspnœa; apathy and stupor alternating with periods of restlessness at first, but in the fatal cases gradually deepening into coma and death; and the presence of acetona in the breath and urine. In six cases the symptoms came on without operation. In three of these cases the symptoms came on the day after entrance, and in one two days after. In one case the symptoms came on after the child had been in the ward for four weeks and was up and about. In seven cases the symptoms followed operation. Three of these patients died, four recovered. In the four milder cases the symptoms came on between 12 and 24 hours afterward. In the three fatal cases, alarming symptoms came on after about 12 hours, but in none of the cases was the recovery from the operation quite normal. Those children in whom the symptoms were severe were of high-strung, nervous temperament. The symptoms coming on after operation were usually more severe than those coming on without operation, although there was one rapidly fatal case in the latter group. Death in the fatal cases occurred from 12 to 36 hours after the onset of the symptoms. It seems to be due in some cases to a lack of oxygen. Eleven cases showed acetonuria, and only two did not show diacetic acid in the urine, and in one of these the test was not made for it. The only marked anatomical lesion found in the four autopsies was the extreme fatty degeneration of the liver and the muscles. From the study of these

cases it can be stated that the symptoms are not the result of anæsthesia, operation or shock, unless in the presence of certain underlying causes still undetermined. Especially in nervous, high-strung children, the confinement, changed habits, changes in diet, homesickness, dread of operation, anæsthesia, and the operation itself may lead to changes in metabolism which have hitherto not been taken into account. Greater attention should be paid to the temperament of children entering a hospital. The absence of any gross evidence of a pathological condition may not constitute immunity from the danger of acetonuria, and possible death after operation. Caution should be paid to those cases in which the presence of a fatty liver is suspected. Special care should be exercised in those cases which show extensive degenerative changes, such as is seen, for example, in extensive infantile paralysis.

Journal of the American Medical Association, July 9, 1904.

The Crisis and Treatment of Pneumonia.—W. J. Halbraith does not offer his plan of treatment as a specific but claims it has materially lowered his death rate. The first attention to be rendered in the ordinary cases is a warm bath and a saline cathartic. The indications governing the administration of quinine and iron are as follows: When the temperature has reached 105°, or over, 60 grains of quinine sulphate is to be administered as the initial dose, followed in one hour by one-half this amount, or 30 grains, and in another hour by one-half the latter dose, or 15 grains, at which time the author begins the administration of tincture of iron in doses ranging from 7 to 15 minims, depending on the stage of the disease and the condition of the heart. If he sees the patient on the first or second day of his attack, he usually begins with 10 minims of tincture of iron, increasing it one or two drops, or even more, each day up to the sixth or seventh day, unless the pulse remains strong and full. He does not believe in giving quinine in small and repeated doses during the active stages. When the temperature is 104° or over he gives 50 grains of sulphate of quinine and follows the same course as given above. When the temperature is 103° he gives from 30 to 40 grains, and follows the same course. During convalescence he has found iron, quinine, strychnine, guaiacol, and cod-liver oil of value. What has served him best are thorough ventilation and sunlight, with plenty of milk, eggs, and beefsteak.

The Yellow Fever Epidemic of 1903 at Laredo, Tex.—G. M. Guiteras reviews his experience in this epidemic, and draws the conclusions that the results obtained through the efforts to combat the epidemic at Laredo demonstrate that the *Stegomyia fasciata* is the only means of transmitting the disease. Oiling all water containers and deposits of stagnant water was completely successful in preventing the reproduction of mosquitos. Inasmuch as the *Stegomyia fasciata* can become infected by biting the patient during the first three days of the disease only, it is of vital importance that cases of fever be reported at the earliest possible moment, so that they may be screened. It is impossible to obtain good results without a mosquito-proof yellow-fever hospital. The difficulties of handling an epidemic are increased when such outbreak occurs on the frontier. Arrangements should, therefore, be entered into by treaty with contiguous foreign countries, so that sanitary measures may be carried out jointly by the countries interested. Those residing within the sphere of influence of the *Stegomyia fasciata* should be taught through the medium of the public press to protect themselves against yellow fever by destroying the means for the propagation of the mosquito and by protecting themselves against the mosquito by efficient screening. If the first case presenting the slightest suspicious symptoms of that disease were promptly made public, and the proper modern precautions taken, there would be no danger of the disease spreading.

The Medical News, July 9, 1904.

Yohimbine; Its Use in the Treatment of Eye, Ear, Nose, and Throat Diseases.—J. H. Claiborne and Edward B. Coburn have tested the local anæsthetic properties of yohimbine. They regard it as inferior to cocaine in all operations upon the eye on account of the congestion produced by it. For the examination of the nose it was not as effective as cocaine, because the contraction caused by it was not so marked. It has been found useful in ear and nose work. Its advantages may be summed up as follows: It is nontoxic; there is long duration of anæsthesia after its use; it does not markedly contract the tissues; the taste is only slightly bitter; it does not cause unpleasant contraction of the throat and mouth. Its disadvantages are that it does not keep well; it does not contract the tissues; after its use there are hyperæmia and hemorrhage after operation; salivation is caused by its use.

The Theory of Mutation in Its Relation to Medicine.—Jonathan Wright declares that evolutionary science is drifting in the direction of spontaneous generation. He believes that the theory of mutation in biology, if it is settled in the affirmative, will have a very important bearing upon our knowledge of the etiology of disease. The author recalls the declarations of De Vries, an Amsterdam naturalist, that there are certain jumps in the life history of species, which are really the origin of species. He has specially studied the primrose in this regard, and has observed changes which he calls mutations, and these changes were so sudden and profound that he has come to believe that all species at some time in their life history exhibit an excessive instability from which new and distinct forms arise. The writer does not see how this idea in any way upsets the fundamental idea of Darwin. He believes that "the theory of mutation" is important to the conception of microbic disease. In the decades preceding the middle of the last century, it was the common belief that from time to time the character of certain diseases changed in their clinical manifestations; that, for example, during a longer or shorter time, pneumonia presented sthenic types, suitable for bleeding, followed by asthenic types when such procedures were disastrous. Again, diphtheria is not sufficient to account for the severity of the cases of throat inflammation with which Hippocrates had to do. In the history of smallpox and phthisis we know with what rapidity early races have been all but exterminated by these diseases. Ancient books give no record of many a scourge which has since worked havoc among civilized nations. The writer suggests that we may suppose that many diseases as the resultants of primordial changes in the cell and the microphyte entered in the dark ages upon a period of mutability similar to the primrose in Holland after it was carried there from America in 1613. In the pre-Renaissance, diseases seem to have originated with a shock or jump, since that time being more or less constant except for the minor changes in type. Just as with plants, they may have been formed from a mother disease which may still exist. It is in the period of upward of 1000 years after the fall of ancient Rome that we seek the origin of smallpox, scarlet fever, measles, whooping-cough, influenza, possibly even syphilis. The newer the disease, the more limited its range among animals. Phthisis and pneumonia are coeval with the dawning of the history of man; diphtheria can be traced back to the Babylonian Jews. Reports of the influenza were the first to emerge from the obscurities of the dark ages. These diseases are widespread in the animal world, but syphilis, smallpox, whooping-cough, scarlet fever, measles, of later historical mention, are also markedly less widespread in the animal kingdom. As to spontaneous generation, the writer does not believe that the phenomena, both biological and historical, of microbic disease necessitates its assumption, and we have little ground for this theory in facts hitherto presented. He believes that whatever may be the trend toward this view, the labors of Löwenhoeck, Spallanzanni, Virchow, Tyndall, and Pasteur, have definitely thrown the burden of proof on its future advocates.

American Medicine, July 9, 1904.

Gangrene of the Finger Caused by Carbolic Acid.—George Erety Shoemaker believes that not enough attention has been given to the danger of producing gangrene by the use of even comparatively weak solutions of carbolic acid applied as a dressing for a number of hours. It has been proved that the use of full strength of the acid is not necessary to produce gangrene. In using dilute solutions on a finger, it seems to be necessary for the production of gangrene that the entire finger be surrounded by the solution and be tied up in it for not less than 24 hours. The literature furnishes a number of such cases. In most cases the effect is painlessly produced by a dressing kept moist for about 24 hours, and the strength of the solution employed may be from 1 per cent. to 5 per cent. The result is not due to tight bandaging; the dilute solution is capable of producing the effect, and gangrene does not always follow the application. It has been shown experimentally that the death of the part is due to chemical action and that other diluted chemicals may produce the same effect if applied by a moist compress for 20 to 24 hours. The same solution does not always produce the same result. Caution in regard to this matter is especially necessary in dermatology and in minor surgery.

Concerning the Invasion Period of the Malignant Estivoautumnal Tertian Malarial Parasite.—Thomas W. Jackson states that it seems not at all unlikely, as contended by a number of observers, that the period of incubation of malarial fevers is a variable one, and that the variation is an extreme one, depending upon certain ill-understood conditions of the subject of inoculation, and the stage and variety of the inoculated parasite. The writer reports eighteen cases, however, which seem to support the propo-

sition that, under the same conditions, the period of incubation for a number of individuals inoculated by mosquitos with the same malarial parasites, at approximately the same time, varied but slightly. After a careful study of these cases, the writer feels justified in stating that: In an epidemic of eighteen cases of estivoautumnal fever (of the malignant variety) which occurred in Troop A, Sixth U. S. Cavalry, in the Philippine Islands in April, 1902, the invasion or incubation period was between ten and eleven days. The author believes that the inoculating mosquitos in this epidemic obtained the malarial parasites probably from native Filipinos who had previously been in the vicinity, it being a fact well known and proven that the natives suffer extensively from malarial disease, in both its active and latent forms.

The Treatment of Gallstones Found as a Coincidence in Abdominal or Pelvic Operations.—John G. Clark presents the following conclusions: (1) The usual statement that 95 per cent. of gallstones produce no symptoms is fallacious because it is drawn from an autopsy and dissecting-room statistics. (2) Recent researches point very strongly to the bacteriological origin of gallstones. (3) Bile is not bactericidal, for in the majority of cases of cholelithiasis microorganism of a more or less pathogenic nature are discovered. (4) Under these circumstances, many more or less vague symptoms attributed to gastrointestinal or general constitutional disturbances may arise from toxins elaborated around these foreign bodies in the gall-bladder. (5) All clinicians admit that there is a wider hiatus in the clinical symptoms between the early formation of gallstones and the so-called classic attacks of biliary colic with jaundice. (6) Abdominal surgeons should make a most careful record of all gastrointestinal or hepatic symptoms and other vague epigastric pains and associate these with an examination of the gall-bladder with a view to establishing a further link in the symptomatology of cholelithiasis. (7) As cholelithotomy in a large series of cases has been attended with less than 2 per cent. mortality, the coincident removal of gallstones with some other abdominal operation is not a hazardous undertaking. (8) In the author's cases, more than 50 per cent. have shown symptoms which could be unquestionably or with great assurance attributed to the presence of gallstones. (9) This coincident operation should be dictated by the most careful judgment, for if the patient is in a critical condition from a prolonged operation, or the primary operation has been a septic one, this extra operation may be attended by serious results.

New York Medical Journal, July 9, 1904.

The Home Treatment of Pulmonary Tuberculosis.—E. Fletcher Ingals says that in at least two-thirds of the cases of pulmonary tuberculosis recovery ensues, for statistics showed that only 12 per cent. die of this disease, and autopsies showed that in 25 per cent. recovery from it had taken place. He believed the so-called antiseptic treatment was often beneficial, the open-air treatment equally so, and forced feeding was more important than either, while tonics, digestive agents, and anodynes that did not interfere with the ordinary functions of the body were also of much importance All of these should be combined and the patient placed in a good climate; when the latter was impossible much could be done at home. He then reported a case in which open air living could not be secured, and which illustrated the effects of home treatment, with as liberal feeding as possible, aided by tonics and digestive agents, anodynes to prevent excessive cough, and antiseptics in large doses. A second case was cited to illustrate the benefits of the open-air treatment.

Effects of the Dry Carbonic Acid Gas Bath on the Circulation and on the Diseased Heart.—Achilles Rose gives a description of his bathtub, and since he could not find in the literature a record of the effects of the dry carbonic acid gas bath on the number of pulsations, one was presented from his case book. The rapidity of the whole blood circulation in the superficial vessels increases during the bath, and this was shown by the increased strength and volume of the radial pulse. The pulse of the bather, within a few minutes after having entered the bath, resembles a pulse stimulated by alcohol.

The Unhealthfulness of Noise.—J. A. Guthrie, U. S. N., asks what objections could be made against the statement that noises create a disturbance of the nervous elements to such degree that they should be given a place in the category of disease causations? When a healthful condition of the nerve exists, we bear a greater amount of nervous shock with impunity; but by frequent repetitions of this shock, we are rendered less able to withstand the resulting jar The author instances certain facts to prove that sudden noise is disconcerting.

The Lancet, July 2, 1904.

The Treatment of Hemorrhoids and Allied Conditions by Oscillatory Currents of High Tension.—T. J. Bokenham bases his experience on 118 cases. It seems to be admitted generally by all who have put matters to the testt hat (1) Doumer's method is striking and quickly successful in cases of sphincter fissure and in healing the small fissures so often associated with hemorrhoids; (2) it is valuable in relieving pruritus ani associated with similar conditions; (3) its value in the treatment of external and internal piles is greatest in early cases which do not exhibit excessive hyperplasia and thickening of the tissues; (4) in cases of very old standing accompanied by much hypertrophic change and infiltration of the hemorrhoidal tissues the treatment gives poorer results, and at best has to be persevered in for long periods.

Accidental Vaccina of the Nasal Cavity.—W.H. Bowen reports such a case occurring in a woman who was nursing her baby, who had been successfully vaccinated. The mother had not been vaccinated since she was a baby Anyone who has watched a baby, either taking the breast or being carried in the mother's lap, remembering the restless way in which babies "claw" at everything about, and with special frequency the mother's face, will readily understand the ease with which inoculation was brought about Of forty-six other cases of accidental vaccination which the author has found reported, thirty-one were on the face, one on the tongue, eight on the trunk, and four on the limbs. The only other case of accidental vaccination of the nasal cavity was reported in the *Birmingham Medical Review* for 1903.

Use of Sodium Arseniate Hypodermically in Tsetse-fly Disease in Cattle.—Edward J Moore says that some months ago the Government of Southern Nigeria established an experimental farm with the intention of teaching natives to use cow's milk as an article of diet for their children and thereby to put a natural check on twin murder by removing the reason on which the practice is based, viz., the inability of most ill-fed women to rear two children. Twenty-two cattle, principally West Indian, were established there and, after one month, began to show the first signs of the disease. Fowler's solution of arsenic was administered in one-drachm doses three times daily without improvement. Larger doses of one ounce were attempted, but had to be discontinued because they increased the already existing tenderness of the mouth to such an extent that the animals refused to take food and their general symptoms became aggravated. Under these circumstances he prepared a one-per-cent. solution of sodium arseniate, rendered slightly alkaline, and selecting the worse case injected one ounce of this hypodermically on two occasions at an interval of one week. The beneficial effect was marked and immediate.

Non-flagellate Typhoid Bacilli.—J. W. W. Stephens' method for staining flagella with silver was a modification and simplification of van Ermengem's method, and he had constantly got positive results with it, so that he felt secure in describing it last year. Shortly after having done so he was surprised at being unable to stain flagella in a culture of typhoid bacilli which he had used for demonstrating the method. Further experimenting made him feel justified in concluding that his failure to stain the old cultures was due to the fact that there was no flagella there to stain. He therefore concluded that we may have non-flagella typhoid bacilli. The bearings of this observation may be of interest. (1) It may be necessary to pass a bacillus, *e.g.* Bacillus dysenteriæ (Shiga), through an animal or to examine freshly isolated bacilli before we can be quite certain that they do not normally possess flagella. (2) The typhoid bacilli which were examined above, and which he believed did not possess flagella, were said to "react normally" in typhoid agglutination tests. If this was so then flagella could not be an essential factor in this phenomenon.

British Medical Journal, July 2, 1904.

Pneumococcal Appendicitis and Peritonitis.—Lauriston Shaw and Herbert French describe the case of a girl aged eighteen years who, when she was admitted to the hospital, was too ill to operate on. She died a few hours after admission. Autopsy seemed to disclose the condition of primary acute appendicitis with general peritonitis. Cultures taken from the appendix and from the peritoneal lymph yielded an almost pure growth of pneumococci. The case is apparently one of primary pneumococcal appendicitis, associated with pneumococcal peritonitis, and the authors think it worth recording.

The Leishman-Donovan Body in Ulcerated Surfaces.—Patrick Manson and George C. Low report that in the infiltrated areas of a small intestinal ulcer, and in an ulcer from the large intestine, Leishman-Donovan bodies, few in number but unmistakable, have been found.

They were inclosed in cells. In sections of liver, spleen, and lymphatic glands the position of those bodies is doubtless, in the majority of instances, intracellular. The writers have never seen the parasites in the red blood corpuscles in sections or otherwise. Wright and James have found these bodies on a similar organism, in ulcers of the integuments (Oriental sore), Christophers in intestinal ulcers. The writers ask if failing the discovery of any other means of exit from the body, may it not be that the normal route of escape from the parasite is by an ulcerated surface? It is seen from these observations that these parasites may escape by the intestinal canal.

Intravesical Separation of the Urine from Each Kidney.—B. G. A. Moynihan speaks of two methods of obtaining the urines from each kidney separately—by catheterizing the ureters, thus obtaining the urine before it has entered the bladder, or by creating a septum in the middle of the bladder in such a way that the urine from each ureter is confined to its own side of the bladder from which it is drawn through a small catheter. For the last method, the first perfectly efficient instrument was made after some modifications of the original pattern by Luys of Paris. It is made so that a thin india rubber sheathing is raised up, forming a septum. The lateral pieces, fitting on to the sides of the central piece, consist of two catheters having several eyes. Each catheter drains its own side of the bladder after the septum has been created. Another perfectly satisfactory instrument is that of Cathelin of Paris. This has a leaf or septum of india rubber. This instrument presents no difficulty in the introduction, but if the bladder is small and the septum is pushed fully into the bladder it will twist to one side, and the partition will be defective. Luys' instrument is of no value unless the bladder be fairly normal in size and position. The writer is at present in favor of the use of Luys' instrument for the female, and of Cathelin's for the male, though he adds that a more extended experience may modify his opinion.

Pads upon the Finger Joints and Their Clinical Relationships.—Archibald E. Garrod defines these pads on nodules as excrescences, which are almost confined to the dorsal aspects of the interphalangeal joints of the proximal row, and are only very rarely seen upon the terminal joints of the fingers. There is no striking symmetry in their distribution. They vary in size from that of split peas to that of the halves of hazel nuts. They are usually central in position, though they may incline to one or other side of the joint. Sometimes the lumps are quite painless, but more often pain is complained of, especially when the fingers are flexed. They are doubtless mainly composed of fibrous tissue. There does not appear to be any connection between these pads, and any of the morbid conditions which are usually grouped together under the names of rheumatoid or osteoarthritis. Two elderly patients, however, did have well-marked Heberden's nodes in addition to the pads. There is doubtless an intimate connection between Dupuytren's contraction and these pads. At least six out of twelve patients showed Dupuytren's contraction. This might be styled a paragouty lesion. But the connection of these pads with gout is clearly less obvious than that with Dupuytren's contraction. The writer knows of no plan of treatment which is of any avail in reducing the size of the pads. A patient who develops them in early life appears to be liable finally to develop Dupuytren's contraction of the palmar fascia, but aside from this they do not seem to possess any grave prognostic significance.

Deutsche medizinische Wochenschrift, June 23, 1904.

Scapular Crepitus.—Axmann describes an instance of this rare condition in a boy of eighteen, in whom a crepitus gradually developed under the right shoulder-blade. Otherwise the patient was normal and in good health. On lifting the shoulder the crackling sound could be heard at a distance of several yards. Passive motion fails to elicit the noise and muscular action seems to be requisite. A Röntgen ray picture failed to show any abnormalities. As the patient displayed no symptoms requiring alleviation, no treatment was instituted. Kuttner, in his report of twenty-two cases thus far noted, calls attention to the following etiological factors: bony deformities in the scapula or thorax, the result of tuberculosis or syphilis ankylosis in the shoulder-joint; paralysis with muscular atrophy; abnormal synovial diverticulæ. None of these could be demonstrated in this particular patient.

A Case of Senile Dementia Accompanied by Contracted Kidneys.—G. Lomer reports a case in a man of fifty-six in whom these two conditions were closely associated and probably dated from the same cause—the presence of an arteriosclerosis. The differential diagnosis was a difficult matter, for during the entire period of observation, no specific uræmic symptoms, such as vomiting and convulsions, ever appeared. The urine showed a high specific gravity and the amount of albumin by Esbach's test, was 13 per cent. An albuminuric retinitis was not present at any time. The arteriosclerosis could be accounted for by a history of both alcoholism and syphilis, and there was also a possibility that an attack of meningitis at the age of thirty may have weakened the cerebral vessels. A noteworthy point in this case was the early appearance of the dementia, which is usually not observed until about sixty-five. The patient was favorably influenced by sanatorium treatment, and in a few months the albumin dropped from 13 per cent. to 2.5 per cent. The psychical disturbances were also improved. The prognosis is very uncertain, however, as to the original disease; the arteriosclerosis will resist all efforts at a cure.

Berliner klinische Wochenschrift, June 20, 1904.

Destruction of the Ear Drum by Lightning.—K. Burkner calls attention to the rarity of injuries to the auditory apparatus by lightning, of which only a few cases have been reported. The author's patient was a boy of eighteen, who was in a tower which was struck by lightning. An aural examination showed an extensive tear in the membrane, part of which was folded back over the handle of the malleus. That the perforation did not occur as the result of a fall, to which the boy was also subjected, is shown by its contour, the slight amount of hemorrhage, the absence of symptoms in the labyrinth, and the fact that the only other injuries on the head were the burns caused by the flash. It remains an undecided question, however, whether the laceration was due directly to the electric spark or to the shock accompanying the sudden electrical discharge from the body.

The Value of Water in Disease.—E. Homberger discusses the importance of a plentiful administration of water in disease processes, especially those accompanied. By this method the most distant cells may be reached and restored to their normal physiological condition. As the conception of a cellular pathology also requires a cellular therapy, this agent seems to be the most rational means to attain the end. During the course of a fever, there is an insufficient quantity of water present in the system, and this the body is slow in giving up, resulting in a diminished quantity of sweat and urine. Perspiration, the author claims, is only restored when the temperature of the body begins to drop and the superfluous water is no longer needed. This is contrary to the usually accepted opinion. Although water is by no means a panacea, it is of great value in all those diseases in which the toxins have circulated in the blood for a considerable period of time. But when these rapidly leave the circulatory system and unite with the cells, this agent is of little avail.

Münchener medizinische Wochenschrift, June 21, 1904.

Herpes Zoster in Croupous Pneumonia.—Riehl observed, among 481 cases of croupous pneumonia, that a well-localized herpes zoster developed in 129—about 27 per cent. This, however, is considerably less than the number stated by other authors, who report about 40 per cent. The affection seems to afflict the male sex more often than the female, and usually appears on the third or fourth day of the disease. The author calls particular attention to the localization of the eruption, which is most marked over the distribution of the second and third branches of the trigeminus, and especially the infraorbital nerve. It is rarely found in the area of the first branch, and only on the neck, trunk, or extremities in exceptional instances. Pneumonias in children and the aged usually run their course without any herpes eruption. Mild cases of pneumonia are characterized by an extensive eruption, while the severest cases are most always free from this complication.

Orthodiagraphy and Percussion of the Heart.—Schule has studied, for purposes of comparison, these two methods for mapping out the boundaries of the heart. The former, in which the determination is made by means of the *x*-rays, was introduced by de la Camp and Moritz, and has also been used by a number of other observers, all of whom are in agreement as to the results obtained. The authors find that the cardiac area as mapped out by the ordinary methods of percussion does not exhibit any appreciable variations from that determined by the use of the *x*-rays. Percussion need not be superseded by the rays, but in doubtful cases the ideal procedure would consist in a verification of the results obtained by percussion, by an examination with the *x*-rays. The latter is undoubtedly a most efficient secondary diagnostic aid.

An Unusual Injury to the Orbit.—F. Salzer reports an interesting case in which a bit of leather whip lash about 1½ cm. long remained imbedded in the orbital cavity for a period of three weeks without being discovered. The man had been struck in the upper lid, which pre-

sented a small wound. The eye was much contused but the wound healed promptly. Suppuration followed later on, but the probe failed to detect any foreign body in the discharging sinus until about a week afterward, the very much softened fragment of leather was extracted from the wound. The author accounts for its entrance by the fact that on the day the injury occurred, the weather was very cold and the leather was frozen stiff and probably covered with ice, which faciliated its entrance into the orbit. The patient made a good recovery.

The Relation of the Neutrophile Leucocytes in Infectious Diseases.—J. Arneth claims, as a result of extended investigations, that the progress of the disease process may be rendered demonstrable to the eye by the morphological changes in the neutrophile leucocytes. To some extent each type of infectious disease was associated with definite changes—in one type they were well marked, in another less so, and in a third, scarcely noticeable. The same author now presents some further types which he has studied, including cases of miliary tuberculosis, traumatic tetanus, varicella, meningitis, diffuse peritonitis, purpura, sepsis, typhoid pneumonia, hepatic abscess, and hydrochloric acid poisoning. The neutrophile leucocytes are divided into five classes, according to the division of the nucleus into one, two, three, four, five, or more parts. In the case of miliary tuberculosis, which ended fatally, almost all the cells belonged to classes one and two. This he interprets as meaning that the body is only supplied with only the younger and immature elements for its protection. The older classes, containing a more divided nucleus, being practically wiped out. This picture grew increasingly worse toward the end. Very few morphological changes were noted in the leucocytes from the case of tetanus, the only difference noted being the increased percentage of neutrophiles in proportion to the total number of leucocytes. In a case of smallpox which recovered, the maximum change was noted in the beginning, and as the patient got better, a gradual return to the normal took place. The two cases of suppurative meningitis presented an anisohypercytosis, and changes in the neutrophiles were very limited. The remaining cases also showed characteristic changes, and the author hopes to have his findings substantiated by other observers.

French and Italian Journals.

Continued Slow Pulse; Osseous or Calcareous Degeneration of the Myocardium.—M. H. Dufour observed a patient whose pulse was from 36 to 40 a minute. Autopsy revealed a calcareous or osseous degeneration of the myocardium, remarkable for its extent. It involved the mitral valve and formed a tumor the size of a nut, which was encysted by a zone of tissue which appeared to be fibrous. There were several superficial areas of softening in the brain, which accounted for the attacks of apoplexy from which the patient had suffered. Examination of the bulb and pneumogastrics was negative.—*Le Bulletin Médical*, June 11, 1904.

Considerations of 640 Cases of the Widal Reaction.—E. Cler. C. Quadrone, and A. Ferazzi have recorded 640 cases in which the Widal reaction was found in the laboratories and hospitals of Florence in 1902–03. They found the reaction of agglutination in various non-typhoid febrile diseases, but not in a less dilution than 1–20. They also found it in some non-febrile affections. In 166 cases of true typhoid they found the Widal reaction present. They conclude as follows: (1) Serum of persons not having typhoid may produce agglutination like that of Eberth's bacillus. (2) This action if observed in a high grade of dilution, less than 1 20, may be ascribed to the presence of the Eberth bacillus in a latent or pre-typhoid infection. (3) In a dilution greater than 1–20 it has a diagnostic value for typhoid. Absence of this reaction does not exclude typhoid, and is due to the formation in the blood of anti-agglutinins.—*Rivista Critica di Clinica Medica*, May 14, 1904.

Congenital Cyanosis.—Méry states that the congenital cardiac lesion which occasions the cyanosis consists of two principal lesions: Stenosis of the pulmonary artery; interventricular communication or Roger's sickness. The writer describes three cases which he has lately observed, all of which showed the same general symptoms. When the child cries, a crisis of paroxysmal cyanosis is precipitated. These crises occur two or three times a day, lasting from five to ten minutes, accompanied by acute dyspnœa and convulsions. Auscultation showed a prolonged systolic murmur in the middle cardiac region. In one case the extremities were always cold. Sometimes the axillary temperature drops from 2 to 3 degrees. The blood corpuscles are greatly increased in number. The liver and spleen are not increased in volume. The prognosis in these cases is very bad. The children are carried off by their cardiac troubles or by pulmonary tuberculosis. Treatment should consist chiefly in observing for these little patients the general laws of hygiene. They should be guarded from all emotion.—*Journal des Praticiens*, June 11, 1904.

Contribution to the Pathology of Tabes Dorsalis—Carlo Fantiggia states that most modern authors regard progressive paralysis and tabes dorsalis as the result of the same pathological process taking place in different anatomical regions, in the cortex of the frontal lobes of the brain in paralysis, in the spinal cord in tabes. Or we may have a mixed form, involving both parts and giving symptoms of each disease. Many consider these diseases as a toxic effect of syphilis, yet independent of syphilis itself. Mercurials do not give good results in tabes, and in some cases give distinctly bad ones. These diseases may be the result of poisons produced in the system, resulting from the same cause as syphilis, yet which are not affected by mercury, as the late paralysis of diphtheria, is not improved by antitoxin. Such poisons may be elaborated by other diseases than syphilis. The author cites a typical case of tabes dorsalis with apoplectiform attacks.—*Gazzetta Medica Lombarda*, May 23, 1904.

Biological Action of the Sedative Application of the Positive Pole as Produced by the Different Apparatus Used for Producing the Continuous Current.—Giorlama Mirta considers the stabile application of the anode over the seat of pain as of great value in treating painful affections of the nerves and paræsthesiæ. The failures in this method are due to the source from which the electricity used is derived. The current must be perfectly even, because the slightest oscillations and variations in strength stimulate the nerve treated. The application must begin gradually, with a very slowly increased current, and must cease in the same way. The effects are different according as the current is derived from a source whose voltage is small, or one whose voltage is great, but reduced by the interposition of great resistance. If the electric light current is used there may be various sources of the current, and they may vary at different times of day. When produced by a dynamo, the current has slight oscillations and variations that, although not detected by measuring instruments, are still felt by the more delicate nerves of the human body. The author uses only the Leclanché cell, or those of Ringer.—*Giornale d'Elettricità Medica*, May and June, 1904.

The Functions of the Kidney and Renal Insufficiency.—Cauterman, after considering this subject from various points of view, speaks of the treatment of renal insufficiency. He states that the exact treatment of this affection is based upon an intimate knowledge of the phenomena of this condition. The indications are various. One should avoid introducing into the organism, in the form of food and drink, substances with a high molecular concentration, rich in toxins, rich in chlorides. Fermentation and abnormal alterations of food ingested should also be avoided, for a food, harmless in itself, can become irritating and injurious, under certain conditions, such as stagnation, etc. The compensatory organs of the kidney should be carefully watched—the liver the intestine, and the skin. The drugs recommended for this condition should be carefully studied. And all of the mechanical means known for diminishing the tension of fluids in Bright's disease should be considered.—*Annales de la Société Médico-Chirurgicale d'Anvers*, March–April, 1904.

Radiotheraphy in the Treatment of Tumors of the Stomach.—Doumer and Lemoine have treated twenty gastric tumors by this method. Of these they believe that three cases were completely and finally cured. A fourth is on the way to recovery, while a fifth in whom the improvement was very rapid, and in whom the tumor completely disappeared, has had a relapse that does not yield to treatment. In the other cases the tumor has had a variable course according to the case. In all of the cases without exception this treatment has caused the disappearance of, or great diminution of, pain, and this from the first application. Vomiting has ceased or has greatly diminished, and feeding has thus become much easier. Without any doubt the general state has been greatly improved. Doumer and Lemoine conclude that there are certain forms of gastric tumors in which this treatment has worked a complete cure, lasting so far for a year and a half in several cases, and other forms in which the treatment has been incomplete in its effects, destroying the tumor in its original place, but not hindering its extension to neighboring parts and its metastases to distant parts.—*Le Bulletin Médical*, June 15, 1904.

Extirpation of Cancer of the Kidney.—M. A. Malherbe described this case which came under his observation. The patient, a man of forty-six years, was suffering from hæmaturia in September of 1903. From that time he

lost considerable flesh; he was yellow, and had a cachectic look. The urine seemed normal, and was very abundant. On palpating the right flank, a tumor was clearly felt. It reached down to the iliac fossa, and was quite movable. In spite of the cachexia of the patient, as he had nothing to lose and everything to gain, Malherbe decided to operate on February 13, 1904. There was little hemorrhage, but an injection of artificial serum was given. The affected kidney weighed 390 grams. The two poles were comparatively healthy, but on the posterior surface at about the union of the lower and middle thirds, was a large tumor. On section the cortical substance looked almost as much like tuberculosis as it did like a new growth. But in the pelvis the new growth was very evident. Histological examination showed the tumor to be alveolar epithelioma or cancer of the kidney. At the beginning of March the patient began to improve slightly, but still had a cachectic aspect. Finally, in April, the improvement was decided. He ate very well, and increased in weight. About April 20 he left the hospital in a very satisfactory condition.—*La Médecine Moderne*, June 15, 1904.

Peroxide of Magnesium in the Treatment of Acid Diarrhœa of Adults.—Betherand and Rene Galtier declare that the acid diarrhœas seem to them to be the only type that indicate treatment by means of peroxide of magnesium. Peroxide of magnesium is decomposed only in an acidi medium. In the stomach, hydrochloric acid or the fermentation acids decompose the peroxide into chloride of magnesia and hydrogen peroxide, and the latter is finally separated into water and oxygen. The drug is administered in the form of keratinized pills so that the specific action of the drug may play its rôle in the intestines. The fæces in the normal state and under the influence of a mixed diet are alkaline or neutral, but they become acid under the influence of a considerable gastric acidity, which the secretions of the intestinal glands, of the liver and of the pancreas are unable to offset. It is in such cases that the peroxide of magnesium has given the best results. The writers then relate the histories of several cases which corroborate the opinion of Robin that there is in this drug an antiseptic as well as antidiarrhœic power, most important, when the origin of this diarrhœa is fermentation. It is only when the contents of the intestine are acid that the magnesium peroxide decomposes and sets free its oxygen.—*Bulletin Général de Thérapeutique*, June 15, 1904.

The American Journal of the Medical Sciences, June, 1904.

Mental Symptoms Associated with Pernicious Anæmia.—William Pickett states that a composite picture of the mental disturbance in these cases presents a shallow confusion with impairment of the ideas of time and place (disorientation), more marked on awakening from sleep. The patient fabricates, relating imaginary experiences of "yesterday" in a circumstantial way. Illusions, particularly of identity, are common. Hallucinations appear at times, pertaining to any of the senses. Based upon these, persecutory delusions arise which are usually transient. They may persist for considerable periods and be thus somewhat fixed. They may be even systematized. This psychosis is mainly an abeyance of mind. It rarely presents the spontaneous excitement by which some types of confusion seem to merge into true mania. The term amentia seems appropriate for it. Korsakoff's disease and folie Brightique resemble it closely.

The Relation of Cells with Eosinophile Granulation to Bacterial Infection.—Eugene L. Opie concludes that certain bacteria (bacillus tuberculosis, bacillus choleræ suis), producing somewhat chronic, fatal infection in guinea-pigs, cause the eosinophile leucocytes gradually to disappear from the circulating blood. The study of dead tissues gives little indication of the behavior of the eosinophile leucocytes during the course of bacterial infections. After the inoculation of an organism producing an infection from which the animal is capable of recovering, eosinophile leucocytes disappear from the peripheral circulation, to a proportion of less than 1%. The number then increases for a few days, after which it again becomes normal. When bacteria are introduced into the peritoneal cavity of the guinea-pig, the large mononuclear and eosinophile cells contained in the peritoneal fluid, form compact clumps, which adhere in great part to the surface of the omentum, so that for a time eosinophile cells have almost completely disappeared from this fluid. After about an hour they again appear. Eosinophile cells, rarely if ever, act as phagocytes, ingesting bacteria. Eosinophile leucocytes are ingested by large mononuclear cells (macrophages). In cases of severe bacterial infection, eosinophile myelocytes accumulate in the spleen and may be found in the circulating blood, within from two to four hours after inoculation, showing that these elements are derived from the bone-marrow and are not found in the spleen. Bacteria exert a chemotactic influence upon cells with eosinophile granulation, attracting them from the bone-marrow into the blood, and from the circulating blood to the site of inoculation.

Traumatic Intestinal Rupture, with Special Reference to Indirect Applied Force.—Emanuel J. Senn calls attention to internal injuries with no manifest external lesions. These injuries are most frequent in men and young adults, on account of their greater exposure to injury. Generally speaking, blows above the level of the umbilicus are unlikely to cause intestinal injuries. Pathologically the injuries may be classified as (1) contusions; (2) rupture: incomplete, complete. Contusions may be of all degrees. Incomplete ruptures, when one or two of the tunics are torn, in all probability are frequent; however, according to pathological investigation, they are considered rare. Complete ruptures, when all the tunics are ruptured, are more often brought to view on the operating table and in the post-mortem room. They are usually single, but may be multiple. As intestinal rupture is usually the consequence of a severe trauma in the neighborhood of the sympathetic centers, the classical symptoms of shock generally develop. Retroperitoneal emphysema signifies injuries to the duodenum or colon. Fecal matter is less apt to escape than gas, but the latter may escape in very small quantities. Vomiting is considered of great diagnostic importance by many. As to prognosis, Siegel gives the following statistics: In cases operated upon in the first 4 hours, the mortality is 15.2 per cent.; in the first 5 to 8 hours, the mortality is 44.4 per cent.; in the first 9 to 12 hours, the mortality is 63.6 per cent.; in those operated upon later, the mortality is 70 per cent. The writer states that in all cases of abdominal contusions the prognosis should be guarded, and the patients ought to be kept under careful observation. When there is the least suspicion of rupture, immediate laparotomy should be performed. The writer advises the incision made through the linea alba below the umbilicus, as giving a better survey of the abdomen. The bowel should be examined methodically from a fixed point till the lesion is found. When for some reason operation cannot be performed, and an expectant course is followed in simple contusion or in cases of ruptured intestine, the patient should be placed at rest with an ice-bag on the abdomen. Nourishment should be given only by rectal enemata. Opium is indicated to diminish peristaltic action of the bowels.

The Envelope of the Red Corpuscle and Its Role in Hæmolysis and Agglutination.—S. Peskind gives the following résumé: Various facts of an historical, chemical, and physical character show that the red blood corpuscles possess an envelope. From the action of hydroxylamine hydrochlorate, it appears most probable that the envelope is not a differentiated membrane, but a part of the stroma which is condensed to form the surface layer of the corpuscle. The envelope is hæmoglobin-free and consists of nucleoproteid cholesterin, lecithin, and mineral constituents. It is elastic, smooth, and apparently possesses a certain glaze which presents the agglutination of normal corpuscles with each other and makes them less accessible to the action of toxins. Agglutination of blood corpuscles is due to an effect on the envelope produced by various biological products and chemical reagents whereby the envelope is made sticky. Agglutinins probably lower the resistance of the blood corpuscles torward toxins and other agents. From the fact that in nature they almost always occur in company with a hæmolysin, it is suggested that the agglutinins bear some coöperative relation to the hæmolysins similar to that existing between the intermediary body and the complement. The "resistance" of blood corpuscles depends in large part upon the condition of the envelope. Toxins of disease cause the envelope to deteriorate, either partly or completely. "Vacuolization of the hæmoglobin" can be explained satisfactorily on the assumption of a minute lesion in the envelope, which allows the surrounding fluid to enter and thus permit, of a localized laking at this point. The function of the envelope is, in part, to make possible various metabolic processes, principal among which is the complex process known as internal respiration. Another important use is to protect the corpuscles from deleterious substances. But the very chemical constitution of the the envelope may at times serve for the undoing of the corpuscles.

Health of the Russian Army.—An official report from Manchuria states that up to June 26 the officers and men in hospital reached a total of 7.136 per cent. and 3.943 per cent. respectively of the whole force. After the rains began the percentage of officers in the hospitals increased to 8.383 and of the men to 4.646. The proportion of infectious cases rose from 2.19 to 8.52, including 1.99 per cent. of dysentery.

Book Reviews.

Materia Medica, Pharmacology, and Therapeutics. Inorganic Substances. By Charles D. F. Phillips, M.D., LL.D. (Abdn. and Edin.), F.R.S. and F.R.C.S. (Edin.). Hon. Fellow Medico-Chirurgical College, Pennsylvania; Member of the Academy of Medicine of America; Examiner in Materia Medica, University of Aberdeen, Late Examiner in the Universities of Edinburgh and Glasgow; Member of the Physiological Society of London; Late Lecturer on Materia Medica and Therapeutics at the Westminster Medical School. Third Edition. London, New York, and Bombay: Longmans, Green & Co., 1904.

This is a book of exceptionally practical value, full of useful suggestions, and one that cannot fail to be of service to the physician in his fight with disease. The greater part of each section is devoted to the indications for the therapeutic employment of the drug under consideration, though sufficient space is accorded to a discussion of physiological action and to the preparations and dosage of the remedies. The author speaks out of his own experience in the treatment of disease, and this gives to the book the charm and value of the personal touch associated with the clinical lecturer; but at the same time he does not ignore the discoveries of others in the same field.

The chief fault with the book is the lack of system in its arrangement. Under the heading of "water," for example, sun baths and air baths, the Finsen light, and electric baths are treated of, and as there is only a therapeutic index and none of remedies the matter is practically inaccessible. An index of remedies would have obviated this objection; one was in the former edition, and we cannot but think the author has made a mistake in omitting it from this edition.

Le Malattie dei Paesi Caldi, Loro Profilassi ed Igiene, con un' appendice; La vita nel Brasile. Regolamenti di Sanità pubblica contro le infezioni esotiche. Pel Dottor Carlo Muzia. Con 154 incisioni e 11 tavole. Milano: Ulrico Hoepli, 1904.

The author of this volume is a surgeon in the Italian Navy. The subject is treated under seven heads: General diseases, local diseases, diseases and lesions produced by animals and animal parasites, intoxications, cosmopolitan diseases occurring in the tropics, insolations, and hygiene of the tropics. The work is copiously indexed, and contains a bibliography of the principal works on the subject. While the size of the work precludes any monographic presentation, the terseness of expression enables the author to present much in the space at his disposal. The illustrations relate chiefly to the microorganisms of the various diseases, and corresponding to the disproportionately large number of parasitic diseases the illustrations of the animal parasites are numerous. Maps are also given showing the geographical distribution of several of the more important diseases.

Physiology and Pathology of the Urine. With Methods for Its Examination. By J. Dixon Mann, M.D., F.R.C.P., Physician to the Salford Royal Hospital; Professor of Forensic Medicine in the Victoria University of Manchester. With Illustrations. London: Charles Griffin & Co., Ltd.; Philadelphia: J. B. Lippincott Company, 1904.

And still they come! Another book on the urine! "Wer reitet so spat durch Nacht und Wind?" It is an Englishman this time, but what he has given us is a genuine surprise. A book not of the type of the now so frequent "guides to the examination of urine." It differs from them in its thoroughness, completeness, and up-to-dateness.

Some of the constituents of the urine, irrespective of their chemical constitution, have been grouped together to facilitate their study; a description is furnished of the systemic conditions in which each urinary component appears in anomalous quantities; the more important pathological states, recognizable by specific alterations in the urine, are separately dwelt upon; and the results of the latest studies in metabolism, so far as affecting the urine, are given in just sufficient minuteness to be of real assistance to the investigator.

The titles of the various sections will demonstrate the practical value of the book: General Characteristics of the Urine, Inorganic Constituents, Organic Constituents, Amido and Aromatic Acids, Carbohydrates, Proteids, Nitrogenous Substances, Pigments and Chromogens, Blood-coloring Matter, Bile Pigments, Bile Acids, Adventitious Pigmentary and Other Substances, Special Characteristics of Urine, Urinary Sediments, Urinary Calculi, Urine in Its Pathological Relations.

The subjects treated upon in the section on "Special Characteristics of Urine" being particularly useful to the progressive clinician and impressing upon the book the stamp of modernity, are: Reducing Power, Oxidative Power, Proteolytic Power, Toxicity, Molecular Concentration (Kryoscopy), Conductive Capacity, and Calorimetry.

The illustrations are of the stereotype variety and mediocre; the stronghold of the otherwise superb book does not lie in its chapters on the microscopy of the urine.

Bericht über Gallensteinlaparotomien aus dem letzten Jahr; unter gleichzeitiger Berücksichtigung der nicht operirten Falle. Von Prof. Hans Kehr. Munich: J. F. Lehmann, 1904.

This contribution to the subject of gallstone surgery forms part of the annual report of Kehr's private surgical clinic in Halberstadt, Germany. During the past year he had the opportunity of examining over 300 cases of cholelithiasis and performed an operation in 137 of these. The particular points to be noted in his technique are the disinfection of the hands with soap and water and alcohol (no bichloride); the most stringent asepsis; gastric lavage before operation in almost all cases; nitrous oxide and chloroform anæsthesia; restricted numbers of nurses and assistants; the use of silk and sterile gauze, neither catgut nor iodoform gauze being employed. Although Kehr does take an extreme view as to early operation, and recognizes that a so-called latent period comes on spontaneously in about two-thirds of the cases. This is the reason why various internal methods of treatment are often followed by such favorable results; the latter are *post hoc*, not *propter hoc*. Kehr has recently traced about two-thirds of the last series of 500 cases which he operated upon for gallstones. About 90 per cent. of these remained free from colic, icterus, and hernia, and were completely cured.

The Medical News Pocket Formulary. By E. Quin Thornton, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College. New (Sixth) Edition, Revised. Philadelphia: Lea Brothers & Co., 1904.

This collection of prescriptions seems to have taken well with physicians. The diseases are printed in large type and alphabetical order, so that reference is easy. There are 287 pages of small type. There is a useful table of doses, and the revision has brought the matter well up to the times.

The Medical Epitome Series of Pediatrics. A Manual for Students and Practitioners. By Henry Enos Tuley, A.B., M.D. Edited by V. C. Pederson, A.M., M.D. Philadelphia and New York: Lea Brothers & Co., 1904.

This little book is intended as a pocket guide to the beginner in medicine. It deals with the pathology, diagnosis, and treatment of the diseases common to children. After each chapter a series of questions and answers are inserted to bring out the most valuable points. It also gives many points on the differential diagnosis. The author has contributed very frequently to pediatric literature and is entitled to a hearing. The chapter on infant feeding is quite complete. In a future issue the vital points concerning the brain and nervous system should be incorporated, as well as a chapter on intubation.

Lectures on Clinical Psychiatry. By Prof. Emil Kraepelin. Authorized Translation from the German by Dr. James Johnstone. New York: Wm. Wood & Company, 1904.

This is a volume of 300 pages containing thirty clinical lecturers on the commoner varieties of insanity, such as Melancholia, Manic-depressive Insanity, Dementia Præcox, General Paresis, Epileptic Insanity, Puerperal Insanity, Insanity after acute diseases, Paranoia, the insanities of alcoholism, morphine and cocaine, Traumatic Insanity, Imbecility, Cretinism, Different Forms of Delusion, Compulsory Ideas and Irresistible Fears and Morbid Personalities. The lectures are simple, readable, and will undoubtedly be very acceptable to American physicians. During the last few years the classification of Kraepelin and the nomenclature which has grown out of the classification have taken a firm hold upon young American psychiatrists, and, although at the present time there are indications that the teachings of Wernicke are gradually gaining ascendency, still the followers of Kraepelin are many in this country. The book makes no attempt to cover the entire field of psychiatry but rather to deal with the familiar forms of alienation. Nor is there any space devoted to discussions of classification or theories of the pathogenesis of insanity. The general practitioner, especially if he is not familiar with the author's views, will find this volume of great aid in the interpretation of mental cases encountered in his practice, and the specialist will find it a valuable clinical compendium, to be used in connection with the treatise on insanity by the same author or any of the other standard works.

Society Reports.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-ninth Annual Meeting, Held in Boston, Mass., May 24, 25, and 26, 1904.

TUESDAY, MAY 24—FIRST DAY.

THE society met in the Boston Medical Library under the presidency of Dr. Edward Reynolds of Boston.

An address of welcome was delivered by Dr. Charles M. Green of Boston, which was responded to by Dr. Henry T. Byford of Chicago.

Treatment of Gallstones Found as a Coincidence in Abdominal or Pelvic Operations.—Dr. JOHN G. CLARK of Philadelphia stated that among the unsettled questions in abdominal surgery, the treatment of gallstones found as a coincidence in abdominal or pelvic operations might be considered a debatable one. He followed the plan at present of removing gallstones which were found in the course of another operation, if the patient's condition permitted of this extra operation. Although it was stated that 95 per cent. of gallstones produced no symptoms, he believed that this statement should not be applied to cases as one met with them at the time of an operation. In his review of recent literature he had been especially impressed with the fact that knowledge of the early stages of cholelithiasis was very indefinite, and that many cases which came to operation for more or less urgent symptoms did not have the clinical symptoms of colic and jaundice, as usually taught in medical schools. In view of this hiatus in the early history of this disease, he believed that many symptoms now attributed to gastralgia, indigestion, functional disturbances of the gastrointestinal tract, etc., would, as knowledge increased, be ascribed to the presence of gallstones with associated infection, which was so frequently found in cholelithiasis.

In referring to the etiology of gallstones, he said that three facts had been prominently established: (1) That the bile was not bactericidal. (2) That the microorganisms in the gall-bladder were predisposing, if not absolute, causative factors in the formation of gallstones. (3) When gallstones were present in the gall-bladder, infection in that viscus was much more likely to take place.

He mentioned three general avenues through which infection might enter the gall-bladder. (1) From bacteria circulating in the genital blood stream and reaching the liver through the hepatic veins; (2) by the direct passage of bacteria into the common bile duct from the duodenum; (3) by the transportation of bacteria from the intestine through the portal circulation.

He then recurred to the frequently quoted statement that 95 per cent. of gallstones did not produce symptoms, and showed from his own series of cases that in at least 50 per cent. there were varying symptoms from undoubted attacks of colic and jaundice to less pronounced gastrointestinal symptoms. To justify operative intervention in cases which were not producing well-defined symptoms, the mortality and morbidity should be a very low one. In his own experience no death had occurred, nor had there been any serious complication referable to the secondary operation. In lieu of the fact that the additional operation did not seriously jeopardize the life of the patient, and also because he had seen two patients die from cholelithiasis a year or more subsequent to an abdominal operation, in which, had the routine exploration been made, the gallstones might have been easily removed, he believed that the best interests of the patient would be conserved if the gallstones were removed as a secondary part of another operation, in the event of their being found. He appended the history of twelve cases to his paper, in which the various operative points, as well as the significant facts in symptomatology, were elaborated.

Dr. R. STANSBURY SUTTON of Pittsburg said that gallstones did not always produce symptoms which demanded or justified resort to operation. If they were encountered during the course of another operation, they had better be removed.

Dr. GEORGE M. EDEBOHLS of New York had occasion at one time to operate on a woman who presented marked dyspeptic symptoms. In addition, she had movable kidney, chronic appendicitis, and induration in the region of the gall-bladder. He anchored the kidney, removed the appendix through a lumbar incision, pulled the gall-bladder into the lumbar wound, and found the stone about four or five centimeters in length, pear-shaped, and nearly filling the gall-bladder. The attending physician was positive that the gall-bladder did not produce symptoms of stone in it. He would not let him remove the stone from the gall-bladder. A year later he opened the woman's abdomen for some other condition, making an incision near the gall-bladder. He investigated the gall-bladder, found it was perfectly healthy, and that the large stone had either passed or had been dissolved. The treatment after the previous operation consisted of the use of olive oil for about a month, and whether this had anything to do with the passage of the stone, he did not know. At any rate, the stone had disappeared and had left no trace of its former existence.

Dr. A. PALMER DUDLEY of New York emphasized the importance of looking beyond the gall-bladder for trouble. He believed that stones were formed in the liver ducts themselves, and that from a stagnant circulation cholester in nuclei formed, and that only a small proportion of stones were found in the gall-bladder. He would not hesitate to go into the center of the liver. In fact, in the last case he had, in which the diagnosis of gallstones had been made by a medical *confrère*, he boldly went into the gall-bladder, but found no stone. He found the duct dilated; he went five inches into the right lobe of the liver, as far as he could reach with his finger, and packed the liver full of iodoform gauze, put an apron of gauze over it, and the patient was well to-day. He would explore the center of the liver in searching for such deposits.

Dr. BROOKS H. WELLS of New York said that in the last few years he had used practically the same measures as those outlined by the essayist. A number of patients coming under his observation had complained of obscure symptoms, of so-called functional indigestion. In them he found either disease of the gall-bladder, an over-distended gall-bladder from obstruction elsewhere, or trouble referable to gallstones.. By making a small or large incision, as seemed necessary, cleaning out the gall-bladder and draining it, the patients had obtained remarkable relief from the symptoms that were supposed to be due to functional indigestion.

Dr. SETH C. GORDON of Portland, Me., said that when the abdominal cavity was opened for other purposes, and he was quite sure the patient could stand it, he would examine the gall-bladder thoroughly, and if gallstones were found, he would remove them. He cited cases in support of this line of reasoning.

Dr. HIRAM N. VINEBERG of New York said that under the influence of the teaching of Kelly he had been in the habit of doing what had been advocated by the essayist, but after hearing a discussion on gallstones in the common duct and in the gall-bladder by one of the Mayos, he had changed his method. Simply opening the gall-bladder and removing the stones did not effect a cure, as proven by three or four cases that occurred in his own practice. If the gall-bladder was diseased, however, it should be removed.

Dr. J. M. BALDY of Philadelphia said that gallstones existed in the gall-bladder for years without causing any material discomfort, but that when infection occurred they were liable to give trouble. There was not the slightest question but what large numbers of cases of so-called stomach trouble, or chronic indigestion, sooner or later proved to be cases of gallstones or of gall-bladder disease. With reference to removing gallstones when operating for some other intraabdominal condition, the surgeon

should consider the physical condition of the patient, the surroundings, etc., and as to whether the patient was willing to undergo the additional risk of a second incision for the gall-bladder operation.

Dr. Walter P. Manton of Detroit quoted Ochsner as saying that he had tried almost everything in the so-called cases of chronic dyspepsia, without affording relief; yet after opening their gall-bladders and removing gallstones which were found, the patients were cured. Dr. Manton had seen a number of such cases, and contended that the removal of gallstones, or the gall-bladder, if diseased, was the thing to do. He did not believe there was any solvent ever invented which could dissolve gallstones.

Dr. Beverly MacMonagle of San Francisco, Cal., stated that when the abdomen was opened for some pelvic or abdominal trouble, the operator should investigate the gall-bladder. If gallstones had been making the patient ill, causing dyspepsia, or if there were adhesions around the gall-bladder, one should operate. The conditions that arose in the pancreas as a consequence of gall-bladder disease and of gallstones were serious, and if the surgeon could do something of a prophylactic nature, without adding to the risk of the patient's life, it was a wise thing to do.

Dr. Clark, in closing, said the formation of gallstones through bacteria had been clearly demonstrated by a series of experiments. He did not believe anyone would strongly advocate operation unless the gallstones were producing symptoms.

Ovarian Pregnancy.—Dr. J. Clarence Webster of Chicago reported a case of ovarian pregnancy. There was a right ovarian irregularly rounded swelling, measuring 7 by 8 cm. There was no evidence of rupture into the peritoneal cavity. The adhesions were recent. Sections of the ovarian swelling consisted mainly of extravasated blood and disseminated fragments of the chorion. No evidence of transformation of ovarian connective tissue into decidua was noted. It was certain that the pregnancy did not start in a Graafian follicle.

Dr. J. Whitridge Williams of Baltimore said there was no doubt that ovarian pregnancy occurred, but it was the rarest of all forms of extrauterine pregnancy. In regard to the Muellerian origin of ovarian pregnancy, he was not quite convinced of it. While there was no doubt that Muellerian tissue might be found in the ovary, as mentioned by the essayist and confirmed by numerous observers, he thought it was going too far to advance that view in explanation of every case of ovarian pregnancy.

Dr. John T. Thompson of Portland, Me., referred to a case of ovarian pregnancy he had reported at a previous meeting of the society. He called attention to the nature of the structures in which pregnancy occurred, and to the frequency with which rupture might occur in the early days.

Dr. Edward P. Davis of Philadelphia removed an ovarian pregnancy about a year ago, the histology of which had not been completely worked up as yet, although a diagnosis was made very early of the nature of the tumor from the enlarged ovary. The indications were that the pregnancy did not originate in the Graafian follicle.

Dr. Lapthorne Smith of Montreal had diagnosed ectopic pregnancy by the clinical symptoms; had operated, and had found hæmatoma of the ovary. He had said to his students that he was sorry that his diagnosis was wrong, because authorities maintained that there was no such thing as ovarian pregnancy, but after hearing what had been said he was convinced there was.

Ureterolithotomy.—Dr. J. Wesley Bovee of Washington, D. C., in a paper on this subject, gave the history of the operation, and then discussed the size and number of calculi. The routes for reaching and extracting ureteral calculi, he said, were the transperitoneal and the extraperitoneal. The latter might be subdivided into loin, inguinal, vaginal, rectal, sacral, perineal, and transvesical. The transperitoneal route should never be the one of election, as the danger of peritoneal infection from the urine was too great. Of the extraperitoneal routes, the selection would depend largely upon the location of the calculus or calculi, although the operation of Ceci, of removing it through the rectum, should only be considered justifiable when the stone had practically sloughed through into the rectum. In a class of cases characterized by the stone having been lodged in the intravesical portion of the duct and later sloughed into a pocket in the bladder wall, which it had made for itself, the vaginal and inguinal routes were the only safe ones, although in so stating he was not unmindful of the number of cases in which suprapubic cystotomy had been done. He discussed the removal of the calculus from the ureter, and the methods for so doing; also the treatment of the ureteral opening.

Speaking of drainage, he stated that all ureterolithotomy wounds should be drained. This was because the urine was practically never normal, therefore rendering wound infection probable. The possibility of urinary leakage subsequent to operation afforded another positive indication for drainage.

Nephrectomy for Primary Tuberculosis of the Kidney.—Dr. Hiram N. Vineberg of New York read a paper on this subject. Tuberculosis of the kidney, both primary and secondary, was more frequently met with in women than in men, in the proportion of about two to one. It was different from what occurred in men; renal tuberculosis in women was rarely associated with tuberculosis of the genital organs. A cystitis in women that resisted the topical applications of the silver nitrate solution by the Kelly method should be looked upon with marked suspicion as being of tuberculous character, even though repeated examinations of the urine should show an absence of the tubercle bacillus. The differential diagnosis of a non-tuberculous from a tuberculous cystitis with the aid of the cystoscope was not as reliable as the therapeutic test outlined in the preceding sentence. Pronounced reddening or ulceration about the mouth of one of the ureters, with absence of other bladder changes, was held by some authorities as pathognomonic of tuberculosis of the corresponding kidney; while the sign was an important one, too much weight should not be attached to it in women. In most cases the removal of the diseased kidney would bring about practically a cure of the descending cystitis. He doubted the wisdom of the advice to cure the cystitis before undertaking the removal of the kidney in women, owing to the fact that the disease was most frequently primary and unilateral, the modern tests for determining the functional capacity of the second kidney were not as essential as in men. Catheterization of the supposedly healthy kidney was a procedure to be avoided, when, as was frequently the case, there was associated a tuberculosis of the bladder. The prognosis of nephrectomy in renal tuberculosis in women was exceedingly good. Of the writer's four cases operated upon, seven, five, two, and one and one-half years ago, respectively, all were alive and in good health.

Dr. Joseph E. Janvrin of New York reported a case of a woman who had been ailing for two years with what was supposed to be a renal calculus. Before operating, Dr. Willy Meyer examined the woman, and agreed with him that the case was probably one of calculus in the pelvis of the kidney, with possibly calculi in the ureter. The kidney was removed, and it was found that the pelvis was infiltrated with tuberculous deposits in the very early stage. The patient made a good recovery and was well to-day.

Dr. J. Wesley Bovee said that if one read the proceedings of the late meeting of the German Congress, he would be impressed with the comparatively large proportion of cases in which primary tuberculosis was found in both kidneys, or the very small proportion in which one kidney alone was involved. As to the indications for operation,

on tuberculous kidney, the surgeon should be sure that the opposite kidney was capable of carrying on the function of excreting urine for the whole body before he decided to remove one tuberculous kidney. A nephrotomy might be done, and the kidney most markedly diseased drained, without taxing the other kidney to a great extent. As regards cystitis in tuberculosis of the kidney, it was a late, not an early, symptom.

Dr. Philander A. Harris of Paterson, N. J., said that in cases of tuberculosis of the kidney it was difficult, when the bladder was corrugated and changed by the pathology present, to find the ureter; but by painting the entire field of the bladder with some solution sufficiently colored with a swab, as Prussian blue, he had succeeded in finding the ureters in the case of a girl which he could not otherwise locate.

Dr. Seth C. Gordon operated on a man, removing a kidney which was situated low down in the abdomen, painful, and bound down by adhesions. The patient died eleven days after the operation, and post-mortem examination showed that the man had no other kidney. Two years afterward he removed a very large kidney from a woman, who lived twenty-eight days after operation. For twelve hours she did not have a single uræmic symptom, nor was there a drop of urine secreted, and she died in full possession of her faculties. Post-mortem examination revealed that she had no other kidney.

Dr. J. M. Baldy said it was not uncommon to have medical men in the wards of the policlinic ask if the ureters had been catheterized in the cases of supposed kidney disease, and not infrequently a perfectly healthy kidney was palpated and found on one side which utterly failed to secrete with the patient under an anæsthetic or without it. In some instances this failure on the part of the kidney to secrete was undoubtedly brought about by the influence of the anæsthetic. At any rate, anæsthesia would reduce the quantity of secretion very materially. He had had exactly that same experience a number of times in patients whose ureters he had catheterized, but to whom no anæsthetic had been given.

Dr. George M. Edebohls said that some four or five years ago he read a paper on "The Other Kidney and Contemplated Nephrectomy." In it he advocated that before removing a kidney an incision should be made on the opposite side to determine by actual inspection and palpation (1) the presence of another kidney, and (2) its probable health, so far as could be determined macroscopically, before removing the diseased kidney. In spite of the advance made in diagnosis, and its limitations in kidney diseases, he had adhered to that rule in all nephrectomies performed since that time, and in one case he had saved a woman's life by so doing.

Dr. J. Riddle Goffe of New York reported a case bearing on the removal of the ureter in connection with tuberculosis of the kidney, the patient having been operated on by him in 1896. She was a woman of twenty-two, who had a very large tuberculous abscess of the right kidney. He removed the kidney and three inches of the ureter. She made an excellent recovery, excepting that she had a sinus which lasted four months and then healed. Patient was now a graduate nurse and in perfect health.

Dr. Edward Reynolds of Boston gave his experience of ten nephrectomies for tuberculous disease, seven of them being complete nephro-ureterectomies, all successful, so far as operative mortality was concerned.

Hypertrophies and Inflammations about the Urinary Meatus.—Dr. Robert L. Dickinson of Brooklyn read a paper on this subject, saying that their frequency, and the suffering caused, gave them an importance out of all proportion to their minute size. Overlooked because hidden among folds of mucous membrane. They were explained by embryology. A tiny ribbon ran from the rear of the vaginal opening forward, on each side of the vaginal and urethral openings, across the vestibule to disappear beneath the clitoris. This fold was persistent in those cases in which the hymen ran forward of the meatus, or the meatus seemed to open on the anterior vaginal wall. This fold was enlarged by friction or traction to produce flaps or labia, hanging out each side of the meatus. They were found only with corrugated labia. Dilated or dilatable urethra often accompanied them. The urethral glands opened near the apex of the flaps. They were long, running down into the anterior column of the vagina. Swelling from infection differed from hypertrophy. The cure of chronic inflammation was only feasible by obliteration of the glands. A fine probe, passed to the bottom of the gland, rendered the vestibular-vaginal surface tense; the cautery wire cut out the probe. For piles of the meatus, the cautery wire was used after cocaine; for prolapse or dilatation of the urethra, resection of the anterior vaginal wall or paraffine injections into the urethrovaginal septum produced a sigmoid profile.

Surgery of the Female Urethra.—Dr. Ely Van de Warker of Syracuse, N. Y., read a paper on this subject. The urethra, he said, appeared like an insignificant part, its vital relations were negligible, its anatomy was relative, and acquired its importance from its related organs, but it might be said to epitomize a large share of the suffering that woman's pelvic organs inflicted upon her. The amount of disturbance caused by a simple irritation of the urethra to the bladder and indirectly to the kidneys afforded striking proof of the validity of reflected nervous disturbance.

The term sacculation was regarded as better than the old one, urethrocele. Its major cause was mechanical, as inflammation alone was not adequate to its production. The urethra might be said to belong to the perineal rather than the pelvic zone of organs. The walls of the canal depended in a measure upon the support of the perineal body. It was often associated with long-standing rupture of this part. Restoration of the perineum was therefore essential to treatment of the sacculation. When large, an elliptical flap of the walls of the urethra was removed and the edges brought together by fine silk sutures. Prolapse of the mucous lining of the urethra the author had generally associated with long-standing urinary troubles of various kinds. It was, therefore, probably due to a gradually progressive condition, and was a typical ptosis, and complied with the general law of genital prolapse. After removing the prolapsed portion there was a marked tendency to recurrence unless the conditions which gave rise to it were treated and cured. Bladder incontinence and dribbling were often lifelong conditions. That this was due to a defective action of the sphincter vesicæ was more than doubtful.

Stricture of the urethra, in the author's experience, was common in women. Any condition that tended to produce linear or annular thickening led to stricture. Specific urethritis might produce stricture, but it was not the frequent cause alleged by some writers. Stricture of large caliber might be located and measured by the Otis bulbs, but never by the sound, as was recommended by old systematic writers. Annular stricture of the meatus was the form most commonly met with. These ought to be incised and made to heal in an open condition by the frequent passage of the sound. Dilatation alone was too painful and required too much time. As to eversion of the mucous membrane at the meatus, its prototype was the fusiform stricture of Otis, and its surest cure was by dilatation.

Pyelitis Complicating Pregnancy.—Dr. Edwin B. Cragin of New York read this paper (see page 81).

A Second Case of Puerperal Eclampsia Successfully Treated by Renal Decapsulation.—Dr. George M. Edebohls of New York said the first case, reported to the society a year ago, illustrated the immediate cure by renal decapsulation of puerperal convulsions, recurring with great and increasing violence after the birth of the child, a period at which the hitherto final resource of forced

delivery was, of course, no longer available. In presenting the case the opinion was advanced that resort to renal decapsulation in the undelivered woman suffering from puerperal eclampsia might obviate the necessity of forced delivery. The case now reported illustrated the correctness of that opinion. Renal decapsulation was performed upon a woman pregnant near term, suffering from puerperal eclampsia, and almost complete suppression of urine. The convulsions were arrested, the flow of urine was reestablished, and a threatened death from uræmia was averted. Two days after all this had been accomplished, labor began spontaneously, and living twins were born. One child died soon after birth. The second child and the mother were in perfect health four and a half months after the termination of pregnancy. Renal decapsulation thus became the rival of forced delivery in cases of puerperal convulsions of renal origin in the undelivered woman. In puerperal convulsions, occurring or recurring after delivery, it constituted the final resort when all other measures had failed.

Wednesday, May 25—Second Day.

Primary Repair of Lacerations of the Cervix Uteri.—Dr. Edward P. Davis of Philadelphia read the first paper in the symposium on this subject. Experience in fifty-three cases had led to the following conclusions: When the patient was not infected and when the tissues had not been subjected to sufficient violence to threaten necrosis and laceration of the cervix, one-half inch or more in extent was present, primary closure had been followed in his experience with good results. These cases usually occurred in primiparæ in whom resistance in the soft part occasioned sufficient delay and fatigue to require delivery by forceps. They were also seen in cases of premature labor, whether spontaneous or induced, in which the cervix was not physiologically softened for perfect dilatation. They were also found in patients having spontaneous labor with very strong expulsive efforts, and with large children. Naturally those cases in which the mechanism of labor was abnormal through posterior rotation of the occiput, face presentation or breech presentation, predisposed to laceration of the cervix. While primary closure of laceration of the cervix was indicated in the conditions just described, certain conditions were necessary for its successful performance. These conditions were outlined. Dr. Davis then described the technique of the operation, and the after-treatment. The number of cases under observation was 53. In these, good union occurred in 45, fair union in 6, no union in 7, while infection developed in none. In 84.9 per cent. the operation was successful; in 11.3 per cent. it was moderately successful, and in 3.8 per cent. the operation failed. The percentage of infection was *nil*. He pointed out the objections which were commonly urged against this operation, after which he said that in appropriate cases in his experience immediate closure of the cervix had given no inconvenience to the mother, and had been followed by excellent results. The operation was not advised for those who do not practise obstetrics with good surgical technique, and who were not competent to operate on the genital tract.

Cervix Suture on the Fifth Day after Delivery.—Dr. Robert L. Dickinson of Brooklyn said that no complicated or considerable perineal injury should be repaired at the close of labor, but three to five days later. This had an important bearing on lacerations of the cervix, as this was the ideal time to restore such injuries. The huge œdema, the bruising, and the uncouth distortion of the vaginal portion just after delivery rendered identification of the parts that should be brought together impossible, and attempt to coapt accurately, guess work. Therefore, whenever possible, the cervix should be sewed on the fifth day. The frozen sections of the puerperal weeks showed that then, and not till then, shrinkage had occurred. Bleeding no longer obscured the difference between flayed surface and torn structure. Then only were the surroundings of the operation, in the way of illumination, table, time, and a rested personnel possible. This applied particularly to private practice. The conditions under which the cervix should be repaired at the close of labor were: (1) Bleeding from a firmly contracted uterus, notwithstanding ergot, heat, holding, and tampon. Here there was a spurting artery. (2) When the cervix injuries were clean cuts, of known location, as after Duhrssen incisions. (3) When, in the immediate repair of a moderate perineal injury, a tear of the cervix is found. The conditions under which the cervix should be repaired several days after labor were: Exhaustion of patient, or surroundings and conditions which precluded careful work. (2) Extensive injuries, except when these persistently bled or had been cut by the surgeon. (3) When accompanied by complicated or considerable injuries to the pelvic floor. The author drew attention further to the alterations produced by granulation and contraction in these wounds when left alone, so that the scarred, swollen, averted, or cystic cervix months or years after injury gave uncertain indications for accurate restoration to the original condition.

General Considerations of Laceration of the Cervix Uteri.—Dr. J. M. Baldy of Philadelphia stated that as a matter of clinical fact, let the cervix uteri be torn deeply and if the parts were preserved from infection, the greater part of the tear would heal spontaneously, and the rest of it would remain perfectly healthy, as much so as would the lobe of the ear which had been torn through by the weight and drag of our great-grandmother's earrings. The lips would remain uninfiltrated, of normal size and thickness, with no eversions and no erosion of the lining mucous membrane. In such a case there would be no untoward symptoms and no bad effects whatever. There was a tendency amongst obstetricians to repair these lacerations primarily. The objections to such practice were manifold, and he admitted a prejudice against it. These objections were pointed out. Whatever might be ideal surgery under the exigencies of actual practice, the treatment for recent lacerations of the cervix remained, and he believed would remain, rigid local cleanliness, excepting where there was sufficient hemorrhage to demand a ligature. Where non-infection could be insured, and where the torn lips were not unnecessarily disturbed, by the careless use of the nozzle of a syringe, spontaneous healing of these lacerations might be expected to a greater or lesser degree, and what tear remained, when nature was through with her work, would be of a healthy character, would give no future trouble, and would need no surgical interference. The symptoms of chronic lacerations of the cervix uteri were essentially local in their production and remained so in their manifestations. He had no sympathy with the views which attributed reflex symptoms to these lesions. In uncomplicated cases, in which there existed simply a laceration of the cervix uteri, with everted and eroded lips, producing a constant leucorrhœa and a feeling of weight and uneasiness in the pelvis and about the rectum, these so-called reflex symptoms did not exist. There was one belief prevalent which would warrant, nay demand, a repair of every lacerated cervix—the belief that lacerations of the cervix produced carcinoma. In this belief he took no part, and no one had, to his knowledge, as yet produced a single scientific fact which would uphold such a theory. In twenty years' work he had not seen a single case of cancer develop in a laceration of the cervix which he had refused to repair.

Intrapelvic Hæmatoma.—Dr. J. Whitridge Williams of Baltimore reported a case of intrapelvic hæmatoma following labor, and made some remarks on the treatment of incomplete rupture of the uterus.

President's Address.—Dr. Edward Reynolds of Boston in his presidential address, said, among other things, that the society owed its preëminence along its chosen line less to the words than to the prolonged and daily labor of the eminent men who had composed it in the past, and must owe its future to the lifework of the equally able men who were to fill its membership in the coming years. He said the use of the printed abstract published beforehand had of late become increasingly prominent in many societies, and in the British Medical Association this use of the abstract had reached its highest terms. It was seldom wise to adopt wholesale the regulations of other organizations. It was usually better to let changes follow a more gradual and natural evolution under the needs of the individual assembly, but the methods of the English association were worth a passing consideration. A Fellow of the British Medical Association who desired to present a paper at one of its meetings, must put it in the hands of the secretary complete and in the form in which he desired its publication a number of weeks before the meeting, and the communication might be of any length he chose. A paid secretary, a qualified and experienced medical author, then abstracted each paper in the form and length which he considered best fitted for its public delivery. This official then read the abstracts to the society as they were called from the program. Such a reading inaugurated each discussion, and the member whose ideas had been thus succinctly set forth before his associates took part in the discussion and closed it. The ideas of individual members by this method were better and more intelligently presented to the society than if they had read their complete papers. In this way the time of the society was economized, full debate was encouraged, and the members had the advantage of publishing to the world papers in which their points were set forth at the fullest length and without time limitation. Dr. Reynolds said that such a method was perhaps too far advanced for our present needs or possibilities, yet it had many advantages, and it seemed to him worth calling attention to as one toward which the society might well advance.

Would it not be wise to give this method, or a modification of it, a year's trial? In conclusion he expressed his thanks for the kindly personal feeling which had actuated the Fellows when they elected him president, for which, and for the many personal pleasures which he had enjoyed in the society, he was, and would always gladly remain, their willing debtor.

The Preventive Treatment of Pelvic Floor Lacerations.—Dr. J. Clifton Edgar of New York read this first paper in a symposium on injuries to the perineum. The most important part of the management of the second stage of labor was the prevention of pelvic floor lacerations, lacerations of the fourchette in primiparæ, and superficial tears about the vulvar orifice in both primipara and multipara often occurred, were often unavoidable, and usually readily healed with simple asepsis. Deep lacerations were avoidable in normal, ordinary cases of labor. The factors which tended directly or indirectly to produce pelvic floor lacerations were numerous, but for convenience he arranged these in three major classes. These were concisely stated as (1) too rapid expulsion of the fœtus, so that tearing instead of stretching resulted. (2) Relative disproportion in size between the presenting part and the parturient outlet. (3) A faulty mechanism of labor, whereby the larger circumference of the head and shoulders than necessary passed through the parturient outlet.

From an extended clinical experience, he could speak most enthusiastically of the preliminary digital stretching of the vulvar outlet in primipara, and especially in elderly primipara, as a prophylactic measure in perineal protection. Regarding shoulder delivery, the author firmly believed that the posterior shoulder was responsible for many instances of deep pelvic-floor laceration. Furthermore, moderate ruptures caused by the passage of the head were often increased and rendered serious by the subsequent passage of the posterior shoulder. He had been most successful with the following method of shoulder delivery, and either the lateral or dorsal posture of the patient could be used at will. This method was not new: (1) The delivery of the shoulders was delayed, if possible, until nearly complete rotation of the bisacromial diameter had taken place. (2) The fetal head was taken in the hand and gently raised or pushed, so as to bring the anterior shoulder well up behind the symphysis, thus giving the cervico-acromial diameter of the fœtus at the outlet instead of the bisacromial. (3) The posterior shoulder was now allowed to pass out spontaneously and whenever possible manual extraction should be avoided, as this increased the risk of perineal rupture. (4) During the detention of the anterior shoulder behind the symphysis, the fetal hand of the opposite arm lying across the fetal chest would usually soon appear in the vulva. He had found that delivery might be safely assisted by slowly flexing this forearm and arm out through the vulva and thus delivering the posterior shoulder by slight traction on the posterior arm. (5) Should the foregoing be impracticable and delay in the expulsion of the posterior shoulder occur, he had found gentle traction upon the head, the fingers encircling the neck, to be preferable to traction with a finger in the axilla. (6) Should there be delay in the delivery of the anterior shoulder, after expulsion of the posterior, it was best remedied by making traction directly downward, with the hands placed on the sides of the head, taking care not to make too great pressure on the perineum. As a last resort, traction might be made by a finger in the axilla.

Placing Sutures before the Lacerations Occur.—Dr. Lapthorne Smith of Montreal spoke of the importance of closing up even small tears of the perineum, so as not to leave raw surfaces for septic absorption. It was important to close large tears so as to retain the function of the pelvic muscles. The best time to put in these stitches was just before the head pressed on the perineum, while the patient was anæsthetized, and before the parts had lost their relative positions. With the left finger in the vagina and the thumb in the rectum, a large perineum needle on a handle was passed just under the vagina, threaded with silkworm gut; the two or three stitches hung loosely in a Pean forceps until the placenta had been delivered, when they were quickly tied, bringing the parts exactly together as they were before the tear.

Immediate Repair of Injuries of the Pelvic Floor.—Dr. Henry C. Coe of New York said that he had selected this topic in order to emphasize the fact that by careful attention to puerperal lesions at the time of their occurrence the patient could be spared much future trouble. He assumed that it was the usual practice of modern accoucheurs to repair injuries to the pelvic floor at once, but it was one thing to suture visible tears and another to repair deeper lesions. Even when perfect union of the lacerations was obtained, the occurrence of prolapsus, cystocele, and rectocele months afterward proved that there had been some fault in the technique. The fact of the separation of the fascia and levatores ani muscles must be recognized as well as the superficial tear, especially after difficult instrumental deliveries. An illustrative case from the writer's practice was cited. The tendency of the accoucheur after a tedious instrumental case, in which both physician and patient were exhausted, was to spend as little time as possible in repairing lesions of the soft parts, trusting to aseptic technique to insure perfect healing. The writer was firmly of the opinion that it paid to do the work thoroughly at the time, unless the patient's condition was such as to render delay advisable. He had had such good results from immediate operations that the intermediate did not appeal to him. In conclusion, he alluded to the fact that the modern accoucheu

must be a surgeon as well as an obstetrician. It was expected of him to leave the patient in as good condition as he found her, otherwise he properly laid himself open to criticism.

Uniformity in Pelvic and Cranial Measurements.—Dr. A. F. A. King of Washington, D. C., read a paper on this subject in which he reached the following conclusions: "(1) That at present the measurements of the normal pelvis and fetal head are indefinite and unsettled, and must continue so to be so long as they are determined by our present methods of mensuration. (2) The chief purpose in obtaining the normal dimensions of these structures being for teaching and learning the normal mechanism of labor, it is proposed to adopt an ideal or hypothetical head and pelvis, upon the dimensions of which all authorities may agree. (3) In the adoption of such ideal structures, it is unnecessary and undesirable to define any measurement with exact precision—no fraction smaller than one-fourth of an inch, or than half a centimeter (in the metric system) being required. (4) Race variation forms no real obstacle to the proposed plan, and other apparent difficulties can be overcome. Finally, should the proposition meet with approval, it is suggested that this society take the initiative in bringing the matter in proper form before some forthcoming international medical congress for general adoption."

Accordingly, a committee was appointed by the president to consider the matter of uniformity in pelvic and cranial measurements, and report at the next annual meeting.

Non-operative Local Treatment in Gynecology.—Dr. Willis E. Ford of Utica, N. Y., in reading the first paper in the symposium on this subject, said that no one would deny that greater good had come from surgical treatment of diseases peculiar to women than was ever dreamed of by the early gynecologists who did not operate. No comparison of results could be made. He did not think it was true, however, that the specialty ought to become purely surgical. Pathology learned by pelvic and abdominal surgery ought to be clearer and better than was ever discovered post-mortem. It was fair to assume that men who did this work had a better idea of the natural history, progress, and dangers of these diseases than those who did not operate; and that, therefore, the early treatment ought to be in the hands of men who were also doing surgical work. The nervous habit could not be cured by surgical procedure. What was commonly called neurasthenia was not a disease, but an established habit, possible only to those who had from birth an unstable or weak nervous constitution. Before the mental symptoms began was the time to prevent neurasthenics from becoming permanent invalids. That the nervous habit could not be cured by surgery had been proven by the fact that the removal of diseased ovaries, and such like operations on epileptic women, had not cured the epilepsy or neurasthenia. The argument, therefore, was that in those ailments that tended to disturb the emotions, especially those of the reproductive organs of men or women, the the serious thing was not the pain experienced, but the permanent invalidism which was brought about by the protracted local sensations that in time disturbed the mental equilibrium and brought about the invalid habit. These local irritations ought to be treated by skilled gynecologists, and not allowed to develop either the mental or physical ailments which were so common a result. These arguments were enough to make the profession to revive its interests in non-operative procedures. Recent displacements, especially in young people, and acute infections were mentioned as demanding non-surgical care early, if one wished to avoid the more serious ailments, and especially the most serious of all, the mental disorder called neurasthenia.

Dr. Walter P. Manton of Detroit, Mich., said that the ignorance of proper methods, together with the fascinations of operative measures, had brought the local treatment of pelvic disease into disrepute. Three of the factors, which among others at the present time were largely responsible for the neglect of medical gynecology, were: (1) The average physician's lack of knowledge in the accurate diagnosis and local treatment of pelvic disease. (2) The allurements and fascinations of surgery, and (3) competition in the field of practice. While it was true that no amount of instruction could impart a *tactus eruditus*, still anyone could acquire a knowledge of the primary principles underlying the correct interpretation of gynecic ailments, if opportunity was offered for the practical examination of patients under competent direction. In ignoring the benefits to be derived from medicine, he was convinced that surgery had gone too far and that it had overshot the mark, but that the present tendency to operative measures in all conditions affecting the pelvic organs could not be ascribed so much to the good which surgery, rightly directed, was capable of accomplishing as to other elements which had entered into the case was also evident. In the best of hands the results from local treatment in pelvic diseases were frequently slow in manifesting themselves, and discouragements were often met with, but in suitable cases persistent effort would ultimately attain the desired end. The objects of local treatment were the relief of pain and irritation, often of a reflex nature; the allaying of congestion and inflammation; the absorption of the products of inflammation, and the reposition of displaced organs. In the regulation of the uterine functions, in congestions and mild inflammations of that organ and surrounding parts, and in displacements of the uterus, with and without adhesions, the application of proper local treatment was of signal value; while in prolapse of the tubes and ovaries, even in the presence of extensive adhesions, but without ascertainable morbid changes in the organs themselves, vaginal tamponade offered the simplest and most efficient means of reposition and cure.

Treatment Preparatory to Operation.—Dr. Henry C. Coe of New York introduced his remarks with the statement that while his early training had led him to believe that such treatment was practically indispensable in cases of so-called "cellulitis," subsequent experience had convinced him that this notion was not in accordance with pathology or common sense. He had expressed skepticism on this subject as long ago as 1886, when he read a paper on the "Exaggerated Importance of Minor Pelvic Inflammation," and subsequent experience had only served to confirm his opinion that old pelvic exudates and adhesions were not *per se* a contraindication to operations on the uterus. Modern aseptic technique was a sufficient safeguard against danger from this source. The reader contrasted the old practice of keeping a patient in a hospital for several months, with the preparatory treatment between each minor operation, with the present plan of performing a combined operation at one seance and sending the patient out in three or four weeks. He questioned the actual value of the hot vaginal douche, local applications to the vaginal fornix, etc., previous to trachelorrhaphy. At the same time, he admitted the remarkable results often observed as regards the absorption of extensive pelvic exudates. Acute and subacute inflammations in and around the adnexa formed the real contraindication to operation, and doubtless surgeons were not always as careful as those of the former more conservative generation in selecting their cases. Competition and the rush of modern life were responsible for some ill-advised operations, minor as well as major. In regard to major operations, the author thought that (excluding pus cases) general preparatory treatment of the patient was rather more important than local. He believed, however, that the admirable results obtained by the pioneers in the treatment of vesicovaginal fistulæ were due to careful

preparatory treatment, such as the division of cicatrices, stretching of the vagina, etc. Fortunately we were seldom called upon to handle such complicated cases as those described by Sims, Emmet, and Bozeman. With all our improvements in technique, we had not yet outgrown all the wisdom of our old teachers.

Postoperative Local Treatment.—Dr. J. Riddle Goffe of New York said the experience of all observers was that local treatment relieved congestion, pain and discomfort; inaugurated, hastened, and accomplished the absorption of œdema, plastic exudate, adhesions, and pseudo-hypertrophy.. If it would relieve these conditions, how much more certainly would it prevent them? It had been found serviceable in preventing the deposit of plastic exudate and the reformation of adhesions in cases in which these were present at the time of operation. It was especially valuable in cases subjected to vaginal section for the relief of sterility. The author reported several instructive cases to substantiate the points made in his paper.

The Implantation of the Human Ovum in the Uterus.—Dr. Charles Sedgwick Minot of Boston discussed this subject by request. He stated that the human ovum produced upon its exterior during its earliest stages of development a thick layer of cells, the trophoblast. The function of the trophoblast was to corrode away a portion of the mucous membrane of the uterus, making a cavity in which the ovum lodged itself. The trophoblast thereupon underwent a hypertrophic degeneration, such as to produce a series of irregular spaces, which persisted and became the intervillous spaces of the placenta. Papillary outgrowths of the chorionic mesoderm meanwhile penetrated the trophoblast, initiating the formation of the chorionic villi. The trophoblastic cells over each mesodermic outgrowth persisted in two layers, the inner cellular, and the outer syncytial. These two layers represented the first stage of the villus ectoderm. Similar observations had been made upon primates, and were compared with those upon the human subject. He compared briefly the method of implantation in man with that in other animals, to show that the trophoblast was of general occurrence, and that by destroying uterine tissues it inaugurated the formation of the true chorionic placenta.

Bathing During the Menstrual Period.—Dr. J. Clifton Edgar of New York said that in the consideration of this subject several questions suggested themselves, namely, first, the advisability of bathing of any description during the menstrual period, and if at all, to what extent. Second, the use of the bath in dysmenorrhœa. Third, the use of Nauheim or other chemical baths or hydriatic procedures. Fourth, the risk of infection of the endometrium in intramenstrual tub-bathing. Fifth, the influence of modern athletics on women, lessening the risk, if any, of intramenstrual bathing. These questions were submitted to the members of the society, from whom he had received one hundred and twenty-two acknowledgments. From the replies received, and the literature on the subject, he drew the following conclusions: "(1) All forms of bathing during the menstrual period are largely a matter of habit, and usually can be acquired by cautious and gentle progression, but not for every woman does this hold good, and surf bathing, where the body surface remains chilled for some time, should always be excepted. (2) A daily tepid sponge bath (85° to 92° F.) during the menstrual period is not only a harmless proceeding, but is demanded by the rules of hygiene. (3) In the majority of, if not all, women, tepid (85° to 92° F.) sponge-bathing after the establishment of the menstrual flow, namely, second or third day, is a perfectly safe practice. (4) Furthermore, in most women the habit of using the tepid shower or tub bath after the first day or two of the flow can with safety be acquired."

The Streptococcus in Gynecological Surgery.—Dr. Hunter Robb of Cleveland, Ohio, stated that in order to arrive at some definite conclusions with reference to the streptococcus pyogenes as a cause of death in his work, he had made an analysis of all his cases in which this organism had been found during the past six years. It was shown from observations that quite a large number of his patients died, and several were unimproved. It was also noticed that in the great majority of cases in which this organism was met with, there was a previous history of infection following labor, or an induced criminal abortion. In the past six years he had had 137 cases of abortion (including a few cases of labor), in which it was necessary to carry out some form of treatment. Of this number, 104, or 75.9 per cent., recovered; 17, or 12.4 per cent., were improved; 1, or .8 per cent., was unimproved. and 15, or 10.9 per cent., died. In 16 of the 137 cases the streptococcus was found, The total number of all his cases in which the streptoccocus was found was 40, consequently those in which this organism was found following an abortion or labor formed 40 per cent. of the total number of streptococcus cases from every source. Of these, 16 patients (streptococcus cases), following abortion or labor, 4, or 25 per cent., recovered; 3, or 18.75 per cent., were improved; 9, or 56.25 per cent., died. In the whole, 40 cases from every source, in which the streptococcus was found, the results were as follows: Recovered, 20, or 50 per cent.; improved, 6, or 15 per cent.; deaths, 14, or 35 per cent. The streptococcus was found in the following combinations, given in order of frequency: (1) Streptococcus alone; (2) streptococcus and staphylococcus pyogenes aureus; (3) streptococcus, staphylococcus aureus, and bacillus coli communis. In all these cases, except three, in which they were obtained from the vagina, the organisms were obtained from the uterus, the adnexa, the cul-de-sac, or from several of these situations. In other words, they were proved to be present in places which were admittedly not their normal habitat. In the past five years he had had 724 abdominal sections, with a total number of 32 deaths, or 4.43 per cent. In 7, or 21.9 per cent., of them the streptococcus pyogenes was demonstrated. In all there were 19 cases of abdominal operations in which the streptococcus was found. Of this number, 12 recovered, or 63.2 per cent.; and 7 died, a mortality of 36.8 per cent.

Indications for Operation for Fibroid Tumors of the Uterus.—Dr. Charles P. Noble of Philadelphia presented a table of the degenerations and complications in a series of 1,188 cases of fibroid tumors operated upon by Martin, Noble, Cullingworth, Frederick, Scharlieb, and in a series reported by Hunner and MacDonald. Especial attention was called to the relative frequency of adenocarcinoma of the uterus as compared with epithelioma of the cervix. The deduction drawn from this fact was that fibroid tumors were a direct predisposing cause of cancer of the cervix. A careful consideration of the facts presented in the table, said the author, should convince anyone with an open mind that the classical teachings concerning fibroid tumors were erroneous. This teaching was that fibroid tumors of the uterus were benign growths, which usually produced but few symptoms, and which after the menopause underwent retrogressive changes, becoming smaller or disappearing; that the chief danger of fibroid tumors consisted in the fact that at times they caused hemorrhage from the uterus, and that rarely they caused trouble, because of their size or because of pressure on adjacent viscera. An analysis of the 1,188 cases showed that because of the degenerations in the tumors, about 16 per cent. of the women would have died without operation; about 18 per cent. would have died from the complications present. In addition, it was well-known that a certain percentage would have died from intercurrent diseases brought about by the chronic anæmia present in many of these cases, and by injurious pressure from the tumors upon the alimentary canal and urinary organs. In brief, at least one-third of the women having fibroid tumors, as shown by the author's table, would have died had they not been submitted to operation.

The Treatment of Gonorrhœa.—Dr. Henry T. Byford of Chicago said there was dissatisfaction with prevalent methods of treating this disease. The desideratum was a local remedy that would rapidly destroy or remove the germs without injuring the protective epithelium, and a method of application that could be used by the patient which would not carry the germs to a deeper portion of the genitourinary tract. He advocated prolonged irrigations with hot water as a basis, and spoke of frequent injections of hot water as a substitute for prolonged irrigations. He detailed his experience with urethritis in the male, and referred to hydrogen dioxide and unirritating germicidal solutions as substitutes for plain water injections, and gave their application to gonorrhœa in the female. The advantages of this treatment, when used early, were summarized by him as follows: "(1) It prevents the spread of the disease to adjacent parts. (2) It does not injure the epithelial covering, and tends to limit the infection to the superficial areas. (3) It removes more germs and pus cells than either astringents or disinfectants can destroy. It acts in the same way as constant irrigation, both in aborting and arresting the progress of the infection. (4) It can be used more frequently than astringents or strong germicides, so that the parts can practically be kept free from pus and germs all of the time, while the method of using germicides or astringents three or four times daily allows the germs and pus to accumulate and spread between injections. (5) In the male, and possibly in the female, peroxide injections may be substituted when the time and facilities for the hot water treatment cannot be had. When the discharge has become scanty and the injections cannot readily be used so frequently, a non-irritating solution of a silver salt can follow each hot water or peroxide treatment. (6) It may be used in connection with other injections for the dissolving of germs and culture material not eliminated by the douches. (7) It does no harm. It can be combined with the internal or local medication when it becomes impossible to carry it out with the necessary time-consuming detail It exemplifies the superiority of asepsis to antisepsis."

Dr. Philander A. Harris of Paterson, N. J., exhibited and described a new uterine obstetrical dilator.

Officers.—The following officers were elected: *President*, Dr. E. C. Dudley, Chicago, Ill.; *Vice-Presidents*, Drs. Henry D. Fry, Washington, D. C., and Henry C. Coe, New York; *Secretary*, Dr. J. Riddle Goffe, New York; *Treasurer*, Dr. J. M. Baldy, Philadelphia.

Niagara Falls, N. Y., was selected as the place for holding the next annual meeting, in May, 1905.

Treatment of Tabes.—O. Ziemssen discusses his method of handling this disease, which he bases on the assumption that the cord lesions are due to a disturbance in the capillary system, and that when the latter is righted the diseased tissues are regenerated. It is necessary to distinguish between the less prominent elementary disease and the secondary effects, which are a source of greater annoyance. Different remedies may be directed against one of these factors without in any way influencing the other. Ziemssen first places the patient on a thorough mercurial treatment, and unless this is carried out diligently the result is always failure. The method to be preferred is by inunctions. In addition to this the amount of fluids is restricted, as in other circulatory diseases, and special measures are directed against the secondary manifestations, such as the ataxia, incontinence, neuralgia, etc. Even where the tabes has closely followed upon a trauma, the author has used the inunctions and later found that the patients had had syphilis. It is essential in every instance to begin treatment as early as possible, for as a rule the disease has existed for some time before the patient presents himself for examination.—*Wiener klinisch-therapeutische Wochenschrift.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 9, 1904:

	Cases.	Deaths.
Measles	261	15
Diphtheria and croup	297	29
Scarlet fever	95	13
Smallpox	1	...
Varicella	29	...
Tuberculosis	359	136
Typhoid fever	39	9
Cerebrospinal meningitis	...	34

An Unusual Form of Influenza.—J Latkowski reports a localized epidemic disease characterized by a sudden invasion, chills and fever, swelling of the eyelids, muscular pains, and general prostration. Examination of the secretion from the conjunctiva showed the presence of the influenza bacillus. This swelling of the lids is an unusual phenomenon, and the author believes that the connective tissue forms the portal of *entrée* for the germs, from which they are distributed through the body.—*Wiener klinisch-therapeutische Wochenschrift.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 9, 1904:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Delaware, Wilmington	June 25–July 2	1	..
District of Columbia, Washington	June 18–25	..	3
Florida, at large	June 18–25	14	..
Georgia, Macon	June 25–July 2	1	..
Illinois, Belleville	June 1–30	7	..
Chicago	June 25–July 2	1	..
Danville	June 25–July 2	1	..
Kentucky, Covington	June 25–July 2	1	..
Louisiana, New Orleans	June 25–July 2	5	..
Maine, Madawaska Region	June 18–25	18	..
Michigan, Detroit	June 14–21	2	..
At 88 localities	June 18–25	Present	
Missouri, St. Louis	June 25–July 2	2	..
Nebraska, Omaha	June 25–July 2	4	..
New Hampshire, Manchester	June 25–July 2	1	..
New York, New York	June 25–July 2	1	1
Ohio, Dayton	June 18–July 2	3	2
Pennsylvania, Altoona	June 25–July 2	1	..
Philadelphia	June 25–July 2	2	1
Steelton	June 25–July 2	1	..
Tennessee, Memphis	June 25–July 2	4	..
Nashville	June 25–July 2	1	..

SMALLPOX—FOREIGN.

Austria, Prague	June 11–18	9	..
France, Paris	June 11–18	12	1
Great Britain, Bradford	June 4–18	15	2
Bristol	June 11–25	6	..
Cardiff	June 4–11	1	..
Edinburgh	June 4–11	2	..
Glasgow	June 17–24	31	3
Liverpool	June 11–18	1	..
London	June 11–18	7	..
Manchester	June 4–18	12	1
New-Castle-on-Tyne	June 11–18	5	..
South Shields	June 11–18	1	..
India, Bombay	May 31–June 7	..	12
Calcutta	May 28–June 4	..	2
Karachi	May 29–June 5	1	..
Panama, Panama	June 12–19	1	1
Russia, Moscow	June 4–11	12	8
St. Petersburg	June 4–18	24	7
Warsaw	May 14–21	..	21
Warsaw	May 28–June 4	..	24
Spain, Barcelona	May 20–June 20	..	27
Turkey, Alexandretta	June 4–11	..	2
Beirut	May 28–June 4	Present	
Constantinople	June 12–19	..	7

YELLOW FEVER.

Ecuador, Guayaquil	May 25–June 8	..	15
Mexico, Merida	June 12–18	7	1
Vera Cruz	June 18–25	2	1
Panama, Panama	June 12–19	..	1

PLAGUE.

Africa, Johannesburg	Apr. 11–May 7	2	3
Australia, Brisbane	May 3–21	7	2
Sydney	May 14–21	1	..
Egypt	May 21–28	20	10
including Alexandria, 1 case, 1 death; Port Said, 1 case, 1 death.			
India, Bombay	May 31–June 7	..	78
Calcutta	May 28–June 4	..	70
Karachi	May 29–June 5	30	30
Peru, Payta	May 29–June 4	11	7

CHOLERA.

India, Calcutta	May 28–June 4	..	24
Madras	May 28–June 3	..	2
Turkey, Bahrein Islands	May 10	Epidemic.	

Medical Record

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Original Articles.

NOTES ON SOME UNCOMMON FORMS OF NERVOUS DISEASES.*

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I DESIRE to place on record the following short abstracts of some uncommon forms of nervous disease in patients that have presented themselves at the Vanderbilt Clinic during the past two years. I am much indebted to Dr. Starr for his kind permission to publish the cases:

Multiple Neuritis with Intact Reflexes.—CASE I—J. S., five years old, whose case is incorporated in this report by kindness of Dr. Hart, is an imbecile and possibly epileptic. He was born at term with instruments after a prolonged dry labor of eighteen hours. He was much asphyxiated, but no convulsions were reported. There were scrofulous suppurating glands of the neck at six months. He only began to talk at three years of age. July, 1902, he suffered from what the family supposed was gastritis, but which was probably lead colic; he recovered entirely, and was well for two weeks, until September 15, 1902, when it was noticed one morning that he was lame in both feet and there was bilateral foot-drop. Two months after his hands became affected in the same manner, showing the characteristic wrist-drop of lead palsy. He handled lead during the two weeks after recovery from the illness in the summer and again in September. The relatives believe his taking strong medicine during the summer had something to do with it, but this seems improbable from the history of treatment. At present he is in the recovery stage of multiple neuritis, apparently of lead origin. All reflexes are exaggerated; no sensory changes. Great diminution of faradic and galvanic current, but no qualitative change.

In multiple neuritis the reflex action in the muscles is almost invariably lost (Gowers , but in rare cases, such as those reported by Dejerine, it may persist. Its retention, however, is exceptional, and probably depends on the escape of at least some of the fibers on which the action depends. The retention of the knee-jerk throughout the entire course of the disease cannot be explained on the basis that they are sometimes excessive in the early stages of the disease (in consequence of an irritable state of the nerves on which they depend) similar to that which gives rise to hyperæsthesia. On the the other hand, usually in the slightest grades of neuritis the reflexes are lost, however muscle tenderness is almost invariably present, indicating an involvement of the afferent sensory nerves.

Myoclonus.—CASE II—B. S., eleven years old, Jewish. Two years ago, without rheumatism, heart disease, or fright or other known causes, a lightning-like clonic spasm developed in the left biceps, triceps, pectoralis major, latissimus dorsi and sternomastoid, and in a few weeks the same muscle of the right arm also became involved. The spasm was then as now nearly bilateral, lightning-like, and clonic in character, occurring twenty to forty times a minute. There were good and bad days, but there was never more than a few minutes of entire freedom from the spasm. In a few months the muscles of the pelvic girdle became involved, particularly the glutei, quadriceps, the adductors, and the sartoriis. He had no difficulty in swallowing; there was, however, a diaphragmatic grunt. He cannot inhibit the morbid movements now as long as formerly. Of late the supinators of the forearms and peroneal group in the legs have been occasionally involved. No spasm in fingers or toes have ever been observed, although of late infrequent facial spasms have occurred. The muscles involved first in the disease are now involved most. Musculature is good; no atrophy; no sensory changes; all reflexes are normal. There is marked disturbance in writing. He inhibits the spasms while writing single words, and then in the frequent pauses the "jerks" are intense. The worst sample given here was on one of the patient's "bad days," when the uninhibited spasms were so sudden and brisk as to make "rockets" before the hand could be voluntarily withdrawn from the paper in the act of writing.

The illustrations on the following page are copies of the handwriting in this case of myoclonus: (For similar specimens see the report of the author's cases in the *Archives of Neurology and Psychopathology*, Vol. 2, Nos. 3–4, 1899.)

Cases of myoclonus, although not rare, are still uncommon. In diagnosticating the affection we permit a wider latitude in the disease complex than formerly. Although the essentials of the affection are usually held to embrace the symptom of bilateral clonic lightning-like muscular spasm involving proximal muscles most or exclusively, cases are undoubtedly reported in which one or more of these so-called essentials are very much modified or absent. It is interesting to note in France, where the tics have been most thoroughly studied, that the names of "multiple tics" and "electric chorea" (Henoch-Bergeron's disease) still do service for many obviously well-marked cases of myoclonus. Even in this country myokymic (Schultze) as well as multiple tics and electric chorea are frequent designations for myoclonus. In Russia also Koschewniskow's epilepsy can hardly be other than myoclonus-epilepsy. Bechterew also reports from time to time altogether too many cases of choreic epilepsy. The latter is an extremely rare association in the experience of most neurologists. We believe, as Oppenheim holds, that these peculiar tics and choreas should be arranged under the head of myoclonus. It will then be possible for us properly to classify the different types of the affection. An ambitious attempt in this direction has already been undertaken by Dana in the *Journal of Nervous and Mental Diseases*, June, 1903.

*Read before the Academy of Medicine, Section on General Medicine, May 17, 1904.

Paradoxical Pseudohypertrophy in Infantile Cerebral Hemiplegia.—Case III—C. W., male, ten years old, family history of epilepsy, insanity and alcoholism, rheumatism and tuberculosis. Personal history always good. Smallpox at five, and while in the convalescent stage he had a relapse, septicæmia set in and multiple abscesses formed. After a prolonged convalescence from the relapse infantile cerebral hemiplegia developed. The convulsions were, however, general and continued for many

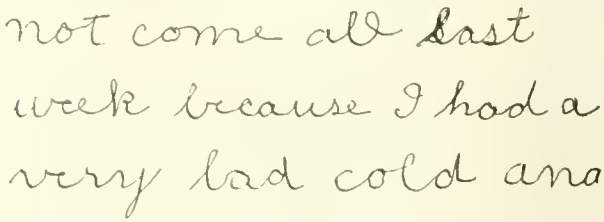


Fig. 1. Patient had been under the influence of sedative treatment (bromide and chloral) for a week when this specimen was written. No loss of control is shown, except in a slight degree in the word "last."

hours. The next day after the convulsions a left hemiplegia was noticed. The convalescence from this lesion was prolonged, and three months after the initial stroke he had status hemiplegicus unilateralis (left) attended by high fever. There were forty-seven grand mal fits in four hours; they all occurred with an order of muscular march, beginning in the left hand, the side paralyzed, as is usual in such cases. He has now grand mal, petit mal, and psychic attacks of epilepsy every two or three months two, three, and five times daily. The

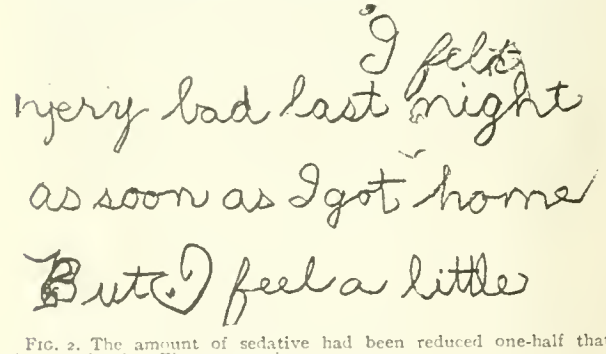


Fig. 2. The amount of sedative had been reduced one-half that given at the time Fig. 1 was written.

hypertrophy of the left calf on the paralyzed side was first noticed three years ago. The remainder of the left side, however, remains moderately atrophic, true to the usual type or law of infantile cerebral palsy cases. The fits are always followed by a more or less marked exhaustive paralysis in the side most participating in the spasm; the hypertrophy of the left calf is probably not true fiber hypertrophy, as the muscle action of the left leg is not so strong as the right. The boy is right-handed. The amount of hypertrophy is a half inch. The ankle is also

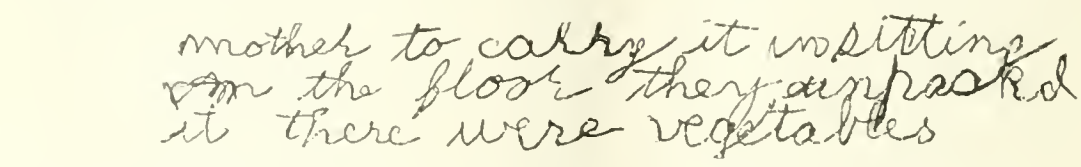


Fig. 3. The amount of sedative was reduced to one-fourth that given at the time of Fig. 1

a half inch longer on the paralyzed side, indicating hypertrophy also. The relative measurements of the extremities are here appended:

Length of arm from acrom. to ext. condyle.	Right, 9¼;	left, 9½
Circumference of arm at biceps	" 7¾;	" 7½
" " thigh at gluteal fold	" 14¾;	" 14¾
" " just above knee	" 10¾;	" 10½
" " calf	" 10;	" 10½
" " ankle	" 5¾;	" 6

Thirteen cases in all have been reported of this peculiar pathological condition in infantile cerebral hemiplegia.* An explanation for the condition is not yet at hand. Morbid agitation of the hypertrophic parts cannot be the cause, as in this case as well as in several others no athetosis has ever been present. Probably the slight nature of the cortical affection (all the other cases have been epileptic) and the slight spasticity in the involved parts may account for the hypertrophy. We, however, still await an exact pathological description of the nature and character of the lesion present in any single case.

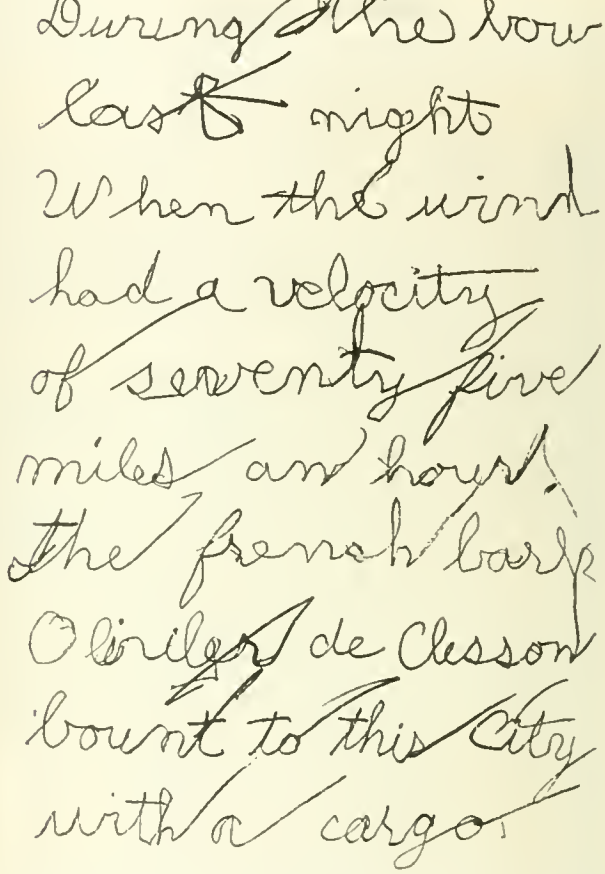


Fig. 4. In addition to the entire withdrawal of sedatives, the specimen was taken on one of the "bad days." Myoclonic interruptions are frequent and severe. The letters are all quite well formed. The muscles of the arm and shoulder cause the myoclonic movements. The handwriting is similar to that seen when one's arm or shoulder is struck violently in the act of writing.

The *x*-ray photographs (Fig. 5) show an easy clinical method of demonstrating volumetric hypertrophy in bone, muscle, and fat in parts which undergo true or false hypertrophy. It obviates the necessity of excising tissue which is a painful, and inexact means of determining these alterations although the latter method must be resorted to in order to determine whether the muscular increase is due to hyperplasia or fiber hypertrophy. I am indebted to Dr. Holden for the excellent *x*-ray negative presented.

Facial Hemiatrophy.—Case IV—The patient is married and has two children; occupation that of clerk. As a boy of five or six he reports having received a severe burn on the right side of the face, which, however left no scar, and this mishap was so slight that its occurrence was not mentioned by the patient in the early examinations. Eighteen years ago, at the age of forty-four, the

*Clark, *Journal of Nervous and Mental Diseases*, October 1, 1902, and *Archives of Neurology and Psychopathology*, Vol. 2, Nos. 3–4, 1899.

patient noticed a slight muscular contraction in the right angle of the jaw similar to that which is now present in the whole of the masseter and temporal muscles. Rubbing diminished the spasm for a time; the pain was not great, the patient felt discomfort principally, to which he soon accustomed himself. In three or four years he noticed the twitching or fibrillations as marked as now is present; now the tremor ceases at times but quickly returns on fatigue, exposure to cold, excitement, and any undue emotional stress. About six years ago he noticed a marked wasting in the right side of the face; three years ago the wasting became

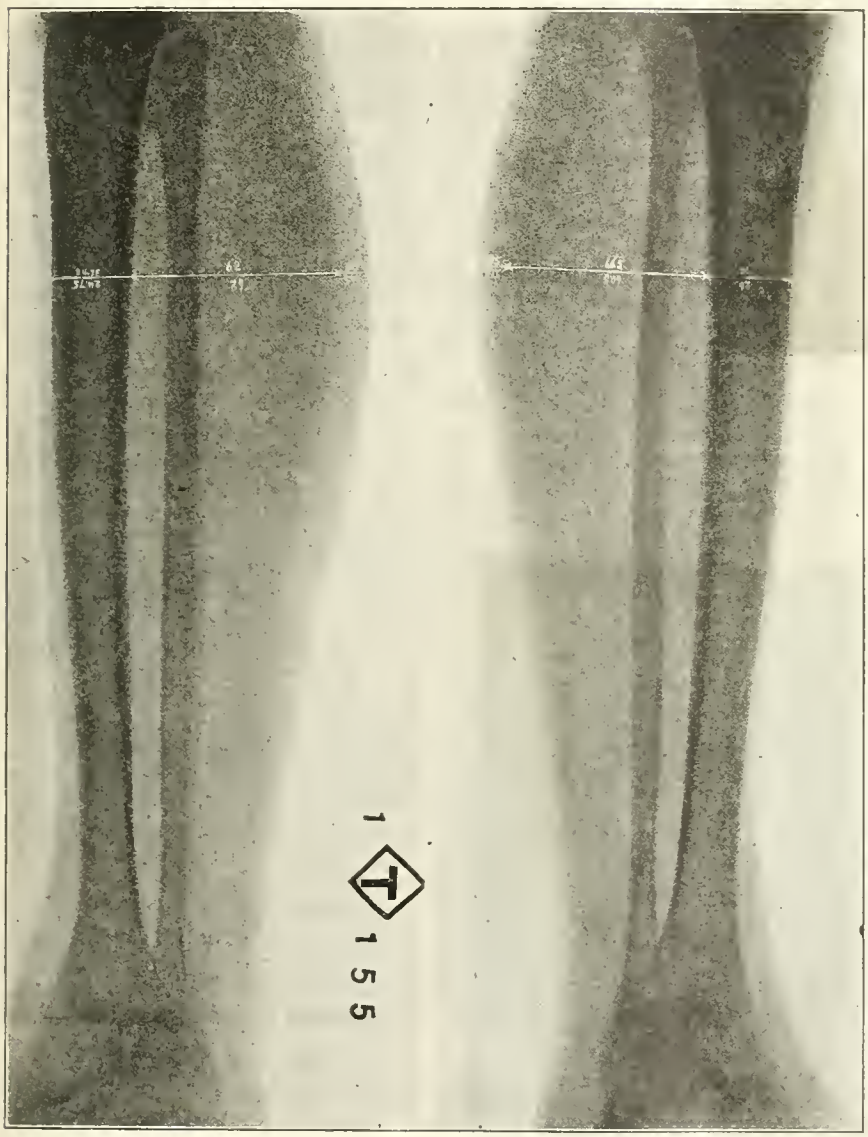


Fig. 5. Showing a method of differentiating true from false muscular hypertrophy.

so marked as to cause comment by all; the teeth decayed, loosened from the jaw, and were easily removed by a dentist. The pain became so severe last January (right trigeminal neuralgia in all three distributions of the nerve) that he sought relief at Dr. Starr's nerve clinic. The physical examination showed that all the cranial nerves were free with the exception of the fifth; the sensory portion appeared intact, except differential smell and taste were a little slow on the right side, possibly due to the functional defect expressed in the neuralgia. The atrophy of the skin, subcutaneous fat, and bone were sharply confined to our supposed skin distribution of the fifth nerve (see Figs. 6 and 7). There was no defect in the palate or tongue. It was thought that the relative atrophy of the skin, fat, and bone could be shown by the *x*-ray.

As mentioned before, there is no atrophy nor reaction of degeneration in the motor portion of the fifth nerve, the fibrillation being the only evidence of the involvement of the masseters and temporal. There is, however, shortening in the masseter muscles which apparently restrict the separation of the jaws for more than one inch; this limitation is decreased in the absence of fibrillation, and on good days he can separate them a little further than this, particularly in the morning after a full night's rest. There is no lateral movement of the lower jaw, the pterygoids apparently do not functionate.

The amount of asymmetry in this case is, of course, not so great as in those cases occurring in earlier life when a hindrance of growth increases the effects of wasting. The atrophy has always been general, not especially marked in any one spot, as in the facial hemiatrophies of sclerodermal origin or morphœal type. The hair and beard do not participate in the affection, although there is a rather marked thinning and whitening at the free border of the hair on the right side of the forehead. The lesion would seem to be one that affects all divisions of the fifth nerve, which is not entirely confined to the right side.

This case of facial hemiatrophy is shown as a probable bilateral involvement of the facial nerve in the lesion. The fibrillation present in the masseter and temporal of the right side, and to a slight extent in the left side, also proves the motor root is also involved. The fibrillary tremor is quite analogous to that seen in progressive muscular atrophy, but, since muscular wasting and weakness are but little or not at all present, and in the absence of reaction of degeneration, the apparent analogy fails in anthological comparison. I am indebted to Dr. McEntee for the history of the case and the privilege of reporting the same in this clinical study.

It is difficult to understand how exophthalmic goiter has anything to do with facial hemiatrophy, as some writers contend, but migraine or migrainous pains, hemicranial in type, may be more or less directly associated, inasmuch as many of the hemiatrophic patients have complained of neuralgic pains sooner or later, in the course of the disease, as it is an affection of the fifth nerve (sensory). Our patient has had several periods of true trigeminal neuralgia; it is doubtful, however, that true migraine with classic eye and gastric symptoms have ever occurred. Gowers believes that the condition is due to an organic disease of the fifth nerve,

with whi h we also concur. This view based upon the nature and distribution of the atrophy is further substantiated by the pathological investigation of Mendel, upon a case of Virchow's, in which Mendel

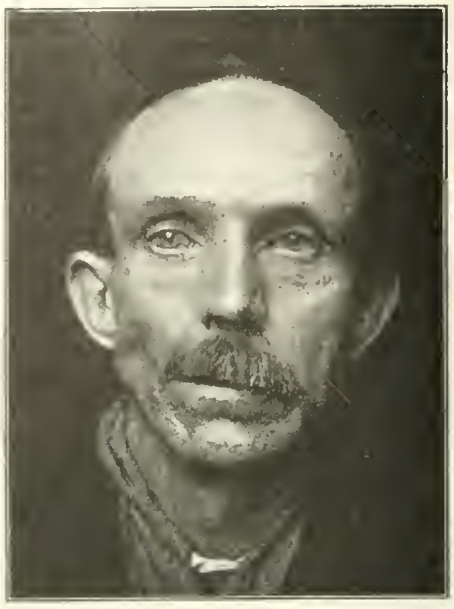


Fig. 6. Facial hemiatrophy, Case IV. Compare Fig. 7.

found interstitial neuritis in all parts of the nerve with degeneration and atrophy of many fibers in the upper root and of the cells of the locus cæruleus. It is necessary to call attention, however, to the fact, that Virchow's case was probably one of scleroderma which happened to have a hemi-facial distribution in connection with the shoulder and arm involvement. In point of fact, while the atrophy seen in morphœa or scleroderma and in facial hemiatrophy may coincide clinically, as in Schwann's case, it is by no means proven that the lesions in the two affections are identical. Moreover, fa ial hemiatrophy is probably due to a particular form of disease of the fifth nerve, as lesions of the latter are infrequently followed by hemiatrophy.

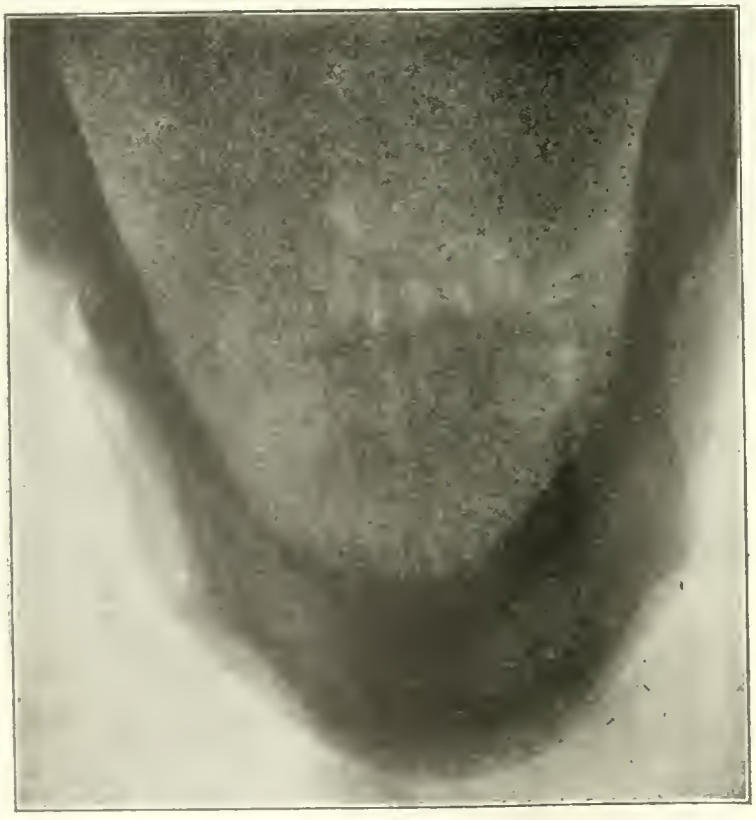


Fig. 7. Showing on the right side contour of soft parts conforming more to the bony prominences, giving an angular outline, atrophy of subcutaneous fat; marked atrophy of muscles; right ramus and angle of mandible smaller; osteoporosis of right superior maxilla; transverse distance from the shadow of the vomer to that of the outer bony wall of the nostril is diminished as compared with the left side. Compare fig. 6.

The etiology of the affection must be less patent than a trauma, which, when present (in only about one-half of all cases), has been singularly insufficient to cause so manifest a nutritional disturbance. The nutrition of all parts, except that of the muscles, appears to depend upon the posterior root fibers, to which the fifth nerve belongs for the most part. Slight trauma, therefore, might give rise to slow wasting in a chronic lesion, as in tabes, in contradistinction to a more acute affection produced by irritation. Intact sensibility does not militate against a lesion of the fifth nerve (posterior sensory root nerve), as wasting may occur in other parts of the body under analogous conditions. While, of course, the presence of trophic disturbance does not afford proof of trophic nerves, yet as Gowers suggests the rapid conduction of sensory impulses upward may be compatible with a slower conveyance of a trophic influence downward, even in the same fibers, as the latter may be lost while the former is unchanged. The lesion of facial hemiatrophy is probably of the fifth nerve, but is not of that serious nature to impair its conductibility. Cases are on record (Wolff, Muratow, Sachs, and our own) in which disorders of motility are present in tonic and clonic spasm and muscular fibrillation, showing the motor part of the fifth nerve has also been involved, and as the twitching is the initial symptom, it argues primarily for a nuclear affection. In one case a tumor beside the pons was found. Facial hemiatrophy has been produced in animals by section of the fifth nerve in the skull. We would, therefore, infer, from the variety of lesions found, that the range of possible distribution of the lesion may be quite extensive and, in point of possibility, in any part of the fifth nerve, even to its extreme cord origin, sensory or motor, or both. Finally, it must be said it may not have a demonstrable pathology, but depend upon certain nutritional changes in the nucleus or nerve fibers not discoverable by microscopical aid.

Myasthenia Gravis.—Case V—Hattie S., aged twenty-one; clerk; unmarried. There is a family history of insanity, hysteria, and tuberculosis; the cause is unknown. The patient's face "has always had a peculiar look." She had infantile rickets and has always been rather anæmic. At six years of age she had an hysterical attack, and at thirteen years of age, a true epileptic fit, tongue biting, involuntary passage of urine, frothing at the mouth, etc. Syphilis and alcoholism, congenital or acquired, appeared to play no rôle in causation. The myasthenia came on gradually. Six months before its appearance, patient had frequent typical attacks of angiospasm (digiti momortui). These attacks still persist and occur most frequently on exposure to cold, fright, and after great fatigue; they always appear in the bad days or periods. Motor weakness first appeared in the left leg; five

years ago the leg gave away after a slight amount of walking and she fell down. In six months the right leg also became equally affected. For the past year both arms (left most) have also been affected. The symptoms probably first appeared in the face, but did not seriously incapacitate the patient, it was not complained of at first. Bilateral ptosis is marked, being most on the left side and most prominent in the evening. At times diplopia has been present for a short time. There has been an alteration of the relative position of the two images at different times. There is persistent irregular nystagmoid movements, similar to those seen in conditions of general asthenia. The movements are lateral and brought out on extreme position of conjugate lateral deviation of the eyes, most marked to the left. Patient complains that words become easily blurred and indistinct while reading on bad days. Difficulty in mastication and deglutition have not been very marked. The facial expression is quite characteristic, and reminds one of a mild type of Landouzy-Déjerine form of myopathy. There is marked inability to wrinkle the forehead, raise the eyebrows, or to frown. The sphincters of the orbit are so weak that the patient is unable to keep the eyes closed against much resistance. A very poor attempt is made to show the teeth. The patient cannot pout the lips well nor empty a spoon with the upper lip, whistle or blow out a candle. Bilateral slight atrophy of tongue is to be noted.

Blood examination in this case made by Dr. Prout, is as follows:

Red blood cells	6,016,000
White blood cells	10,500

Differential count of 500 leucocytes showed:

Lymphocytes	26.8 per cent.
Large mononuclear	11.8 per cent.
Multinuclear neutrophiles	60.2 per cent.
Eosinophiles	1.0 per cent.
Mast cells	.2 per cent
	100.0

There is nothing unusual in this blood examination—in fact, it is quite normal. The high red blood cells might be noted.

Although Erb differentiated myasthenia gravis twenty-five years ago, but 114 cases have been recorded since, which shows it is still to be regarded a very rare affection. The nature of the disease appears to be fairly well outlined as a clinical entity from the symptoms: (1) myasthenic reaction (Jolly, 1895), consisting in rapid exhaustibility of the muscles by faradism, (2) rapid exhaustion of muscle by voluntary effort, (3) a state of more or less persistent paresis in the face and the extremities, (4) remarkable variability in intensity of symptoms forming "good and bad periods" and (5) facial expression, ptosis, partly obliterated facial folds, "sleepy look," etc.

Its etiopathology is still uncertain and unsatisfactory, although there is a record of fifty fatal cases, and an autopsy has been performed in thirty-one cases. The autopsies, as far as the nervous system was concerned, were negative in seventeen. Weigert and Hun have shown that a sarcomatous hyperplasia of the thymus gland was present in their cases which was not inflammatory but malignant in character; the muscles showed infiltrating foci of lymphoid cells which resembled round mononuclear cells of the thymus gland. The changes in the thymus was similar to the hyperplasia associated with status lymphaticus, but lymphoid metastases do not occur in the latter condition. Hun believes that the muscle paresis is one due to a substance which lies in the liquor sanguinis or lymph, and which constantly bathes and surrounds the muscle fibers, and in this manner brings about nutritional disease of the motor end plates.

62 West Fifty-eighth Street.

THE MODERN TUBERCULOSIS DISPENSARY.*

By S. A. KNOPF, M.D.,
NEW YORK.

ASSOCIATE DIRECTOR OF THE CLINIC FOR PULMONARY DISEASES OF THE HEALTH DEPARTMENT; VISITING PHYSICIAN TO THE RIVERSIDE SANATORIUM FOR CONSUMPTIVES OF THE CITY OF NEW YORK; CONSULTING PHYSICIAN TO SANATORIUM GABRIELS, GABRIELS, N. Y.; THE CONSUMPTION HOSPITAL OF WEST MOUNTAIN, SCRANTON, PA., ETC.

Among the multiple means of fighting tuberculosis as a disease of the masses, in large and even in smaller cities, there the tuberculosis dispensary stands out preëminently. What this relatively new institution is requires some explanation. It is a dispensary created, built, equipped, and managed for the exclusive treatment of indigent persons afflicted with pulmonary or laryngeal tuberculosis. The modern conception of the treatment and management of ambulatory tuberculous cases demands the creation of such institutions. Those of us who began our medical career fifteen or twenty years ago will remember the almost universal indifference of our teachers as well as ourselves when in our dispensary practice we came across a tuberculous case. The sooner we could dispose of it, the better we thought we did our duty. Some cough mixture and some cod liver oil was the routine treatment. There was no time, nor did we think it necessary, to teach the patient to take any precaution with his infectious sputum, or to give him any other hygienic instructions. The value of breathing exercises in such cases was thought of by but few.

How different is it to-day! To avoid as far as practicable the contact of the tuberculous patient with other patients, separate classes are created in many of our general dispensaries; but the ideal, of course, must always be the entirely separate and especially constructed tuberculosis dispensary.

The institution I have the honor to be connected with is, to the best of my knowledge, the first municipal tuberculosis dispensary especially built for that purpose in the United States. For obvious reasons it is not called a dispensary, but has for its official name "Clinic for Pulmonary Communicable Diseases of the Health Department of the City of New York." While neither my distinguished chief, Prof. Hermann M. Biggs, nor my colleague, Dr. John S. Billings, Jr., nor myself, consider the building ideal, there are many features connected with its construction which may serve, in a measure, as a model for the establishment of similar institutions. The building is centrally located, adjoining the Health Department's building, on Fifty-fifth Street and Sixth Avenue. It is a one-story structure, and is composed of a registration room, a drug room, a waiting room for women, a waiting room for men, two dressing rooms for patients, two examination rooms, an *x*-ray room, a laryngological room, one small dressing room for nurses and one for doctors, also toilet facilities for patients and employees. There are tiled floors throughout the building, all corners are rounded off, all rooms are light and well ventilated. A special treatment room for the operation of the pneumatic cabinet is in course of construction, and I hope an appropriation for the establishment of a little hydrotherapeutic installation will soon be forthcoming. All the furniture, as

*Opening address for the Symposium on Tuberculosis Dispensaries, delivered before the Section on Medicine of the New York Academy of Medicine, May 17, 1904.

desks, tables, benches, chairs, stools, closets in the drugroom, etc., are made of white enameled iron, easily cleaned and disinfected. The desks and tables are covered with plate glass.

The nurses wear the regulation white dress, and to each physician in attendance the Health Department furnishes three suits of white washable material, which these gentlemen wear during their work. Everything is done to reduce the danger from infection and reinfection. When during auscultation it is desirable to have the patient cough, Fränkel's mouth-mask is made use of to avoid drop infection. For the benefit of those who may not be familiar with this useful appliance, I beg leave to describe it briefly and illustrate it by the accompanying drawing. Fränkel's mouth-mask is composed of a metal ring, large enough and bent to fit the external contour of the mouth, a supporter, saddle and rings —the latter for the attachment of a band to pass around the patient's head to hold the mask in place. A fresh piece of gauze is placed between the supporter and the saddle every time the instrument is used. It goes without saying that those who have gone to the trouble to examine the deposits on these pieces of gauze, have not infrequently found the tubercle bacilli and other pathogenic microorganisms.

To show the aims and objects of our clinic, permit me to quote briefly from the circular of information issued by the Board of Health previous to the opening of the institution:

1. *The Early Recognition and Accurate Diagnosis of Cases of Pulmonary Tuberculosis.*—It is now generally admitted that tuberculosis is a curable disease, and that incipient tuberculosis, under favorable conditions, tends to recovery. But to insure such recovery, the diagnosis must be made at the earliest possible moment. Not only will careful physical examination of the patients be made, together with repeated sputum examinations, as required, but also in some cases *x*-ray examinations will furnish assistance in arriving at an early and correct diagnosis.

2. *The Care of Patients Applying for Treatment.*—This will include not only medical treatment, but also the furnishing of circulars of information in various languages (English, German, Yiddish, Italian, Chinese, Ruthenian, Polish, Hungarian, and Russian), careful instructions as to the nature of the disease, and the necessary personal and hygienic precautions to be taken to prevent the infection of others. Paper sputum cups will be supplied to indigent and needy cases, and also proper food (milk and eggs).

3. *The Continued Observation at Their Homes of Indigent Needy and Ambulatory Cases, Including All Those Discharged from the Public Institutions of the City.*—A special staff of trained nurses will visit the patients at their homes to see that the instructions given will be observed, that the sanitary surroundings are satisfactory, and that such assistance as is required is afforded. Suitable cases will be referred to the various charitable organizations for food fuel, ice, etc. Special attention will be paid to the children in the family and every effort made to prevent their infection.

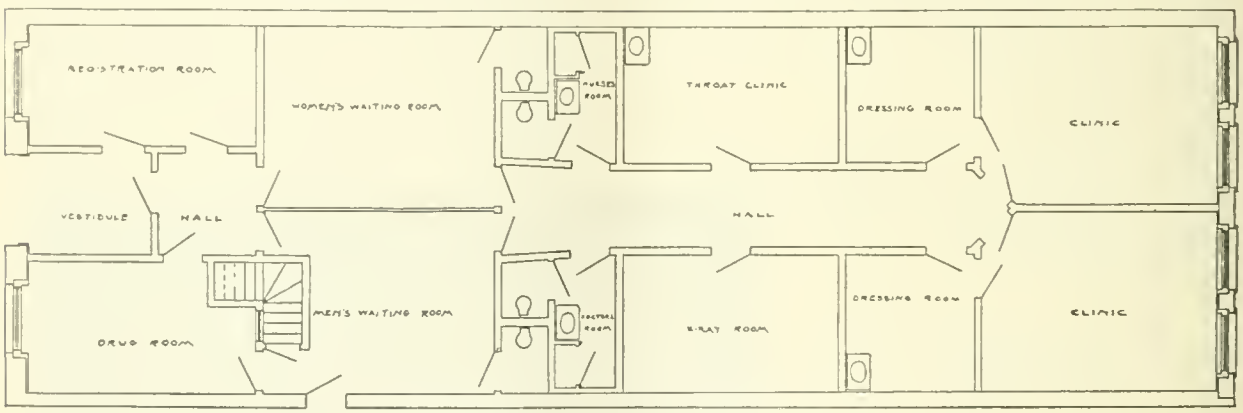
4. *The Removal to a Hospital of Cases Requiring Such Care.*—These fall under three heads: (*a*) advanced or bedridden cases, with profuse expectoration, who will not or cannot take the necessary precautions against spreading the disease, and whose presence at home is a menace to others in a family; (*b*) cases able to get about who are unable to work and entirely dependent upon their earnings for their livelihood; (*c*) incipient cases, who stand a fair chance of recovery if removed to sanatoria outside of the city.

5. *The Provision of a Municipal Institution to Which All Cases of Tuberculosis May Be Referred.*—(*a*) By physicians (charity patients, etc.); (*b*) on their discharge from hospitals or sanatoria; (*c*) by the various charitable organizations throughout the city; (*d*) by persons doing individual charitable work who come in contact with such cases.

6. Extension and strengthening of the sanitary control of tuberculosis among the poor by the Department of Health.

7. *Care of Laryngeal Cases.*—The involvement of the larynx is one of the saddest complications of pulmonary tuberculosis, and the pain, distress, and discomfort of the patients are exceedingly great. While the prognosis in these cases is extremely grave, yet under proper treatment recovery takes place in some instances, and in every case the distress of the patient can be relieved and be made more comfortable. A special throat clinic has been fitted up, and special attention will be paid to such cases.

To illustrate the general management of such a dispensary, will you permit me to give you here the rules and regulations for the physicians, nurses, and employees of our clinic, which were worked out by my colleague Dr. Billings and myself, and were approved of by Dr. Darlington, Commissioner of Health, and Dr. Hermann M. Biggs, the Medical Director:



DEPARTMENT OF HEALTH CITY OF NEW YORK

CLINIC FOR TREATMENT OF COMMUNICABLE PULMONARY DISEASES.

The clinic is open every day, except Sundays and legal holidays, from 9 A.M. to 4 P.M.

The morning classes are from 10 to 12; the afternoon classes from 2 to 4 o'clock.

On Monday, Wednesday, and Friday evenings the clinic is open from 8 to 9 o'clock.

The attending physicians are expected to arrive punctually and enter their names in the book kept for that purpose in the office.

In case any physician is prevented from attending to his class, he will notify one of the associate directors (Dr. Billings or Dr. Knopf) and arrange with one of the other physicians to substitute for the time of his absence.

The general history of new patients coming to the dispensary having been taken by the nurse in charge of the registration room, the history card is carried by the attending nurse to the physician.

A jar for the collection of sample sputum for bacteriological examination is then given to the patient, and he is assigned a seat in the waiting room.

The examining physician may dictate to the attending nurse the results of his physical examination. It is, however, desirable that the signs indicating chest deformation, dulness, flatness, râles, etc., be marked by the examining physician himself on the diagrams printed for that purpose on the examination card. (This should be done with red ink).

Each patient is to be given a leaflet of instruction,

especially designed for the Clinic with such additional advice by the physician as the case indicates.

Prescriptions are to be made out in duplicate (carbon paper), dated and signed by the physician, and the nature of the prescription recorded on the history blank in every instance.

If it be desirable that the patient should be kept under the supervision of a nurse at home, should enter a hospital, or should receive charitable aid, this fact should be stated on the history card.

On the second and later visits of the patients to the clinic, all notes are to be made on a "later" history blank.

The nurses will report at the clinic promptly at 9 A.M. and will remain until 4 P.M., or later if necessary. One hour is allowed for lunch, but at least one nurse must always be in the dispensary between 9 A.M. and 4 P.M.

In case of absence on account of illness or other causes, nurses will follow the usual departmental rules as to written notification of absence, request for leave of absence, and physician's certificate.

The service of the nurses is divided into registration and attending nurses, but their duties are interchangeable.

All complaints, requests for supplies, etc., should be made to the nurse-in-charge.

The duty of the registration nurses is to receive the patients in the registration room, and there, even before taking their names, they should instruct the patients in the primary rules for the prevention of tuberculosis and other infectious respiratory diseases.

The patient is given a sputum cup and gauze, which he must use in case he has to expectorate.

When coughing without expectoration, the patient must hold the gauze provided in front of his mouth to prevent drop infection and to prevent him from taking his often much soiled handkerchief out of his pocket while in the clinic.

After impressing upon the patient the importance of these regulations and insisting upon their being carried out faithfully, if the patient has no admission card, the name and the residence are asked. The name is then looked up in the records; if found, the number is entered under "old cases" in the daily journal, an admission card and envelope are given to the patient and the history sent in to the examining physician. If it is a new case the name is entered in the daily journal, an admission card, address card, name card and history blank filled out by the nurse, the same running case number being entered on each. The registration nurse should obtain and enter all information called for on the front of the history blank.

The registration nurse will receive from the attending nurse the prescription and the copy given by the physician; the copy will be filed and the prescription receive a running number in red. The prescription is then given to the patient and he is told where it can be filled. At the end of the month the duplicates are sent to the office of Bacteriology as vouchers.

All new cases are to be reported daily to the Division of Bacteriology, even if they are not examined but only given a sputum jar and told to return—the name, age, address (with floor), nationality, and occupation being given.

A report is to be submitted by the registration clerk each Monday to Dr. Billings, giving the number of patients seen the week before (new, old, male, female).

If notice is received that a patient has been referred to the clinic the notice is to be held one week to await his appearance. If the patient does not come, the notices of such delinquent cases are to be forwarded to the Division of Bacteriology, with the request that they be investigated.

All deaths from tuberculosis, as reported daily by the registrar, are to be looked up in the clinic records. If found, the histories of such cases are to be filed separately.

The registration clerk will keep all institutions supplied with reference cards.

The attending nurse prepares the patient for examination, does the weighing, and helps the physician in general.

The duty of the door-keeper is to open the clinic at 8 o'clock in the morning and give all the rooms a thorough airing. During the noon hour all windows and inside doors should again be opened for airing and ventilation of all the rooms. He should assist the nurses in keeping the patients in order while in the clinic, and see to it that no violation regarding coughing and expectoration takes place.

The helpers, whose duty it is to clean the rooms, must mop the floor and wipe furniture with moist rags. The use of brooms and dusters is absolutely prohibited.

Every physician, nurse and employee, engaged in the clinic, must read these instructions and sign them to show his willingness to abide by them.

In the waiting roöm the following sign is exhibited:

No smoking.

Do not spit on the floor.

Spit only into the paper spitting cup given you.

When you cough, hold the piece of gauze to your mouth, use it also to wipe your mouth or nose.

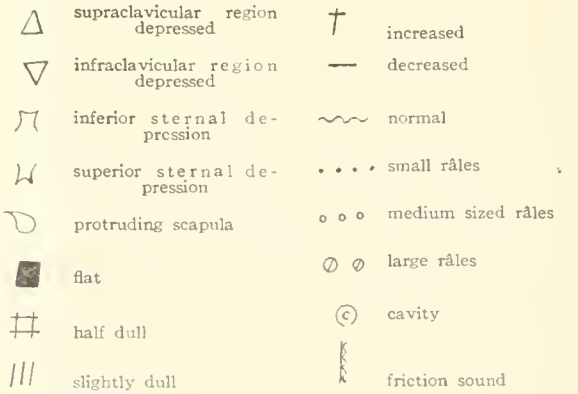
Do not throw anything on the floor.

Men will not wear hats in the clinic.

This sign is attractively gotten up, but in plain letters in English, German, Italian, and Hebrew (Yiddish), so that there can be no excuse for any of the visiting patients to violate the rules.

This examination of the patients is done as carefully and rapidly as possible in view of the fact that a large number of patients is always waiting for examination. In taking down a medical history and noting down the signs and symptoms, all of us are fond of abbreviating, and this abbreviation of terms seems to me absolutely necessary in dispensary practice. Few of us master the art of common stenography, but this does not mean that every one does not use one invented by himself, and we usually do not care whether anybody else can decipher it or not. This maxim, however, is not wise in a dispensary where it may become necessary for the history to be read by someone else than the original scribe. I therefore have ventured to compile a list of signs and abbreviations, and suggested their uniform employment to my young colleagues at the clinic. Ever since we have been able to read each others stenography.

For the benefit of the busy practitioner, or the dispensary physician who cares to make use of our hieroglyphics and abbreviations, I will here reproduce the list:



Tp.	temperature
W.-n.	well nourished
Bd.-n.	badly nourished
Em.	emaciated
An.	anæmic
a.p.d.	anteroposterior diameter
l. d.	lateral diameter
Sp.	spirometer
Exp.	expansion
V.v.	voice vibration
lft.	left
rt.	right
Fr.	fremitus
ant.	anteriorly
post.	posteriorly
lat.	laterally
inf.	infra
sup.	supra
Pl.-ret.	pleural retraction
St.	sternum
scp.	scapular
Brg.	breathing
I.	inspiration
ck.	creaking
cp.	crepitant
cr.	crackling
cs.	coarse
cv.	cavernous
dr.	dry
dt.	distant
f.	friction
g.	gurgling
h.	harsh
it.	interrupted
l.	loud
mk.	marked
mst.	moist
p.	puerile

E.	expectoration	pr.	prolonged
R.	respiration	prt.	protruding
a.	amphoric	retr.	retracted
ab.	absent	ri.	rhonchial
bl.	blowing	sb.	sibilant
br.	bronchial	sl.	slight
br.-ph.	bronchophonic	stg.	strong
br.-v.	bronchovesicular	tp.	tympanitic
c.	clear	tb.	tabular
cg.	cogwheel	w.	whistling

A number of the above abbreviations I have copied from the excellent history blank of the Winyah Sanatorium of Asheville, N. C.

One of the most important parts of the work of the tuberculosis dispensary is, of course, the hygienic education—or the training, if you prefer the word—of the patient. In private practice it is possible to give these instructions entirely orally and devote a sufficient amount of time to that purpose. In a busy dispensary practice this is utterly impossible, but a few of the most essential words of advice should be given orally even to the dispensary patient. The spoken word under such condition will certainly make a deeper impression.

To furnish the patient with the much needed information concerning his mode of life, his duties toward himself, to his immediate environment, to the physician and to the public in general, I prepared for my service at the Health Department's Clinic the following instructions:

ADVICE FOR PATIENTS.

Be hopeful and cheerful, for your disease can be cured, although it may take some time.

Obey your physician's instructions faithfully.

You may improve steadily for months, and lose it all by carelessness.

Improvement does not mean cure; therefore continue to come to the clinic as long as you are directed to do so.

Do not talk to any one about your disease, except your doctor or nurse.

Do not listen to tales of other patients, or follow their suggestions or those of others concerning the treatment of your disease.

Your spittle contains germs and is dangerous to yourself, your family and your neighbors when not properly taken care of.

When in the house always spit into a spittoon half full of water; empty the vessel into the closet at least once a day and rinse it with hot water.

When outdoors, spit in a pocket flask of glass or metal, which you clean in the same manner. If you use a paper pouch burn it after use. If you do not wish to use a pocket flask or paper pouch, use pieces of muslin to spit in, and burn them on your return home.

If you should be outdoors and not have a pocket flask, paper pouch, or piece of muslin with you to receive your spittle, expectorate into the gutter.

Never spit on the sidewalk.

Never swallow your spittle.

Handle the soiled personal and bed linen, especially handkerchiefs, as little as possible in the dry state. When soiled, place these articles in water until ready to be washed.

Do not kiss any one upon the mouth.

Always wash your hands thoroughly before eating, and clean your finger nails.

Shave your beard, or wear it closely clipped.

In the treatment of your disease fresh air, good food, and a proper mode of life are more important than medicine.

Take no medicine that is not ordered by your physician.

Stay in the open air as much as you can; if possible, in the parks, woods or fields.

Do not be afraid of cold weather.

Avoid draughts, dampness, dust, and smoke. Dust and smoke are worse for you than rain and snow.

Never sleep or stay in a hot or close room.

Keep at least one window open in your bedroom.

Have a room for yourself if possible; if not, be sure to have your own bed.

When indoors, remain in the sunniest and best-ventilated room. The room should preferably be without carpets; small rugs may be allowed.

No dusting or cleaning should be done while the patient is in the room. Cleaning should be done only with a moist rag.

Draperies, velvet furniture, and all dust-catching materials and furniture should be avoided in the patient's room.

Wear underwear according to the season. Don't wear chest-protectors.

Dress comfortably and sensibly, and avoid garments constricting neck or chest.

Keep your feet dry and warm.

Avoid all unnecessary exertion. Never run, never lift heavy weights.

Never take any kind of walking, breathing, or other exercises when you are tired, nor take them to the extent of getting tired. The kind and amount of exercise which you should take will be prescribed for you by your physician.

Go to bed early, and sleep at least eight hours.

If you have to work, take every chance to rest that you can get.

Keep your body clean, and take a warm bath once a week; take cold douches or cold baths according to the directions of your physician.

Take a half hour's rest on the bed or the reclining chair before and after the principal meals.

Avoid eating when bodily or mentally tired, or when in a state of nervous excitement.

Eat plenty of good and wholesome food. Besides your regular meals take a quart of milk daily, from three to six fresh eggs, and plenty of butter and sugar, provided this does not disagree with you.

Eat slowly; chew your food well; avoid anything which causes indigestion.

Keep your teeth in good condition. Use a toothbrush and toothpick after each meal.

See that your eating utensils are thoroughly washed after use.

Do not smoke and do not drink liquor, wine or beer, except by special permission; but drink plenty of good, pure water between meals.

See that your bowels move regularly every day.

Report to the clinic when directed. Report immediately if you have fever, indigestion, diarrhœa, constipation, pain, increased cough, or reddish expectoration. If you are too ill to come to the clinic, send word.

If you should have a hemorrhage do not become alarmed; keep quiet and send for a doctor, or notify the clinic.

Try to control your cough as much as possible. You should only cough when you have to expectorate.

Cover your mouth with your hand or handkerchief when you cough.

Avoid all bad habits.

If you are in doubt about any matter concerning your treatment or mode of living, ask your doctor.

When the physician prescribes a rest-cure, either in bed or on the reclining chair, it must be carried out either on the veranda or in front of the open window.

Your cure depends upon obeying all instructions faithfully.

FOR GENERAL INFORMATION OF THE CONSUMPTIVE AND THOSE LIVING WITH HIM.

If the matter coughed up be properly destroyed, a person suffering from consumption may frequently not only do his usual work without giving the disease to others, but may also thus improve his own condition and his chances of getting well. If all the above precautions are attended to there is no danger to the healthy in the ordinary intercourse of the family or society.

This leaflet has been translated by the Department's translators into German, Italian, Hebrew (Yiddish), and later on will be translated into Bohemian, Russian, and probably into Chinese. Each patient is given such a leaflet with the request to study it carefully, and for his own interest follow the instructions religiously.

In a busy dispensary service it is necessary to simplify the prescribing of medicine as much as possible. In order to do this with justice to the individual opinion of each of the attending physicians we recently arranged a conference among ourselves at which we came to a most agreeable understanding. The result will be, I hope, a judicious economy and a saving of time, without, however, neglecting that important maxim in modern phthisio-therapy: Treat the consumptive individual and not the disease.

As a valuable adjuvant in aerotherapy we teach our patients simple breathing exercises and in certain cases add the pneumatic cabinet treatment and ozone inhalation.

Our clinic was formally opened on March 1.

Since then, up to May 15, 794 patients (561 male and 233 female) have applied for diagnosis and treatment; 1,350 visits have been made afterward by them (977 male and 373 female), some returning once, some twice weekly. Thus, the total number of visits made to the clinic by ambulatory patients was 2,144, or a daily average of 33.5. The number of cases under treatment or observation on May 15 was 486. Out of the 794 patients the first sputum examination revealed the presence of the bacilli in 155; in 331 the first examination of the sputum was negative, but the symptoms and physical signs were evident enough to make the diagnosis positive. Seventy-two patients have been referred to sanatoria or special tuberculosis hospitals; 164 were referred back to their private physician or to general dispensaries as non-tuberculous. Sixty-eight patients who applied to the dispensary gave wrong addresses and could not be found by visiting nurses or inspectors. Of these 68 patients 55 were positively diagnosed as suffering with pulmonary tuberculosis.

In glancing over these figures, representing the work of only two months and a half of our clinic, some interesting and valuable lessons can be learned. The first of all is the very large number of patients who applied to a special tuberculosis dispensary for treatment. It shows that the public is wide awake to the importance of an early diagnosis and timely treatment. A second interesting factor revealed by these statistics is a corroboration of what is taught by all modern masters in medicine, not to rely on the bacteriological examination alone nor to wait for the inauguration of treatment until the bacillus is in evidence. No less than 775 specimens from the same number of patients have been examined and two smears made of each specimen; only in 155 cases was the bacteriological examination positive. The third interesting fact revealed by these statistics has a bearing on the social aspect of the tuberculosis problem in a peculiar way. You have heard that 68 patients who applied at the clinic gave wrong addresses, and that of these 68 persons, 55 had been found tuberculous. The reasons these patients have had for not giving the correct addresses may have been manifold, but I am convinced that the most frequent one of all was that they did not wish their neighbors, friends, relatives, or boarding-house keepers to know that they were suffering from consumption. Let us hope that with a continued educational campaign and increasing sanatorium facilities of treating these most unfortunate ones, the fear of being detected as consumptives will gradually disappear.

In reporting the unusual amount of work of our clinic done in so short a space of time, I feel in duty bound and am much pleased to acknowledge the devotion and untiring zeal to the work manifested by the attending physicians, Drs. Adams, Canfield, Cherry, Cotter, Fitzgerald, Karmiohl, Maloney, Maroney, Rogers, and Simpson, and the nurses Mr. Henry J. Mittell, and Misses Belliss, Burke, and Farquharson.

You will have noticed that I have said nothing about the results obtained. I do not believe we have cured many; the time has been too short. A goodly number of the patients have increased in weight and their most distressing symptoms have disappeared; the physical examination also indicated improvement. At some future date we hope to be able to publish some more complete and accurate statistics concerning the results.

The modern tuberculosis dispensary can fulfil its mission only in a perfunctory way if, besides medicine and advice, it is not able to provide for its indigent patients also such food substances as are essential in the successful dietetic treatment of pulmonary tuberculosis. How necessary this is I do not believe I can better demonstrate to you than by relating an anecdote from my own experience. In my younger days I was attached to a dispensary, and among our patients were a goodly number of consumptives. A young man, coming to my class, suffering from a moderately advanced pulmonary tuberculosis, complained to me of having no appetite. I prescribed for him what I considered a good tonic and advised him to improve his appetite by moderate outdoor exercises. A few weeks later I saw him again; the scales revealed an additional loss in weight. I asked him whether his appetite had not improved? The reply was in the affirmative. He saw the puzzled expression in my face, and said: "Doctor, it is not your fault that I did not gain in weight; you improved my appetite, I could eat a whole lot if I only could get the food. Being out of employment and having but little money left, I have lived on milk and crackers ever since you improved my appetite." This might sound humorous, but it is really pathetic, and shows how much it is necessary for a modern tuberculosis dispensary to have something else to dispense besides advice and medicine. Whether this something else shall be milk or eggs, or entire meals through the aid of the diet kitchen, must depend upon the facilities and means placed at the disposal of the dispensary.

There is one more point to be treated in relation to the administrative side of the tuberculosis dispensary and which, in a manner, applies to institutional treatment of consumptives in general. I refer to the selection of the staff, and the remuneration of the attending physicians. The first requisite for any physician who comes in daily contact with tuberculous patients for hours at a time should be good health and a strong, vigorous constitution. I speak earnestly and feelingly on this subject, for in my career I have had the misfortune to lose a number of dear friends and brilliant colleagues who were either overtaxed in their work or not vigorous enough to resist the invasion of the bacilli. Many have fallen victims and, as we all know, the list of martyrs is not yet closed. A number of our brightest young men, who served recently on the staff of the Bellevue Hospital, lost their lives through becoming victims of a disease which we consider so eminently preventible. The lesson which we should learn from this sad experience is that where tuberculous patients are treated the utmost precaution should be taken. Not only should the patients themselves live and be treated where there is plenty of light and air and where everything is as sanitary as possible, but the physicians who treat them should also have quarters where there is plenty of light, plenty of good air, and all the sanitary comfort which they need so much.

No physician predisposed to tuberculosis should make tuberculosis a specialty, except when he can live in a health resort, can take life relatively easy, and be able to take just as much care of himself as he would of the patient he is most interested in. A middle-aged physician whom I treated for incipient tuberculosis for a number of months, applied to me the other day for a position as attending physician to our clinic. I refused to entertain the proposition and told him plainly why, and he felt grateful for it.

Our present staff is composed of twelve vigorous young men, all of whom have had considerable hospital experience and have been in general practice for some time. This brings me to the other part of the question. These gentlemen devote a good deal of time to the service at the clinic, and the community at large profits through their taking care of

and educating a very large number of ignorant tuberculous patients who otherwise would constitute centers of infection. By a number of them being cured and made breadwinners instead of being allowed to die or to become burdens to the community for a number of months, the community gains financially. Would it be more than fair and just that these ten young men, and all those working in similar institutions, should receive a proper compensation for the valuable service they render to the community? It is with a feeling of considerable pride that I make the statement that our distinguished Commissioner of Health, Dr. Thomas Darlington, the director of our clinic, Dr. Hermann M. Biggs, and my colleague, Dr. John S. Billings, Jr., are earnestly working to make the position of attending physicians to our pulmonary clinic a salaried one.

In conclusion permit me to give you a little bit of history of tuberculosis dispensaries. The French were the first to inaugurate their *Dispensaire antituberculeux* in Lille; Professor Calmette being its founder. Next came the Germans with their "*Polyclinik für Lungenkranke.*" Throughout Europe and in some of the South-American republics there exist now numerous tuberculosis dispensaries devoted exclusively to the treatment of consumption.

During the military occupation of Havana, the Chief Sanitary Officer, Major Gorgas, U. S. A., and Dr. C. L. Furbush, Acting Chief Sanitary Officer, had established the "*Dispensario Especial de la Sanidad*" for the purpose of treating tuberculous patients only. Great credit is due to the medical department of the U. S. Army for the inauguration of this phase of the antituberculosis crusade in Cuba. I understand that this dispensary is still in operation and doing good work under the auspices of the local government.

The first dispensary class in the United States, devoted exclusively to the treatment of tuberculosis was inaugurated some nine years ago by Dr. Edward J. Birmingham of this City, at the New York Throat and Nose Hospital. In 1896 it was my privilege to take charge of one of the classes there, and I had much opportunity to see the great good which could be done by the conscientious treatment of the ambulatory consumptive poor in this city. I began to look about for the multiplication of this kind of work, but my humble efforts met only with partial success.

Some three years ago I asked one of our most distinguished professors of medicine, who was at the head of a large outdoor department, whether he did not think it wise to inaugurate a special tuberculosis department and thus not only divide the labor, but remove possible sources of infection from other patients, and at the same time do greater justice to the tuberculous invalids visiting that great dispensary? The reply was cordial but discouraging. The distinguished professor did not believe in dividing the classes, he did not see any necessity for it, and also feared that the teaching of the students attending the dispensary would be less general and less thorough.

A year later a renewed attempt was made in the same direction by a younger man who was more fortunate than I. He honored me by a few visits to ask me how he should proceed in order to establish a tuberculosis department at the very same place where I had failed. It was a great delight to me to give advice, and thus to be indirectly helpful in this work which I had longed so much to do; and like all good, truly great and noble men, the distinguished professor, above referred to, having by this time realized the value—nay, even the necessity—of such special tuberculosis classes, not only gave my young friend all the necessary facilities for inaugurating such a service, but gave his financial as well as his moral support to the enterprise.

To-day, before this distinguished gathering, I have the honor to represent the first municipal tuberculosis dispensary of this great city called into life by the untiring effort of Prof. Hermann H. Biggs, the master in preventive medicine. Now we shall listen to a symposium on tuberculosis dispensary work. You will hear of the admirable and noble work done by the Vanderbilt, the Bellevue, the Gouverneur, the Post-Graduate, the New York Throat and Nose and other dispensaries, serving not only as centers for the treatment and education of new patients and as clearing houses for patients to be selected for sanatorium and hospital treatment, but also as centers of control of all such patients as have been discharged from sanatoria, hospitals and homes and who still need to be kept under observation. Other American cities—Boston, Baltimore, Philadelphia, New Haven, Scranton, Minneapolis, Chicago, Worcester, Providence—have also started special tuberculosis dispensaries, and are doing admirable work for their ambulatory consumptive patients without means.

While there is much to be done yet in our own metropolis in the improvement of the housing of our honest laboring population, much in the establishment of sanatoria and homes for the institutional treatment of our consumptive poor, the establishment of seaside sanatoria for tuberculous children, and the establishment of agricultural and horticultural colonies for the cured tuberculosis invalids, the work done in our tuberculosis dispensaries marks an epoch in the crusade against tuberculosis of which the City of New York may well be proud. Now let our city fathers and philanthropists come to our help and aid us in maintaining and enlarging this important field for the relief of suffering humanity.

16 West Ninety-fifth Street.

DIETETICS IN SUMMER DIARRHŒA.

By BENJ. EDEL HELPRIN, M.D.,
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The question of dietetics is one which the physician is very frequently consulted upon, and, aside from that, his vigilance is often required to counteract the deleterious sequences affectionate—not intelligent—nursing may have erred in.

All recognize that a diet, no matter how suitable ordinarily, becomes unsuitable, even a direct menace to an infant in ill health. A careful study of the particular needs of each charge cannot thus be too strongly emphasized.

To our infants of a year or more, conditions being favorable, it is customary to allot thirty-two ounces of milk in the course of the day's feeding; this is usually apportioned into four feedings, and eight ounces at a feeding. When deemed advisable, any of the so-called "baby foods" may be safely added.

The milk, preferably, should be Pasteurized by being heated to about 167° F. The entire day's nursing may be thus prepared, placed on ice, and from time to time, as each feeding is due, the bottle containing the apportioned quantity is placed in a receptacle of hot water and retained till quite well warmed: an infant's stomach cannot tolerate cold ingestions.

But when the child is ailing the all-important problem is: what foods can be best digested?

The great indicator as to the suitability of the diet is the intestinal condition. When the mother re-

ports any variation from the normal yellow stool, the question of diet should immediately arise.

A frequent error is to treat the diarrhœa, though the intestines may be absolutely innocent, and by plying drug after drug into the system the deleterious after-effects are heedlessly forgotten.

With the approaching summer months and mindful of the variegated experiences during previous epidemics, the practitioner's outlook is for the dread diarrhœas so fatal to his infant patients, yet, treated with a thorough regard to the salient points governing the medicinal and, more especially, the dietetic treatment in the various forms of this malady, one's failures should be but infrequent.

Dr. Charles Gilmore Kerley of the New York Polyclinic, to whose patient teachings and numerous helpful suggestions I am gratefully indebted, strongly emphasizes the point: "Look to the feedings!"

In a most interesting and instructive brochure on the subject*, he states: "Summer diarrhœa differs from many other ailments of early life in that there is no tendency for it to get well of itself. It is a disease which must be treated upon the appearance of the first symptom, and treated vigorously." And those who have devoted their efforts to the especial diseases of children recognize the importance of this.

Very frequently the paramount point in the treatment is proper dietetics. From this standpoint our ordinarily-allotted thirty-two ounces of milk for the day's nourishment, must now be subplanted by some modified milk diet, more easily digested.

The duration of the disease, the condition of the intestines, and particularly, the nature of the stools, which must always be carefully and frequently examined by the physician personally, will suggest, largely, the most suitable diet.

The presence of curds in the stools, or vomiting clearly indicate too much milk; an intestinal rash, the "hunger-cry" or a febrile condition; in fact, any untoward condition responsible for persistent abnormal stools, if the intestines be not primarily at fault, gives the physician strong presumptive evidence of the necessity for dietary change.

For a day, at least, albumen water now is most advisable; the strength of this preparation may, of course, vary with the individual need, but the usual method is simply to add the white of one egg to each eight ounces of sterile water; about five grains of ordinary sodium chloride makes this more palatable, and the addition of a little brandy or whiskey is salutary both for its stimulative and astringent effect; the quantity and intervals of feeding are best judged by a study of the case.

On the morrow our infant patient may be tried on what we term "Barley-Water No. 1" prepared by adding a heaping tablespoonful of any reliably prepared barley flour to each pint of sterile water, and boiled for from twenty to thirty minutes; just sufficient milk-sugar should be added as to make the food pleasant to the taste. Should the intestinal condition warrant it, this preparation may be doubled by an additional quantity of the flour.

It is most advisable to still withhold milk for a little while, and when the barley-water becomes monotonous and distasteful, another useful alternate which has given the utmost satisfaction in several discouragingly obstinate cases is the following: Two tablespoonfuls of ordinary flour in an agate dish retained in an oven till the flour is well browned, then "blend" or dissolve in a little cold water; this is now gradually added to, and stirred in two pints of water while boiling. This may be given in three-ounce apportions, and ten feedings. One-half drachm, gradually increased to a drachm and a half, of condensed milk, can, in the course of a day or two, be judiciously added to each feeding. Other preparations of the same class include corn-starch and granum.

Some tonic is always indicated to tide over the weakness concurrent with the reduction or exclusion of the milk, and any suitable tonic may be included in the feedings, or given independently.

A point to be impressed is the necessity to wake the child for each medication and feeding, as there is generally an apathetic disinclination to take even the much lessened nourishment; the rule, therefore, as to quantity and number of feedings must be set aside and the patient coaxed, or even forced to ingest as much as possible.

When the physician deems it advisable to introduce modified-milk formulary he should proceed very cautiously, and but a very few ounces of milk is at first permissible, and gradual increases made only under very favorable conditions; frequently, condensed milk will prove the more satisfactory.

Obstinate cases always suggest gavage, and this has proven the salvation of many an infant when formulary have otherwise yielded but discouraging results. I have again to refer to a brochure on the subject* by Dr. Kerley which renders many valuable suggestions.

Of late years experiments have been made in institutions and private practice with numerous scientifically prepared aids to difficult feedings, and many of them are at least worthy of a trial, but as soon as the digestive functions are restored to the normal their discontinuance is the more advisable.

It may be quite some time before milk alone can be safely advised, and frequently the entire process may have to be started all over again, but the victory at last gained will be well worth striving for, even amidst seemingly discouraging failures at first.

In conclusion, just a few lines on the co-incident medications as an adjuvant to the dietetic treatment, principally the diarrhœa and vomiting. Throughout the treatment not a drop of any opiate is at any time justifiable save as a very last resort.

Castor oil has been regarded as the panacea for all ills and pains man is heir to, and in conjunction with very moderate doses of calomel has proven effective in controlling the vomiting due simply to an overloaded intestinal tract, and in ridding this tract from some noxious irritant which may have caused the diarrhœa, though the laity very often cannot seem to understand why such catharsis be employed in an already active condition.

A useful prescription to hold the diarrhœa in check is:

℞ Bismuthi subnitratis ..... ʒv
Bismuthi salicylatis ..... gr. xii
Syrupi rhei aromatici..... ʒiii
Aquæ q. s.....ad ʒiv

usually given in drachm doses every two to four hours. A modification of this is suggested by Dr. Kerley, and its merits have been proven in quite a number of our cases:

℞ Bismuthi subnitratis ..... ʒv
Sulphuris sublimatis ..... gr. xxx

divided in about thirty powders, each given in a tablespoonful of water every two hours; its effect is soon evidenced, but it is best continued for some time.

Colonic irrigations are also very efficient when there is offensive odor and mucus, and when blood is present. A high rectal, saline, or soapsuds enema, about three pints at 110° F., may be tried; the ad-

*"The Treatment of Summer Diarrhœas in Infants," Charles Gilmore Kerley, M.D., *The Medical News*, August 4, 1900.

*"Gavage in Obstinate Vomiting," *Archives of Pediatrics*. February, '92.

dition of a little tannic acid increases its value, or olive oil or glycerin may also prove effective; the buttocks should be compressed for at least five minutes before the enema is expelled.

475 Stone Avenue, Brooklyn.

CLINICAL NOTES ON THE MAMMARY GLAND, WITH REPORT OF FOUR CASES OF SOMEWHAT UNUSUAL INTEREST.

By THOMAS H. MANLEY, PH.D., M.D.,
NEW YORK.

The functional and organic diseases of the mamma in the female are always a subject of great interest, because of their frequency and often complicated character. Lying so near the surface, too, the organ is readily accessible for various modes of treatment; nevertheless, strange as it may seem, there is no secreting structure of its importance about which so little is known, of its definite anatomy and physiology.

And hence, why of late, in dealing with its lesions, we so widely depart from the well-established rules of procedure here and sacrifice only too frequently an entire organ when often but a limited area of it is the seat of pathological changes.

Were we but to recall that the breast is an essential constituent of the sexual system and that its supply of nutriment to the new-born is but *one* of its important functions, we would longer hesitate and weigh well the consequences before we strip it from the walls of the thorax.

The following four cases of mammary disease came under my care during the past year at the Metropolitan Hospital service:

Case I.—*Protracted Lactation of Twenty-four Years' Duration—Galactorrhœa.*—Patient married, forty-one years old, of good physique, usually enjoyed good health, admitted to hospital November 12 for nephropexy, right kidney. It was while under my care here that she complained of her bosom being almost constantly wet from a flow of breast milk.

She stated that she was first married at the age of seventeen years. Ten months after marriage was delivered of a seven-months infant—now grown up. She later had two, still-born. At thirty she was a widow; two years later was again married. Her last child was born on the night of the Blizzard, March 12, 1888. She said, that since her first-born she has had a continuous flow of milk, during the intervals of conception, during her widowhood, and since remarriage. I can find no parallel case on record; there is one recorded of six years, one of nine years, and one of fourteen years; in this latter instance, the woman nursed her grandchild, after thirteen years' interval from her last confinement.

My patient had regular, but scanty menstruation; had used no prevention to conception. Her child by her present husband—a man younger than herself—was premature and still-born.

By squeezing the breasts on one occasion, she removed nearly six drachms from both nipples. The secretion presented the ordinary physical qualities of the mammary secretion. It was of feeble acid reaction, sp. gr. 1.038. Under the microscope, it was seen to be composed rather of the characters of colostrum than the normal secretion. The fat globules were larger and in places clumped; colostrum cells were numerous; epithelial cells, more or less granular or vacuoled, were scattered over the field, with a few well-defined pigmented casts of the acinous tubules; granular material and a few very large flat epithelia of the mammillar orifices were found.

It was interesting to note in this remarkable case that from the time this physiological waste begun, though she yet conceived she was unable to carry a child to term; that the first, though it survived, was premature, it being evident that this leak at the mammæ rendered ample intrauterine sustenance of the fœtus impossible.

Case II.—*Lacteal Fistula.*—Patient twenty-three years old, brunette rather frail build, had one child, two months old. Came under my care in May, 1903, for treatment of an abscess that would not heal. Five weeks previously had an abscess of the right breast opened. It had since been irrigated, packed, and drained. Of late, the discharge from it was large, in spite of the various local remedies employed.

On inspection it was found that a very deep incision had been made, not along the radiating reservoirs of milk ducts, but diagonally through them, and hence the flow of milk was diverted from the nipple to the large fistulous opening, from which it flowed very freely when the other breast was being sucked by the child. After removing all tamponing, and by the employment of firm compression, the fistula slowly, but completely closed.

It is rare that we observe lacteal fistula after lancing an abscess in acute mastitis, because in most cases it lies superficially, and so points that it may be freely opened without penetrating deeply into the galactiferous ducts, but when the pus is deeply lodged in the parenchymatous structures, if caution is not observed in carrying the incision in the same axes as the milk ducts, a very troublesome fistula may result. There are some of these cases recorded wherein the patient had to bear with the pain and inconvenience until weaning, every description of treatment failing to close them.

Case III.—*Adenofibroma of the Breast.*—Patient referred to me by Dr. Meyer Jackson. Age forty-two, married twenty-five years, never had a child; menstruates regularly; enjoys good health; fine physical development, prominent bust. Came under my care November 12, 1903.

She reported that during the past two months she had occasional darts of pain in her right breast, being most intensified before her catamenia. Had consulted a physician who took a rather gruesome view of her case and referred her to a surgeon, who recommended the immediate amputation of the whole breast with a clearing out of the axilla, as the lymph nodes here were distinctly tumefied. To this she demurred emphatically. She was visited later by Dr. Jackson, with whom I first saw her.

She impressed me as a woman of an exceptionally vigorous constitution and a strong will. There was no shade or trace of the cachexy of malignant disease. There was no family history of malignancy, no loss of flesh, no pallor, no melancholy.

She only insisted that she wanted an operation done, but we "must not remove her breast."

Now her chest was stripped anteriorly and the right breast exposed freely as she sat in a chair. The organ was large, with a deep adipose investment, fairly firm, and well-formed for one of her age. On the most careful and repeated manipulation of the glandular structures of the organ, no distinct tumor could be delineated; only a dubious tumefaction, it was thought, could be elicited. But the superficial axillary nodes were distinctly tumefied, and she said that the pain radiated from the nipple toward the arm-pit.

Our examination was indeed but negative; though, in order to be doubly certain and to gratify her wish, as this involved no serious danger, we decided to make an exploratory incision the following day.

After she was placed on the operating-table, lying flat on her back, under full ether narcosis, we were struck by the presence of a well-defined and somewhat conical eminence standing well out above and

to the external border of the mammillary areola. It was remarkable to now note, with the body prone on the back, how clearly a tumor could be palpated which the day before completely eluded us.

Now a long, free incision through a very thick layer of fat exposed the aponeurosis; this divided carefully, exposed an encapsulated growth about the volume of a goose egg. It was of a deep crimson color and of loose consistence; in a moment, rolled out with scarcely any loss of blood. The features of this case which may be well emphasized are notably two:

1. Why on earth remove a mamma, strip the chest wall, and deform a woman for an encapsulated or, indeed, a tumor of any kind, unless a promise of permanent cure can be made? Neither did we remove the swollen nodes in the arm-pit, and possibly, had one been removed the microscope would have revealed epithelial element in the stroma; but that proves nothing at all, as I have lately found in some research work along this line, that true *histological, glandular, secreting* elements may be found in the *normal axillary nodes*.

In this case the initial pathological changes were in *one lobe* only; hence its enucleation was at once the simplest procedure imaginable; the line of attack only must be in the right direction.

2. The next feature is the position of the patient. I have recently observed that Prof. Charles F. Wainwright examines for cardiac lesion with the patient on his back, using *inspection* rather than *audition*, and so we will often note that *inspection* of the patient in the dorsal position will often avail us when the tactile exploration will fail, not only on the thoracic, but the abdominal areas as well. For example, in a case which passed a ten-week ectopic pregnancy of the right tube of Fallopius, in the Metropolitan Hospital last week, Dr. Jackson and myself utterly failed by the hand distinctly to delineate a mass; on her back on the operating-table the tumor stood out very clearly in the right flank. Incision directly over it brought the massive, soft blood-clot and ruptured tube into position for removal. I would, then, specially urge the importance of *attitude*, the *dorsal position*, on a hard, flat surface, as an aid of great value in physical diagnosis of neoplasms or tumor-like formations of dubious origin or existence.

Case IV.—*Primary Scirrhus in the Axillary Nodes.*—Patient, female, sixty-two years old, careworn, emaciated, and anæmic. No family history of malignancy. Feeble constitution; had six children. First noticed lump in arm-pit six months ago. Later it enlarged and became painful on moving the arm. Now has a scirrhous mass about the size of a hen's egg in the left axilla. Besides, another scirrhus within a month has appeared in the breast, just above and to the outer side of the areolæ, over the course of Creighton's glands of the integument. This latter nodule is movable, and confined to the integument along the axillary line. Primary scirrhus of the axillary nodes is rare, though it is common enough, as a secondary affection in scirrhus of the breast. Of this Sir James Paget said: "I have seen primary scirrhus-cancer in the axilla and cervical lymph glands. Cases sometimes occur when the disease in the glands may be so nearly coincident with that in the organ to which they are related that we may believe the gland cancer to be primary, though not alone, and sometimes the disease in the gland greatly preponderates over that in the organ, though its primary seat may be in the latter."

By a deep dissection, the hard, lobulated mass was well liberated from the axillary vessels and removed; the nodule in the mammary integument was dissected out.

The modern surgical treatment of mammary scirrhus calls for the removal of the tributary lymph nodes in the axilla, though like many other innovations it yet remains an open question whether this procedure in any manner retards the recurrence of the disease in other situations.

Just what part the lymph system plays in malignant disease is by no means yet clear, because neither its exact morphology nor its purposes in the economy are at all well understood.

Creighton, after more than twenty-five years' research in the finer anatomy of the breast, confesses his inability to inject the lymph vessels. Zappy's display of the mammary lymph vessels, so faithfully copied by several anatomists since his time, has recently been declared to be inaccurate. We have all read much of the lymph vessels, but who has ever been able to demonstrate them under the naked eye?

FALLACIES IN VITAL STATISTICS.

By F. L. WACHENHEIM, M.D.,
NEW YORK.

Modern Sociology has endeavored to prove itself an exact science by incorporating its results, whenever at all feasible, into statistical forms; the attitude of the general public being exemplified by the great and growing interest taken in our decennial census. Now, while the desire for the mathematical demonstration and numerical tabulation of collected facts is a most encouraging phase of the true scientific spirit, the blind faith with which statistical evidence is popularly regarded calls for a word of warning. It is, indeed, more than probable, that the greater part of these stately arrays of figures, in their present form, is rendered almost worthless by the inclusion of no end of fallacies; the investigator is compelled to subject his tables to the most patient and searching scrutiny, if he would not be led into a maze of erroneous deductions.

Vital statistics, especially, have become a veritable hobby, not only with physicians and sanitary boards, but with the public at large. In every city and State the deaths from the various causes are more or less carefully totalled, a synopsis of these reports is scattered broadcast through the medium of the daily and medical press, whose readers assiduously compare the rate per thousand inhabitants of their own community with that of their neighbors and rivals. I pass over the absurd attempt, often made, to furnish accurate statistics of births; in this country, at last, the enforcement of the various laws concerning the registration of births is little more than empty pretense; the city of New York, whose populace is rather more than ordinarily prolific, until recently regularly reported a birth rate rather lower than that of Paris. The best proof of our deficiencies in this respect is afforded by the ridiculously low figures in the scanty American statistics of illegitimacy; most of the illegitimate births are simply not reported at all. As to mortality reports, a study of even those most reliable will suffice to convince us that vital statistics are a notably conspicuous example of tables that are quite useless as a basis for profitable conclusions, unless subjected to a thorough, critical investigation. It would not be possible, in a brief essay, to discuss all the sources of error in detail; a consideration of a few of the most glaring will, however, not be without interest.

The basis of all vital statistics must be an accurate estimate of the total population. Unfortunately, in the United States, the decennial enumeration is rarely made with anything approaching true correctness; repeatedly, as in 1870 and 1890, the Government tables have been thoroughly vitiated by gross negligence on the one hand, and positive fraud on the other. The census of 1890 may, indeed, be justly regarded as a statistical calamity, the ambitious scope and gigantic scale of its vital reports giving a painfully misleading impression as to their real value; the intentional and unintentional errors of said enumeration have caused many of its tables of mortality to be just so much waste paper, a positive impediment to scientific progress. I give an example:

		1890	1900
City of Omaha	Population	140,452	102,555
	Deaths	1,397	1,382
	Per 1000	10.0	13.5
Boroughs of Manhattan and Bronx	Population	1,515,301	2,050,600
	Deaths	43,378	42,955
	Per 1,000	28.6	20.9

One would infer that sanitary deterioration had kept pace with the decline of general prosperity in Omaha, and that almost Oriental conditions had at last roused the good New Yorkers to the merits of a thorough housecleaning. There is, however, every reason to believe that the population of Omaha in 1890 was exaggerated to the number of about 40,000 by the same methods that were exposed in St. Paul and Minneapolis, and which it is not necessary to describe further. It was proved, in addition, that in Manhattan, and Bronx (Old New York) carelessness of the enumerators and "practical politics" omitted about 200,000 inhabitants. If we apply an appropriate correction to the figures given above, the rate per 1,000 for 1890 becomes changed to Omaha, 13.9; Manhattan and Bronx, 25.3; thus both communities show a moderate improvement for the decade.

The two given instances are mere selections from a large number. It would not be difficult to establish the same defects in the returns for a number of other Western cities. Of course, the statistics of the States containing these cities are also quite worthless.

For the sake of convenience in discussion, I am treating the census of 1900 as approximately accurate; at any rate, no glaring errors have as yet been exposed, and the reports show a praiseworthy endeavor to indicate weak spots by a method of self-criticism.

A misleading factor in the mortality tables of large cities, raising their death rate above the true figure, is introduced by the presence of hospitals and other institutions which are often, in part at least, the refuge of strangers from the country or abroad. The possible extent of this fallacy is most clearly shown in the detailed reports of the Department of Health in the city of New York, where the death rate for the suburban, and exceptionally salubrious Borough of the Bronx regularly exceeds that for the overcrowded, and in many respects, very insanitary Borough of Manhattan. These reports do not fail to make due mention of this circumstance, and correctly account for it as caused by the presence in the Bronx of institutions, such as hospitals for consumptives, and homes for incurables, almost entirely devoted to residents of Manhattan. Similar conditions undoubtedly apply to the city as a whole, in comparison with the remainder of the State and the country at large, for the city of New York retains the greatest portion of the less robust element of our flood of immigration, and is a favorite haven of refuge for the vagabond population of the whole United States during the winter months. Even in smaller towns the extent of the above factor defies exact calculation, the more so since our populace is somewhat of a roving disposition, and the question of actual residence often indeterminable.

The census reports for 1900 state the death rate for New York at 20.4 per 1,000, and that of Chicago at 16.2 per 1,000, a ratio of 1.26 to 1.00 in favor of the latter. It would be rash to conclude from these figures that sanitary conditions are 26 per cent. worse in New York than in Chicago. We must not overlook the fact that the newer cities of the West are composed of a picked population, as regards both age and general vigor.

When we compare the inhabitants of the two cities with respect to ages we observe the following:

	NEW YORK.	CHICAGO.
Group I.—Population under 5 yrs. of age	11.6 per cent.	11.2 per cent.
" II.— " between 5 and 44 yrs.	72.5 "	74.2 "
" III.— " of 45 yrs. and over	15.9 "	14.6 "
Total	100.0 per cent.	100.0 per cent.

The second group, consisting of individuals of the ages most resistant to disease, is in excess in Chicago, while the proportion of elderly persons is quite low. The extent to which the death rate varies with age is shown by the figures for the United States as a whole: Group I, having a mortality of 34.6 per 1,000; group II, of 6.1; group III, of 28.6. It is evident that the preponderance of the second group will reduce the death rate of Chicago as a whole. Calculation shows that if the population of New York were of the same age as that of Chicago, the death rate in the former would be only 19.8. The ratio of New York to Chicago is therefore only 1.22 to 1.00 on this rough correction. If we compare the second groups alone in the two cities, we find the respective death rates to be New York, 8.6; Chicago, 7.4. In this class, the one presenting the fairest test of the influence of sanitary surroundings, the ratio is only 1.16 to 1.09, or 18.8 to 16.2.

Let us turn to the rôle played by the quality of the respective populations of these communities. The relative inferiority of New York may undoubtedly be attributed, in part, to the inertia of the lowest order of immigrants, who are apt to halt at their point of debarkation. Something must also be said on the subject of racial differences, which are greater than one might suppose. I give below the racial proportions per 100,000, the death rate for each component per 1,000, and the excess or deficiency of deaths per 100,000 in New York; the last calculated on the mortality among the native stock:

RACE.	NEW YORK.	CHICAGO.	DEATH RATE.	N. Y. + OR —
Native	21,000	21,000	15	..
Germanic	28,000	28,000	15	..
British	5,000	6,000	16	—1
Celtic	22,000	13,000	21	54
Scandinavian	2,000	11,000	12	27
Slavonic	5,000	14,000	13	18
Italian	7,000	2,000	20	25
Russian-Jewish	8,000	3,000	12	—15
Total	100,000	100,000		108 per 100,000
				1.08 per 1,000.

I have given the populations in round numbers, as any pretension to greater accuracy would be illusory, for nationality and race do not always coincide; the figures are, however, sufficiently striking as given. Note the excess of the inferior Celtics and Italians in New York, and of the hardy Slavs and Scandinavians in Chicago.

Summing up, we have seen that if the population of New York corresponded to that of Chicago in age, its mortality would drop at least to 19.8; a racial agreement would further reduce it to 18.7, an improvement in quality to equal that in the West would surely make it not over 18.0. The

net result of these investigations is that more than one-half of the supposed greater salubriousness of Chicago is purely imaginary, and based on the uncritical use of statistical data; furthermore, generalizing from the above, it is plain that, if we wish to employ the death rates of towns as indices of their relative healthfulness, they must be compared age for age, race for race, and with due regard to that somewhat vague component, the physical condition of the individual; the crude tables as they stand, are absolutely worthless, and give rise to every sort of erroneous conclusions.

Let us now pass on to the errors that prevail with regard to the relative increase and decrease of certain diseases. It is generally believed, even in scientific circles, that cancer is growing in frequency to an alarming degree; the published figures for the whole United States being as follows:

	1890	1900
Deaths from cancer	18,536	29,475
Rate per 100,000 population	29.6	38.6
Relative increase	....	30.4 per cent.

An advance of 30 per cent. would assuredly be a serious matter, could it pass unchallenged. Let us, however, apply a few simple tests: Cancer is usually a disease of advanced life. Now, the proportion of individuals of forty-five years and over has increased 4.7 per cent. during the stated decade, the natural increase of cancer might therefore be set at that figure, reducing the apparent growth to 24.5 per cent.*

Nobody seems to have felt much anxiety over the increased mortality from heart disease. There is, however, a most curious correspondence between the two affections, as tabulated:

	1890	1900	INCREASE.
Death rate from cancer	29.6	38.6	30.4
" " " heart disease	70.9	90.7	27.9

As the vast majority of deaths from the latter cause also occur late in life, the comparison is a fair one. The difference is so very small as to lead to the suspicion that the registration for 1890 is incomplete, a suspicion easily verified. From various circumstances we may consider the census of Philadelphia about equally accurate for both years. The tables for that city are:

	1890	1900	INCREASE.
Total population	1,046,964	1,293,697	..
Deaths from cancer	529	806	..
Rate per 100,000 inhabitants	50.1	62.2	24.0 per cent.
Deaths from heart disease	1,588	1,938	..
Rate per 100,000 inhabitants	151.6	149.7	—1.3 per cent.

There remains a 24 per cent. increase for cancer, while heart diseases have shown no appreciable change in ratio. It is evident that further investigation is called for, and we may begin by taking up the question of diagnosis. In the former year fifty-six Philadelphians died of unspecified tumors; in the latter, only fifty. It is the general experience that nearly all unspecified tumors are, as a matter of fact, cancerous, for the site and nature of the benign types of growth are rarely difficult of diagnosis. Adding, therefore, these "tumors" to our figures, we have:

	1890	1900	INCREASE.
Deaths from cancer	585	856	..
Rate per 100,000 inhabitants	55.4	66.1	19.3 per cent.
Rate with correction for age	..	..	14.2 per cent.

Great as the reduction is from 30.4 to 14.2 per cent., it does not tell the whole story. Could we, for example, overhaul the statistics of deaths from unspecified diseases of the stomach, we would certainly find that more cancers of that organ (the commonest seat of malignant growths) were overlooked in 1890 than in 1900, for in just this field of diagnostis progress has been conspicuous during the last decade.

*29.6 + 4.7 per cent. (1.4)=31; showing an increase of 7.6 in the rate per 100,000, or a relative increase of 24.5 per cent.

In view of the corrections indicated, it would not be surprising if, after all, the dreaded increase of this terrible affliction should be little more than a bug-bear. The apparent increase in cardiac disease has been easily eliminated; the corresponding one in malignant disease is, from its nature, not so readily disposed of, but is assuredly far less than appears at first sight.

Almost in inverse ratio to the growth of the diseases just discussed is the falling off of malarial fever, amounting in New York and New England to 67 per cent. in ten years, and within the whole "registration area" to 54 per cent. This is attributed off-hand to improved sanitation. Turning, however, to typhoid fever, our best sanitary index, we find for the same period a reduction in total mortality of only 27 per cent., despite the fact that improvements in treatment have reduced the relative death rate from this affection very materially; one might say that the number of cases of typhoid fever had remained about stationary. It is easy to show that the tables for malaria are a gigantic diagnostic blunder. In 1890 the microscopical determination of the malarial parasite was rarely made. In that year 1,351 deaths from malaria were reported from New York and New England, regions where fatal malaria is practically unknown. Modern diagnostic methods, imperfectly applied, brought the figure for 1900 down to 539 deaths (probably about 500 too many) in the same district. It is, moreover, quite safe, to say that at least 1,000 of the 1,351 deaths from malaria in 1890 should have been charged to typhoid fever; some of the supposed improvement in the former plainly belongs to the latter.

The above partial overhauling of two series of mortality tables, and the laying at rest of the ominous and flattering delusions respectively attached to them, can lead to but one conclusion. Up to the present time, all that can be said for the whole series of mortality tables, as published, is that they are plausible and create an optimistic (occasionally pessimistic) impression; of true scientific value there is hardly the faintest trace. Let us hope that some day the blind worship of the fetish of crude vital statistics will be relegated to the limbo of other pseudo-scientific superstitions. Any deductions drawn from those we have are almost certainly erroneous and a bar to real progress in this branch of medical science.

105 East Eightieth Street.

A FEW QUOTATIONS FROM SHAKSPEARE SHOWING HIS ACQUAINTANCE WITH MEDICAL AND OTHER SCIENCES.

By J. W. WAINWRIGHT, M.D.,
NEW YORK.

That Shakespeare was mentally the master of all time is more and more in evidence as we intelligently read his writings. The whole range of human knowledge, from science, anticipating research, to law and theology, is within his grasp. It is claimed that he had surely studied law, that he must have been a close student of theology—indeed, an academician, to possess such knowledge as he displays of mathematics, astronomy, and literature. We may with equal certainty claim that he had been a student of medical science, for his works contain most marvelous references to this science which it has never beed thought existed in his time, yet which reads to-day as if written by a twentieth-century scientist.

That Shakespeare was aware of the theory of the

action of antitoxin is evident from the following quotations:

Benvolio—"Take thou some new infection to the eye,
And the rank poison of the old will die."
"Romeo and Juliet," Act I, Scene II.

The search for immunity from disease began in the early days of history. In fact, Galen used the flesh of the viper as an antivenene, while Mithridates fortified himself against disease by taking all the then known antidotes. He also experimented upon condemned criminals, and finally succeeded in rendering himself and them immune to snake bite by taking the blood of animals which had been fed upon venomous snakes; Andromachus, physician in chief to Nero, as well as other notables, resorted to the same expedients. Finally Dioscorides advised those bitten by mad dogs to drink the blood and eat of the liver of the animals which had bitten them.

Those who have studied the means of acquiring immunity will no doubt be surprised to learn that the ancients had so comprehensive a knowledge of what is by most believed to be a modern achievement. That Shakespeare was in possession of this knowledge is clearly evidenced from the above quotation.

Again, it is quite certain that Shakespeare anticipated Harvey in a knowledge of the circulation of the blood. Note the following significant quotations:

Brutus—"You are my true and honourable wife;
As dear to me as are the ruddy drops
That *visit* my sad heart."
"Julius Cæsar," Act II, Scene I.

. . . . . .

Ghost—"Holds such an enmity with blood of man,
That, swift as quicksilver, it *courses through*
The natural gates and alleys of the body;
And, with a sudden vigor, it doth posset (coagulate)
And curd, like eagre (acid) dropping into milk,
The thin and wholesome blood;"
"Hamlet," Act I, Scene V.

The play of Hamlet was first printed in 1603, while Harvey made known his discovery of the circulation of the blood in 1628, although he states in his "*Exercitatio-Anatomise de Motu Cordis et Sanguinis*" that he had for nine years been demonstrating the subject in his lectures at the College of Physicians in London. Even this would, if allowed, carry him back only as far as 1619, or sixteen years after the first appearance in print of "Hamlet." "Julius Cæsar" was first printed in 1623

Again, note in "Coriolanus," Act I, Scene I.

Menenius—". . . But, if you do remember,
I send it through the rivers of your blood,
Even to the court, the heart, to the seat o' the brain,
And, through the cranks and offices of man:
The strongest nerves, and small *inferior veins*,
From me receive that natural competency
Whereby they live:"

The physiologist will be highly edified in reading this whole scene from "Coriolanus."

Now let the gynecologist ponder over the following most start ing quotation in "Winter's Tale," Act II, Scene I:

Antigonus—"I have three daughters; the eldest is eleven;
The second, and the third, nine and some five;
If this prove true, they'll pay for 't: by mine honour,
I'll geld them all: fourteen they shall not see,
To bring false generations: they are co-heirs;
And I had rather glib myself than they
Should not produce fair issue."

The master here places the age at which menstruation or puberty appears at fourteen years.

To geld his daughters, *Antigonus* would have to remove their ovaries. Can it be that this operation of ovariotomy had been performed on women before Shakespeare's time? The very thought is startling.

Sir Isaac Newton was born in 1642 and died in 1727. Authorities generally concede him to have been the discoverer of the universal law of gravitation, first brought to his attention through witnessing the fall of an apple while sitting in his garden one day during the year 1665. Through faulty application, however, of the laws then in use to explain the lunar and planetary motions, he was unable to verify the motions excepting approximately. This so disappointed him that he turned his attention to the study of color and light. In this direction he accomplished much.

William Shakespeare was born in 1564 and died in 1616, or twenty-six years before Newton was born, and yet we find in Shakespeare's "Troilus and Cressida," Act IV, Scene II, the following significant allusion to gravitation:

Cressida—"But the strong base and building of my love
Is as the very center of the earth,
Drawing all things to it."

The reference is quite sufficient to convince one that Shakespeare had a correct theory of gravitation.

Verily there is nothing new under the sun.

I have given but four instances of Shakespeare's versatility. The physician and surgeon will find many, very many, just as startling if he search for them.

177 West Eighty-third Street.

The Causes, Pathology, and Treatment of Chronic Rheumatism.—Ralph Stockman calls attention to the fact that the symptoms arising from implication of the fibrous tissues about the bladder and thorax often cause much mental anxiety to patients. In the case of the bladder the symptoms consist in dull pain and increased frequency of micturition, but they usually pass off in about a week. When the intercostal muscles and the fibrous tissues of the ribs and sternum are affected, each respiration may cause pain or discomfort, and if the respiration be deepened by effort, the pain may become acute and darting or stabbing in character. When the fibrous tissue behind the pharynx is affected, the symptoms are chiefly subjective; the patient feels as if the parts were slightly swollen, stiff, and uncomfortable; but little or nothing can be made out on inspection. It is not known whether the pains in the muscles and bones in acute muscular rheumatism are due solely to a true rheumatic infection or whether they occur with several febrile conditions. The general treatment is that of a slight feverish attack and recovery takes place in a few days. If the pains are widely spread over the body, rest in bed, light diet, saline purgation, mild diaphoretics or mild alkaline diuretics hasten recovery and give ease to the patient. Sodium salicylate, alone or with phenazone or phenacetin, greatly relieves the pain and aching; or methyl salicylate may be applied locally. The salicylates, however, do not exercise the same immediate specific action which they show in acute articular rheumatism. A hot bath, followed by a copious perspiration or a Turkish bath, with well-applied massage, if taken in time, may abort the attack. Very often in such an attack the chief site of the pain is localized in the lumbar region, shoulders, neck, chestwall, or lower extremities, and in these places, the painful area is often small and results from serious exudation. The best treatment is massage followed by passive and active movements. One thorough application may be all that is necessary. The parts are very tender, and manipulations must be begun very gently by stroking so as to get rid of the exudation and relieve tension. Little by little more pressure can be borne, first with the palm of the hand and then with the fist or knuckles. The local inunction of methyl salicylate alone or mixed with an equal part of liquid paraffine, often relieves the pain, or a ten-per-cent., solution of menthol in liquid paraffine may be used. Local irritants, such as mustard leaves, are beneficial. In the case of chronic rheumatism, treatment is much more difficult and prolonged. Massage and exercises, the faradic current, and the injection of solution of chromic acid into any of the fibrous nodules, which are clearly enough defined for this treatment, are indicated. General Massage is of no use. Treatment must be especially directed to any nodules and indurations which can be felt and to parts which are painful.—*The Edinburgh Medical Journal*, March, 1904.

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THE DIETETIC TREATMENT OF DIABETES.

THE London *Practitioner* for June contains some practical considerations on the dietetic treatment of diabetes, by Dr. Robert Hutchison. In no other disease except obesity must the treatment follow so closely dietetic lines. It is sometimes said that diabetes is incurable and dieting only suppresses a symptom. The only real symptoms of the disease are wasting and weakness, the remaining symptoms being secondary to the presence of sugar in the blood, or the necessity for its elimination; and the same is true of the complications. The irritating effects of the glycohæmia are neuritis, perforating ulcer, cataract, and retinitis, while on the excretory side we have polyuria and thirst. The saccharated blood would also seem to offer a favorable nidus for microorganisms, the boils, carbuncles, gangrene, and phthisis being thus accounted for. Again, whatever be the true pathology, all observers agree in regarding diabetes as a condition in which sugar assimilation is impaired, and this impaired function can be improved by rest, and further impairment can result from its overwork. Indeed we often see patients unable to assimilate, become able to do so after the rest involved in a sugar-free diet.

By "diabetes" Hutchison means merely permanent glycosuria, waiving the question as to whether the glycosuria of the aged differs from that of the young, as from the standpoint of dietetic therapeutics the question is immaterial. All that need be said is that the younger the patient, the greater the need for continuous, energetic, and careful dieting; while the older he is, the greater the laxity that may be indulged in.

Given then a diabetic patient, the wrong thing to do is to draw up a list of non-saccharine permissibles and of saccharine unpermissibles. The first thing to do is to ascertain by a "test diet" this particular patient's "tolerance" for the carbohydrates, by giving a moderate amount of sugar-free food plus a known quantity of carbohydrate aliment (say four ounces of bread = 66 grams of sugar). At the end of three days the total daily amount of sugar in the urine is determined. If the patient excretes less than 66 grams, the deficiency represents his capacity to assimilate sugar (his "tolerance"). If he excretes 66 or more grams, the "tolerance" is zero. These two classes represent "mild" and "severe" cases respectively, and the treatment is quite different for the two groups. With the "mild" cases the limit of toleration is first to be definitely determined by varying the amount of bread in the dietary. Then an amount of carbohydrates, well within the limit of toleration, is to be allowed (say two ounces daily, if the limit be determined at four ounces). And the combination of sugar-free diet and carbohydrate allowance, is to be maintained as long as weight and general condition remain satisfactory. But about twice a year a strict dietary is to be enforced to give the carbohydrate assimilating functions a complete rest.

When, on the contrary, the test diet shows a complete absence of tolerance, one must proceed much more cautiously. The next step is to test the urine for oxybutyric acid and its allies. If the test is positive (that is, if a few drops of perchloride of iron solution turn the urine a dark port wine color), the patient is always in danger of coma, and apparently this may be precipitated by a sudden change of diet. The carbohydrates are then to be reduced very gradually; and half an ounce to an ounce of sodium bicarbonate is to be administered in the twenty-four hours. In this way a sugar-free and proteid diet may be reached in safety, or the general condition may deteriorate and coma threaten. Under this latter condition it is best to abandon all attempts at a rigid diet and allow a definite amount daily of carbohydrates. For in these severe cases a proteid diet is as harmful in the direction of increasing the sugar in the blood as a carbohydrate one. Even when everything goes well, it is not advisable to exceed 500 grams of proteids per day; and if on this, sugar excretion does not diminish, or the patient loses weight, or coma threatens, a weighed quantity of carbohydrates should be added.

When the perchloride test is negative (showing the absence of oxybutyric acid and its congeners), a strict diet can be enforced without much anxiety, and suddenly or gradually, the latter preferably. Bacon, eggs, ham, all meats, fowl, and fish, sugar-free milk, tea, coffee, cocoa (if not adulterated with starch), saccharin, diabetic biscuits or rusks, diabetic bread, soups, cheese, salad with plenty of oil, thick cream, alcoholics in any sugar-free form, and green vegetables, may be allowed. If the diet agrees with the patient and under it sugar excretion ceases, it should be continued as long as possible, the tolerance being again tested after a few weeks, when frequently it will be found that a certain assimilating power has been gained. If this be the case a small amount of carbohydrate is permissible, the urine being carefully watched. More commonly, however, the loss of assimilating power is progressive, the patients passing into the group in which a sugar-free diet does not suffice to banish entirely the sugar from the urine.

Concerning particular articles of diet, it may be said that the real value of an article to the diabetic is measured by the amount of fat it contains, as fats form the one class of foods which cannot increase the urinary sugar. The best forms are butter, cream, and salad (olive) oil. On a strict diet, oysters and liver are to be excluded, as they contain glycogen; otherwise the patient has at his service the whole animal kingdom except milk. To the latter diabetics react very differently, some taking it well, while in others it increases the

glycosuria and thirst. There is probably too great a tendency to eschew potatoes, as they are not a very starchy food (containing only 20 per cent., while bread contains 50 per cent.), and, moreover, they serve as a good vehicle for fats. As regards vegetables, one may say, roughly speaking, that all portions growing above ground are allowable, while the underground portions are storehouses of starch. Fresh fruits are allowable with caution; dried fruits never. Greasy nuts are valuable on account of their fat. Some patients are able to assimilate lævulose, though all other sugars do harm. In any case its use is an experiment, and its price will operate to deter any free use of it.

Beverages must play a large rôle in the dietary, and no medical reason exists for restricting them. But all sweetened aerated beverages, sweet wines, and malt liquors must be excluded. Alcohol is an undoubted food for diabetics, it aids the digestion of fats, and should be given daily.

When coma is imminent, all attempts at rigid diet should be abandoned, as there is no doubt that the production of the acid products causing coma is facilitated by too much proteid consumption. Skimmed milk should be given freely, with sodium carbonate. Also alcohol should be given freely, as it limits the destruction of the proteids.

In elderly persons the disease has not the same tendency to progress, and, in the absence of complications, it usually suffices to stop the consumption of sugar and restrict that of starch. Many of these patients, especially the obese, improve under all-round restricted diet. Alcohol must here be used with much more caution, as, especially in the form of beer, it seems to be the cause of some case of glycosuria.

WHAT WE OWE TO EXPERIMENTS ON ANIMALS.

In June, 1893, Dr. W. W. Keen wrote, in *Harper's Magazine*, a powerful and well-considered article in defence of vivisection. He showed that to experiments on animals is due the majority of the great discoveries upon which surgery is based, and that without the knowledge gained thereby, operations which are now conducted to a successful issue, would have been impossible.

Dr. Stephen Paget has just published a pamphlet containing a short summary of the facts previously stated in his book, "Experiments on Animals." To attempt to recapitulate or to mention in detail the information contained in Dr. Paget's work would be futile, within the limits of an editorial, but it amply bears out, so far as physiology is concerned, the evidence of Darwin in 1878, who said: "I am fully convinced that physiology can progress only by the aid of experiments on living animals. I cannot think of any one step which has been made in physiology without that aid." Experiments on animals in the past have been the foundation of physiology, as well as the means of building its superstructure, and in the future will exercise a profound influence for good on medical and surgical treatment.

In the advance of our knowledge of pathology, bacteriology, and therapeutics, experiments on animals have been predominant factors. Paget gives numerous instances of the beneficial results to these branches of medical science and consequently to the human race, which have ensued from experiments on animals, and says in summarizing the amount of knowledge gained by these means: "As in physiology, so in pathology, many examples have been omitted for want of space. Nothing has been said of the treatment of myxœdema and sporadic cretinism with thyroid substance, or of the work of Magendie and Bernard on the selective action of drugs, or of other experiments in pharmacology, or of Calmette's and Fraser's work on snake-venom and antivenene, or of Hunter's recent work on pernicious anæmia. Nothing has been said of many excellent methods that we owe indirectly, but not directly, to experiments on animals: for instance, the uses of electricity in the diagnosis and treatment of injuries and diseases of the nerves and nerve centers. Let us leave all these present gains, and look into the near future. Take diphtheria, or take tetanus. All further knowledge of them, all better treatment of them, will come out of our present knowledge and our present treatment, which have come out of experiments on animals. Take cancer: It is possible that any research into this vast group of diseases should lead to practical results without the help of these experiments? Take rheumatic fever, or take ulcerative endocarditis. Can anybody doubt that the best hope of a better treatment of these diseases is in bacteriology? Everywhere, in every civilized country, the experts are hard at work in the unity of science. *Securus judicat orbis terrarum:* the whole world is of one mind here, and one faith."

The attitude of the antivivisectionist in the face of all the evidence in support of the value of experiments on animals is curious and not easy of explanation. The leaders of the movement are, for the most part, impelled by worthy motives. Cranks, of course, are to the front. Some of the prominent antivivisectionists are actuated by conscientious motives, others are propagandists who discern, in a matter which appeals so directly to the feelings of the community, an opportunity to advertise themselves. Some have a vague knowledge of physiology—they believe, however, as much as they wish to believe, and endeavor to attach to their own views the mass of the population. It is a case of the blind leading the blind. The majority of those who declare themselves opposed to experiments on animals are profoundly ignorant as to what these experiments consist of and the manner in which they have advanced and are advancing our knowledge of medical science. The popular idea of the vivisectionist is that he is a person of callous brutality, utterly without bowels of mercy, who mutilates and causes exquisite pain to living animals, not so much for the benefit of the human race as to gratify his savage instincts. It has been proved on several occasions; presumably with the view of exciting widespread indignation against the practice of vivisection, that the secretaries of antivivisection societies have disseminated misleading literature, and in many ways have not conducted their campaign in a fair and candid manner. The aim is to create a prejudice, and some of the methods adopted to do so are open to question. Medical men are handicapped in

that they, from the very nature of the circumstances, are unable to make the general public understand the true bearings of the matter. The ordinary individual knows nothing of physiology or of technical terms, and on account of this lack of knowledge, it makes it very difficult, almost impossible, for the medical man to convince him by argument. If the man in the street could be persuaded, first, that experiments on animals are conducted in as humane a way as possible, and that the animal experimented upon is spared acute suffering by means of anæsthetics; second, that the person engaged in experimental research is as tender-hearted, perhaps, as most people, and further that it is against his interests to cause undue pain to animals for the reason that the laws regulating these methods of investigation are very strict, and if brutality is exercised and found out, not only will the experimenter himself be put under the ban, but the entire system will be discriminated against, and, lastly that such experiments have been of incalculable benefit to the human race, then he would not be so ready to stigmatize "experiments on animals" in the wholesale manner as it is his general custom to do.

The latest report for England and Scotland on this matter to Government was printed on June 8, 1903.

By it was shown that six out of seven experiments are of the nature of inoculations. It is these, and these alone, that are made without anæsthetics. In a very large number of them there is no result and no possibility of pain. All the major operations are performed under anæsthesia. "The animals," says Paget, "may be compared with a number of like animals after operation, under anæsthesia, by a veterinary surgeon, with this difference, that many of them lose health, or suffer some disablement, and then die, or are killed. But whatever is done must be done under anæsthesia; nothing must be done, either at the time or afterward, that could cause pain without anæsthesia. Some of them might be compared to pet animals kept alive throughout the distress and infirmities of old age. Anyhow, they cannot be compared with a like number of sheep and cattle mutilated, without anæsthesia, by farmers and breeders; nor with a like number of pheasants and rabbits wounded, without anæsthesia, in sport."

Professor Huxley, who always spoke his mind to the point, whatever he betided, said some years ago, referring to experiments on animals: "If the alternative was actually put, and they had to choose between the sacrifice of a dog and the sacrifice of a man, which should it be? There was no choice. To save the dog in such a case would mean murder, and all who encouraged the act by word or deed would be accomplices. This was how the experimenters viewed the case, and, sad as the alternative was, they had no choice."

Professor Eliot declared that to interfere with or to retard the progress of medical discovery is an inhuman thing. Within fifteen years medical research has made rapid progress, almost exclusively through the use of the lower animals, and what such research has done for the diagnosis and treatment of diphtheria, it can probably do in time for tuberculosis, erysipelas, cerebrospinal meningitis, and cancer to name only four horrible scourges of mankind which are known to be of germ origin.

However, it would be idle to multiply instances in which experiments on animals have been the means of saving human life and of lessening human suffering. The position of modern surgery and the present-day treatment of diphtheria alone would justify the method. Medical men know all this, and are therefore able to appreciate vivisection, while the general public are ignorant and consequently have conceived a prejudice against it. Books like Stephen Paget's "Experiments on Animals" and "The Case against Antivivisection," epitomized and easily comprehensible by the lay reader, should serve a good purpose by diffusing a more intelligent knowledge of the matter among the community at large than exists at the present time.

Human and Bovine Tuberculosis.

Ever since the time that Professor Koch set the scientific world agog with his conversion to the theory that bovine tuberculosis was not communicable to man, discussion has ebbed and flowed with regard to the validity of his utterances. Some men have seemingly demonstrated by experiments that the distinguished German was wrong while others have concluded from investigations that he was right. American and British medical men have, as a rule, taken the view that Koch's opinions were not upheld by experience and that the weight of the evidence was against his theory. A British commission was formed some time ago to investigate the matter thoroughly, and has now published an interim report. It is stated that this report was issued because even at this stage of their researches, the members of the commission have become convinced that in the main points of his hypothesis Professor Koch was at fault.

The *British Medical Journal* of June 4 deals with the matter editorially, and says in part regarding the findings of the commission: "Of the twenty strains of human origin, seven gave rise at once in cattle to acute tuberculosis with widespread infection of lungs, spleen, liver, lymphatic glands, etc. In some instances the disease was of remarkable severity. The other strains, with two exceptions, produced a more or less localized lymphatic infection, with at most a very small amount of tubercle in the lungs and spleen. Tuberculous material, however, taken from the bovine animals thus affected, and introduced successively into other bovine animals, or into guinea-pigs, from which bovine animals were subsequently inoculated, has, in the case of five of these strains, ultimately given rise to general tuberculosis of an intense character. In the case of two strains the disease produced by the inoculation was limited to the spot into which the material was introduced. This occurred in two instances only at the very beginning of the inquiry. The disease thus set up in the bovine animal by material of human origin was compared with that set up in the bovine animal by material of bovine origin, and the commissioners report that the one, both in its broad general features and in its finer histological details, was identical with the other. They have failed to discover any character by which the one could be distinguished from the other, and state that their records contain accounts of the necropsies of bovine animals infected with tuberculous ma-

terial of bovine origin which might be used as typical descriptions of ordinary bovine tuberculosis." These conclusions are entirely contrary to the views expressed by Professor Koch, and as the *Lancet*, June 4, remarks, "Should prevent the framing or modifying of legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and a wholly different thing from the disease caused by the other."

As to the menace to man occasioned by the consumption of tuberculous milk and meat, its measure cannot be estimated, perhaps neither of these agencies are the cause of tuberculosis in man and if so to no great extent. But as a result of the investigations which have taken place within the past few years with regard to the relations of bovine and human tuberculosis, and especially as a result of the researches of the British commission, both our milk and meat supply should be carefully inspected and strictly guarded.

A Philanthropic Endeavor to Reduce the Mortality among Infants in Chicago.

To save the lives of the children of Chicago's poor, the Milk Commission of the Children's Hospital Aid Society has begun its summer campaign. Through the work of the commission last year in supplying pure milk and educating mothers to give their babies proper diet during the hot months, the infantile death rate was reduced, and this year the work of this new philanthropy will be carried on with greater energy and upon a larger scale. The coming of Dr. Lorenz to Chicago first called public attention to the fact that comparatively little was being done for the sick and crippled children of Chicago. A public call sent out from the Chicago Woman's Club resulted in the organization of the Children's Hospital Aid Society, which was incorporated in January, 1903.

Distribution of 223,200 gallons of milk was the great work accomplished last summer between July and November, and this with only six persons paid for their services. When one considers that the milk is strained, filtered, Pasteurized, sealed in bottles, and distributed to thirty-five stations maintained throughout the city, and all within twelve hours from the time the milk is furnished by the Jersey herds in Wisconsin, it will be admitted that this systematic charity work presents features of organization more complete than evidenced in any other undertaking for the benefit of the city's poor in Chicago.

The milk is prepared in various modifications, the aim being to render it in all cases as near the strength of mother's milk as possible. Modification No. 1 is suited to young babies, with an increasing strength ratio up to the whole milk, suitable for older children, adult typhoid fever patients, or other invalids desiring and needing a fresh, pure, wholesome milk. The charges made for the modifications are all nominal and very low. Modification No. 1 sells, in a three-ounce bottle, sufficient for a single feeding of a young child, for one cent. No. 2 comes in a six-ounce bottle for two cents. No. 3 has a similar valuation. An eight-ounce bottle of No. 4 calls for a payment of three cents, and No. 5 costs the same.

The first work undertaken by the Children's Hospital Aid Society as a whole was a thorough investigation of Chicago's facilities for caring for sick and crippled children. It was found that out of the twenty-seven city hospitals visited children's wards were maintained in only eighteen; the total of three hundred and twenty beds thus furnished included the resources of the Home for Destitute Crippled Children. Only one Chicago hospital, the Maurice Porter, is devoted exclusively to children, and the only two places of refuge for children afflicted with infectious diseases may be found in the Memorial Institute, maintained in connection with the Presbyterian Hospital by Mr. and Mrs. Harold F. McCormick, and the City Smallpox Hospital at Dunning. Children suffering from infectious diseases must still be sent to Cook County Hospital or to the Dunning Infirmary unless eligible for one of the ten beds, exclusively retained for scarlet fever patients, of the Memorial Institute. The work of the Children's Hospital Aid Society during its first year and a half has resulted in greatly improved conditions, and in eleven hospitals at present maintaining no children's wards, the little ones are to be received shortly. Eight old-fashioned and not altogether perfect wards in other hospitals are to be rebuilt or replaced by the pavilion system.

Some time in the near future the society hopes that a special hospital for children, with long-needed improvements in the facilities for treatment of chronic child invalids, crippled and mentally defective children, and public school children in need of the eyeglasses their parents lack means to provide, may be brought into existence in Chicago. But for the present its efforts are generally directed to ameliorating prevailing conditions.

News of the Week.

Sanitary Work on the Isthmus.—T. C. Cunningham of New York, a member of the Canal Zone Police Department, died July 16, at Panama, from yellow fever. This was the first case of the disease known to have occurred in the zone since the arrival of Governor Davis. This year there have been fewer than ten cases of yellow fever on the isthmus. Col. William C. Gorgas, chief of the sanitary department, arrived at Colon four weeks ago and is working hard, with every promise of ultimate success, to improve health conditions in the Canal Zone. A requisition has been made for 100,000 yards of wire netting with which to screen the various buildings along the line of the canal, so as to protect the officials and employees from mosquitos. The work of sanitation now going on under the direction of Dr. Gorgas includes not only a general cleaning up of the towns and villages, but a systematic anti-mosquito crusade. Ponds and pools of standing water are being covered with kerosene, etc. Work has also begun on the drainage of swamps and mosquito-breeding places in the zone, which will require something like a year to complete.

Pneumonia Prevalent This Summer.—Dr. Darlington, Health Commissioner of New York, has asked of the Board of Estimate an appropriation of $10,000 to pay the expenses of a commission to study the causes, determine the nature, whether infectious or contagious, and devise means for the prevention of pneumonia, which has been strangely prevalent in the city during the present summer. The commissioner is quoted as saying, in explanation of his request for a commission, that "since the beginning of this summer the increase in the death rate from pneumonia has been alarming. In fact, since the summer began the number of deaths from this cause has been far greater than the number of deaths from the *General Slocum* disaster. It is a subject which demands the closest scrutiny and the best of scientific means for its checking."

The Second Congress of French-speaking Physicians of North America was held at Laval University, Quebec, on June 28-30, under the presidency of Dr. Foucher. The attendance was large, and was not confined to physicians speaking the French language, as many of the sister societies of Canada accepted

the invitation to send representatives to the congress. France sent an official delegate, Professor Pozzi.

Preliminary Requirements for Medical License Examination in Missouri.—The State Board of Health of Missouri, under date of July 5, issued the following circular: "Every applicant for license to practise in the State of Missouri shall present documentary evidence of having a university or college degree, or high-school diploma; in lieu thereof the applicant must pass a satisfactory examination before the State Superintendent of Public Instruction upon all branches embraced in a four years' high-school course. This is an absolute requirement, and no applicant will be allowed to enter the examination without having complied with this order."

College Appointments in Cincinnati.—Dr. Henry L. Woodward has been appointed assistant to the chair of Physiology in the Medical College of Ohio, medical department of the University of Cincinnati. Dr. Louis G. Heyn has been appointed assistant to the chair of Chemistry in Miami Medical College, Cincinnati.

Hospital Improvements in Philadelphia.—The German Hospital of Philadelphia is to be improved at a cost of $20,000 by the addition of a new dining-room and a dormitory over the kitchen, the fitting up of a new diet kitchen, and the introduction of new plumbing. The Presbyterian Hospital is to be enlarged by the erection of a four-story and basement brick maternity pavilion, seventy-three feet, seven and one-half inches by thirty, to contain a dining-room for the resident physicians, operating and instrument rooms, wards, kitchen, pantry, linen room, and dormitories.

The Death Rate in Chicago.—For the first six months of this year, according to the weekly bulletin of the Chicago Department of Health, the total deaths, 14,131, were 1,070 fewer than during the corresponding period of 1903, and the death rate, 14.69 per 1,000, was 10.9 per cent. less. There were 379 fewer deaths under five years of age—a reduction of 10 per cent.; but this decrease was entirely among those of the milk-feeding period. Of these, there were 1,014 deaths, as compared with 1,660 last year, a decrease of 646 deaths, or nearly 40 per cent. The quality of the milk supply and the rarity of contagious disease account for this marked reduction. There was a 6.4 per cent. increase of the deaths among the aged, those over sixty years old. Only five of the important causes of death show increases, namely: Apoplexy, 93; Bright's disease, 106; consumption, 113; cancer, 42; and violence, other than suicide, 58. The following showed the decreases indicated: Acute intestinal, 27; bronchitis, 134; convulsions, 30; diphtheria, 89; heart disease, 14; influenza, 63; measles, 221; nervous diseases, 171; pneumonia, 50; scarlet fever, 111; smallpox, 39; suicide, 52; typhoid fever, 107; whooping-cough, 187.

Chicago Milk.—During a period of about two months covered by his reports to the Civic Federation, Professor Jordan, of the Bacteriological Department of the University of Chicago, found that about 31 per cent. of the 291 samples of milk examined by him were below the city standard in respect of total solids. During the same period the findings of the Municipal Laboratory indicated a quality of milk just about four times as good. The Chicago *Tribune*, in commenting on the milk question, says: "Were the city inspectors four times as fortunate in the samples of milk which they happened to collect? Was Professor Jordan four times as rigid in the use of alkaline tablets, nutrient gelatins, and Quevenne lactometers? Or does the habit still survive among the city inspectors of taking a pleasant little morning drive in their municipal buggies along the boulevards, and of incidentally picking up a few samples of the superior kind of milk which is served to boulevard customers? Whichever of these questions may touch the right spot, it remains true that a discrepancy exists which, out of regard for the health of Chicago, ought to be explained. Is our milk as rich as the city inspectors think, or is it as thin as Professor Jordan's laboratory indicates? And, further, should not the city, as soon as it can afford to do so, provide for an inspection of milk not only with regard to its percentage of total solids, thereby establishing its nutritive value, but also with regard to its bacterial inhabitants, to prevent the spread of disease through milk?" Bacteriological tests of milk are made as regularly as possible, with a small staff of inspectors and bacteriologists, according to Health Commissioner Reynolds, who thinks the Health Sanitation Committee of the Civic Federation, in its recent criticism above mentioned, should have taken into account the small appropriation for inspection. The committee secured tests of 291 samples in two months, and found many of them below grade with regard to butter fat and solids. That four times as much milk escapes supervision as is tested is considered an exaggeration when based on the investigation of 291 samples, but Dr. Reynolds considers that some milk is bound to escape the inspectors because of the small staff of men given him to work in conjunction with the City Laboratory.

Pure Milk Fight in Cincinnati.—The Board of Health has ordered the vacation of two dairies in Cincinnati within sixty days. Several stables were ordered whitewashed and cleaned and others must have the roof raised.

The Children's Hospital Aid Society of Chicago.—The officers and directors of this society, the aims and accomplishments of which are described elsewhere in this issue, are: *President*, Dr. Frank Billings; *Vice-President*, Mrs. Geo. W. Plummer; *Secretary*, Mrs. Harold F. McCormick; *Treasurer*, Mr. E. T. Keith; *Directors*, Drs. John Ridlon and W. S. Christopher, Judge O. N. Carter, Mrs. W. P. Henneberry, and Mr. Medill McCormick. The *Milk Commission* is headed by E. P. Bicknell of the Chicago Bureau of Charities, with Mrs. George M. Moulton as managing director, and Dr. Frank Billings, Miss Fulmer, Dr. Isaac A. Abt, Mrs. Geo. W. Plummer, and Mr. Medill McCormick to complete the committee.

Enlarged List of Notifiable Diseases in Philadelphia.—In accordance with a resolution adopted by the Philadelphia Board of Health the list of notifiable diseases has been enlarged so as to include the following: Cholera, yellow fever, malarial fever, typhoid fever, typhus fever, scarlet fever, smallpox chickenpox, diphtheria, diphtheritic croup, cerebrospinal meningitis, measles, rubella, whooping-cough, tuberculosis, pneumonia, erysipelas, puerperal fever, plague, trachoma, leprosy, tetanus, glanders, hydrophobia, and anthrax. The penalty for failure to make report of such diseases is a fine of from $5 to $50 or imprisonment for sixty days. Practitioners of veterinary medicine are required to report cases of glanders, anthrax, tuberculosis, tetanus, and rabies in animals or man.

The St. Louis Society for the Prevention of Tuberculosis held a meeting on July 9, and formulated plans for permanent organization and active prosecution of the work. Dr. William Porter is vice-

president of the society and a number of representative citizens spoke in favor of the plan. Among the speakers was Miss Lillian Brandt, statistician of the United Charities of New York City, who spoke of the work in that city. Miss Brandt said that the Health Department requires reports on all cases of tuberculosis from the institutions and physicians under whose care the cases may come. These reports contain the names and addresses of the patients and the particulars of the cases. Inspectors make rigid investigations, and the Health Department, in a few extreme cases, has exercised the right to remove patients and place them in quarantine. Dr. John H. Simon, health commissioner of St. Louis, read some statistics on tuberculosis and said that over 10 per cent. of the deaths in St. Louis last year were due to tuberculosis, while the records of 1860 showed the percentage was only 8. Dr. C. A. Snodgrass, city bacteriologist, spoke of the dangers of the spread of the disease from street cars and other public places, and said the best way to prevent the spread is to educate the people in the nature of the disease. The society will use every effort to secure legislation similar to that in force in New York. A number of committees were appointed, the members of the medical committee being Drs. Wm. Porter, chairman; H. Wheeler Bond, J. W. Harris, Geo. Homan, C. H. Hughes, H. W. Lyman, W. A. McCandless, W. G. Moore, Jesse S. Myer, E. W. Saunders, J. H. Simon, Jos. Spiegelhalter, Justin Steer, J. H. Tanquery, Geo. M. Tuttle. The organization has been linked with the Civic Improvement League, and all of the leading charity organizations are represented

The "Colorado Medical Journal" recently issued a special number on tuberculosis, and made the announcement that, with that number, it would inaugurate a new policy of devoting much more attention to the subjects of climatology and tuberculosis. In this way, without becoming exclusively a journal of climatology and tuberculosis, it would, in a great measure, fill the vacancy caused by the suspension, not long since, of the *Journal of Tuberculosis*.

Public Instruction in Tuberculosis.—The Illinois State Board of Health recently issued a pamphlet written especially for the laity, and intended for distribution broadcast, in which consumption is described, its ravages clearly pointed out, and rules for its prevention and limitation of its spread detailed. The State Board of Health announces that it will make free examination of sputa in needy cases.

Appointments at St. Mary's Hospital, Chicago.—Dr. Alfred C. Croftan has been appointed physician-in-chief, and Dr. A. J. Ochsner surgeon-in-chief, to St. Mary's Hospital, Chicago.

The Beth Israel Training School for Nurses.—The graduation exercises of this school were held on Tuesday evening, July 12. Addresses were made by Dr. L. J. Ladinski and Mr. Edward Lauterbach. The diplomas were given by Mr. Joseph H. Cohen, President of the Beth Israel Hospital. A class of eleven was graduated, the valedictory address being delivered by Miss Lena Rabinowitz.

The Product of Cod-liver Oil in Norway up to May 28 of the present year has been more than five times what it was for the same period of 1903, according to a recent report of United States Consul Cunningham, at Bergen, made to the Department of Commerce and Labor. As a result of this increase, the price of the commodity has been gradually declining, and the sales have not been very great. There are over 3,500 boats engaged in the fisheries in Finmarken, where the season has been exceedingly favorable. The output last year was almost *nil*.

Increased Death Rate for Philadelphia.—There were reported to the Philadelphia Bureau of Health 483 deaths for the week ended July 16, an increase of 39 over the preceding week. The heat is responsible for a large number of deaths among children, 84 deaths being due to diarrhœa and enteritis in children under the age of two years. Sixty-four deaths were due to pulmonary tuberculosis. The number of cases of typhoid fever was 58, with 10 deaths, as compared with 56 cases and 7 deaths for the preceding week. There was but one case of smallpox, while there were 36 of scarlet fever and 35 of diphtheria.

Women and Medicine.—Prof. T. Clifford Albutt presented the prizes, on June 23, at the London School of Medicine for Women, Hunter Street. In the course of his address he remarked that the lady doctor had come to stay, and there was now no reason for defending a school of that kind. Women had been wise in having a school to themselves, but the time had now come when they must take a step forward and be members of the great colleges and guilds of their profession. He would be glad to see women belonging to the College of Physicians and the College of Surgeons, and it was an undoubted fact that at the Congress of Physicians men had derived great interest and instruction from papers read by women.—*The Medical Press and Circular.*

Obstructing Medical Union in New York State.—The proposed consolidation of the New York State Medical Association and the Medical Society of the State of New York is opposed by the Onondaga County Medical Association. Willard A. Glenn of Syracuse appeared before Justice Fitzgerald on Wednesday in opposition to a motion for an order compelling the association to consent to union. The lawyer of the association said that there was no actual opposition to consolidation, but that his clients believed that the merger should be carried out in accordance with the terms of the General Corporations law, by which each association would be wound up prior to the establishment of the new organization. The result of this would, of course, be that the Medical Society of the State of New York would cease to exist, a catastrophe which its members would never permit to happen. Any opposition to the present plan of consolidation amounts practically therefore to opposition to medical union in the State.

New Home for Nurses.—The Jewish Hospital, Cincinnati, has applied for a permit to erect a new nurses' home in Burnet Avenue. The structure is to be a three-story brick building and will cost $10,000.

American Electro-therapeutic Association.—The fourteenth annual meeting of this association will be held at the Inside Inn, St. Louis, Mo., September 13, 14, 15, and 16, 1904. The scientific sessions will be held only in the mornings, leaving the afternoons free in which to visit the attractions of the fair. It is believed that a large proportion of the members of the association will be present this year, as the World's Fair offers many attractions in itself; and in addition to the convention of the association, there will also be held in St. Louis, from the 8th to the 15th of September, the annual convention of the American Röntgen Ray Society and the International Electrical Congress.

Cholera in Persia.—A despatch from Baku states that refugees are arriving there from Teheran and tell terrible stories of the ravages of cholera. They

say that on some days the mortality has reached nine hundred. The Europeans are abandoning their property and are fleeing to a camp in the mountains. The quarantine stations are almost without food. The Russian Government has ordered the closing of the frontier for the purpose of preventing the introduction of the disease into the southern provinces.

Obituary Notes.—Dr. David J. Fitzgerald, one f the leading physicians of Northern New York, died at Glens Falls, N. Y., on July 17, of apoplexy. He was born in Ireland forty-six years ago, came to this country when young, was graduated from the Fort Edward Collegiate Institute in 1876, and the Albany Medical College in 1884. After a course in the New York Post-Graduate School he located at Glens Falls in 1886. A widow and two daughters survive. One of his brothers is Dr. John F. Fitzgerald of the Public Charities Department in Brooklyn and Queens.

Dr. Frank Anthony Walke died July 12 at his home in Norfolk, Va., aged seventy-three years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1852, and served in the medical corps of the U. S. Navy. During the Civil War he was active in the naval medical service of the Confederacy.

Dr. A. J. Atkinson died at Lewistown, Pa., on July 12, at the age of eighty-three. He was a surgeon in the U. S. Army during the Civil War.

Dr. Eli J. Zook died at Newville, Pa., on July 9, at the age of sixty years. He was graduated from Jefferson Medical College in the class of 1878.

Dr. Willard P. Derickson died at Wilmington, Del., on July 10, as a result of spinal meningitis. He was graduated from Jefferson Medical College in the class of 1891.

Obituary.

EDWARD W. LAMBERT, M.D.,

NEW YORK.

Dr. Edward W. Lambert died at his home in this city on Sunday, July 17, of disease of the heart. He had been seriously ill only about a week. He was born in Boston, Mass., on February 15, 1831, and was graduated in arts from Yale College in the class of 1854, just missing the celebrated '53, with most of the members of which, however, he was intimately acquainted. The same year he entered the College of Physicians and Surgeons of this city and received his degree from that institution in 1857. For two years after that he served on the house staff of Bellevue Hospital, and in 1859 entered upon the practice of his profession.

Dr. Lambert was one of the pioneers in medical insurance work. He early became associated with Henry B. Hyde who, in 1859, founded the Equitable Life Assurance Society, and he was made the society's first medical director. During the period of forty-five years since then he has remained chief of the Equitable's medical staff, although of late his duties have been rather those of consulting medical director.

Dr. Lambert was one of the last of the "old guard," at one time an assistant of Willard Parker and a contemporary of Draper, Sands, and Markoe. He was a member of the New York Academy of Medicine, the Pathological Society, the Medical Society of the County of New York, the Medical and Surgical Society, the Society for the Relief of Widows and Orphans of Medical Men, the Century, University, and Yale Clubs, and the New England Society. Of his four sons, three, Adrian V. S., Alexander A., and Samuel W., are physicians practising in New York.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MR. CHAMBERLAIN ON TROPICAL MEDICINE—CONSUMPTION AND SANATORIA—HYDATID DISEASE OF PELVIS AND ABDOMEN—CHARITY MEETINGS—THE KING'S FUND—STREET AMBULANCES—LORD ALVERSTONE TO STUDENTS—A STEREO-PHOTO ANATOMICAL ATLAS.

London, July 1, 1904.

The Royal Institute of Public Health last night gave a banquet in recognition of Mr. Chamberlain's services to Tropical and Preventive Medicine. About two hundred members of the institute and a number of distinguished guests were present. The Honorary Fellowship of the institute was presented amid much enthusiasm to Mr. Chamberlain, Lord Iveagh, and Mr. Balfour. The president (Prof. W. R. Smith), in proposing "our guest," said the ex-Colonial Secretary had done more than any one who had held that office to promote the health of our countrymen in Greater Britain. Fortunately in this country we could put aside political armor and meet to do honor to a great Englishman.

Mr. Chamberlain, in acknowledging the toast, said that as secretary for the colonies he had had brought home to him how important was care for the health of those doing our work beyond the seas, and taking advantage of the opportunities of office he was able to secure some expression of the interest universally felt in such an institution as the one he was addressing. He had often heard it said that while surgery had made gigantic progress in this generation, medicine had not advanced in due proportion. Well, to borrow an expression from the Prime Minister, he could say, "I am a child in these matters." He only knew that in the last few years medical research, aided by surgery, had thrown a flood of light on the origin of the disease, and that was a step toward its cure. While all looked with confidence on curative medicine, all agreed that preventive medicine was better still. Without sanitary reform social reform was an empty phrase. The housing of the poor, the attempt to prevent the deterioration of the race, and other things to which legislators devoted such of their time and attention as they could spare from party conflicts—all such things were founded on sanitary reform. Preventible disease was the great agent filling our workhouses, raising our taxes, weakening the fiber of the people, preventing us from competing successfully in that eternal struggle for existence which must go on as long as the world lasts. It was to the efforts of such men as Sir Patrick Manson, Major Ronald Ross, and Professor Haffkine that his attention had been chiefly directed. With all the investigations going on, he believed—sanguine optimist as he always was—they would in time make those tropical countries, each of which in turn had been called "the white man's grave," places where white men could live in comfort.

A new convalescent Home for Consumptives in connection with the Brompton Hospital was opened on the 25th ult. by the Prince and Princess of Wales. It is, situated at Camberley, about thirty miles from London, 400 feet above the sea level, in grounds of about twenty acres in extent. The soil is gravel and sand. Pine woods give some shelter from the winds, except on the south side. The total cost is said to be £70,000, and it will require an expenditure of £10,000 a year to keep it going. The Prince expressed the pleasure of himself and the Princess in assisting in the inauguration of the sanatorium, and hoped their presence might be considered as evidence of a desire to preserve the connection of their family with the Brompton Hospital ever since the foundation stone of the original building was laid by his grandfather, the Prince Consort, sixty years ago. He also referred to the King's Sanatorium for Consumptives now in course of erection.

This question of preventing consumption—as well as of treating it—seems to meet us at every turn. There are some who say the whole subject has been too much boomed in one direction, though others are disposed to push it still further with the public. The Charity Organization Society, which likes to get a finger in every pie, had a meeting on Wednesday afternoon, at which both Sir D. Powell and Sir W. Broadbent blessed the work it had done in this matter. Sir Douglas insisted on the importance of the disease being recognized at the earliest stage and said there was no need to be hopeless. The disease had been steadily declining for the last fifty years and more rapidly during the last decade. The scheme of the C. O. S. was described at the meeting as concerned only with the very poor, and as directed to ensure such a stay in a sanatorium, and to free them from anxiety as to their dependents and afterward secure

suitable light employment for those who recover sufficiently to undertake it. An endeavor is being made to enable the society to pay for ten beds in a sanatorium.

The first annual meeting of supporters of a sanatorium at Davos named after the Queen was held here yesterday. The old Home for British Invalids at Davos, taken over by the "Queen Alexandria" Association, is inadequate and compares badly with the institutions of other countries; so a year ago it was determined to build—something not extravagant but worthy of the Queen's name. A recent entertainment at His Majesty's Theater produced £5 000 toward this object. The main object of the association is to cater for people unable to incur the whole cost of their treatment and who are only in the early stage of consumption.

Hydatid disease in the pelvis and abdomen was discussed at a late meeting of the Obstetrical Society when two rare cases were brought forward. The first, by Dr. Eden, was primary hydatid of the fallopian tube in a woman of forty, married thirteen years, never pregnant. A pelvic tumor was found and thought to be a dermoid cyst of the right ovary. Operated on in September, 1903, it turned out to be the distended, densely adherent fallopian tube filled with detached hydatid vesicles. No trace of hydatids elsewhere. The case is almost unique. Dr. Eden had met with but one other recorded case—that of Doléris in 1896—and he only knew of one recorded case of primary hydatid disease of the ovary, that of Pean, 1895. Pelvic hydatids usually begin in the peritoneum or connective tissue. The other case is very remarkable and was the subject of a paper by Dr. Cullingworth and Mr. Clutton, the patient having been under their joint care for about eight years. She was first examined by them in 1896 when twenty-four years old, when a rounded, fixed, fluctuating swelling in the suprapubic region was supposed to be a cyst of ovary or broad ligament. On operation hydatid cysts of both ovaries and right broad ligament, as well as of the omentum, mesentery, and abdominal wall were found. Moreover, a larger cyst was also present in the right loin and another below the sternum. The cysts of the ovary and broad ligament and as many as possible of the omentum were removed, the operation lasting two and a half hours. The patient's condition toward the end was extremely alarming. Three months later an incision was made above the umbilicus in order to deal with the other cysts. This revealed three large and several small ones attached to the liver. All but two were removed entire; the ectocystic walls of the two largest were reduced in size and attached to the incision. The shock was extreme. Another large cyst fell toward the spleen and was left for future operation. In November of the same year a large cyst in the left iliac fossa was evacuated, and a week later a suppurating cyst discharged its contents per rectum. Between this time and December, 1903, the patient submitted to eight operations, the longest interval between being two years.

Dr. Malins (president) hardly knew which to admire most, the persistence of the surgeons or the fortitude and endurance of the patient. Mr. Clutton remarked that the present satisfactory state of the patient was due to the fact, contrary to the usual experience, that the cysts had been limited to the abdomen. Had they invaded the thorax or brain, as so often happened, the result would have been different. Mr. Bland-Sutton suggested re-examination of the specimens to determine whether the colony really arose in the ovary or in the connective tissue of the broad ligament. In the majority of cases the parasite began in the subserous tissue. The number of cysts depended on the number of ova swallowed. The cysts and colonies gave rise to symptoms according to their rate of growth. Broad-cysts may be sown in the connective tissue of operative wounds, and so cysts often appear in the cicatrices.

A colonial list of birthday honors was issued after the home list. Dr. M. St. John Franks Kendal, M.B., C.B., of the Transvaal receives knighthood.

The Queen has promised to visit the East London Horticultural Show on the 14th, the proceeds of which are to be devoted to the London Hospital.

Princess Christian attended a meeting of the National Health Society on Tuesday at the Mansion House. Lord Derby said the society is doing good work in various parts of the country by instructing poor people on the means of preserving health. A modest training is given and certificates awarded to health visitors and sanitary inspectors. Lectures are also given under the auspices of the County Councils. The society is much indebted to the Princess for the interest Her Royal Highness has always displayed in this work.

The Duchess of Albany opened the three days' bazaar which closed last evening on behalf of the Royal Hospital for Incurables which was founded by Dr. Reed fifty years ago and has been under royal patronage all the time. At present it shelters 208 patients and gives pensions of £20 a year each to 700 others. Patients who can work contribute various articles, as do their friends, to this annual sale.

Lord Iveagh has sent the first instalment of an additional annual subscription of £500 to King Edward's Hospital Fund. When the fund was started in 1897 his Lordship gave £12,500 as a capitalized subscription. Donations of above $11,000 have been made toward the £9 332 per annum required to take advantage of a conditional offer.

A deputation of gentlemen interested in the provision of street ambulances waited on the city police authorities on Wednesday. Sir Wm. Church, Sir D. Duckworth, Sir Cooper Perry, Mr. Golding Bird, Mr. A. Bowlby, Dr. Arthur James, Secretary of Street Ambulance Association; Surgeon-General Sir Joseph Fayrer, and Surgeon-General Sir W. Hooper took part with others. The need for horsed ambulances and skilled attendants, in order that injured persons might be quickly taken to hospital with as little pain as possible, was urged by the speakers, who pointed out also how far we lag behind the United States in this matter. Sir Joseph Fayrer said he was ashamed that the chief city of the Empire should occupy its present position in this respect. The chairman (Alderman Alliston) promised careful consideration of the information submitted by the deputation and expressed a wish for a written report on the subject.

Lord Alverstone distributed the prizes at St. Mary's Hospital on Wednesday and gave the students some timely advice. He was delighted that the school kept in the front rank in athletics, but begged them to remember that these exercises are not the object of life but only a means of fitting them to do their serious work. In no other profession were gentlemanly feeling, high bearing, and honorable principles more essential. Moreover, no other calling offered greater opportunities for helping others. He would not have doctors turn preachers, but he felt that they must meet with many opportunities in their work of speaking words which were good for those in trouble.

A novelty in anatomical teaching: Messrs. Jack announce the forthcoming issue of "The Edinburgh Stereoscopic Atlas of Anatomy," to consist of 250 stereoscopic photos, in parts of fifty each, edited by Dr. David Waterston. The first section will be ready in the coming autumn, and it is hoped to complete the work early in 1905. The advantage of the stereoscope is obvious, and the position and relations of the various structures must be in this way accurately defined.

OUR PARIS LETTER.

(From Our Special Correspondent.)

N-RAYS—PHYSIOLOGICAL ACTION OF RADIUM RAYS—INTRAVESICAL SEPARATION OF URINE—CANCER OF THE STOMACH TREATED BY RÖNTGEN RAYS—EARLY DIAGNOSIS IN GLAND AND PULMONARY TUBERCULOSIS—SURGICAL TREATMENT IN ULCER OF THE STOMACH—PROSTATECTOMY—LACERATION OF THE COMMON CAROTID—GENERAL TUBERCULOSIS AN ECONOMIC PERIL—HEPATIC ORIGIN OF HEMORRHOIDS—EFFECT OF RADIUM ON THE BLOOD IN LEUKÆMIA—DEATH OF GILLES DE LA TOURETTE.

PARIS, June 15, 1904.

At the Académie des Sciences nearly all the meetings of late have been occupied with discussions on the *n*-rays, recently discovered by Professor Blondlot and Professor Charpentier of the faculty of Nancy. It is claimed that Charpentier has discovered that living beings, especially the muscles and nervous centers, give out special rays, called *n*-rays. These *n*-rays, as yet but little known, entirely distinct from *x*-rays, have been studied in a series of experiments.

Professor Bouchard, collaborating with Curie, has also studied the physiological action of the emanations of radium. By a special arrangement these authors have had mice and guinea-pigs kept in an enclosed place and forced to breathe air charged with radium rays. The animals first suffered from dyspnœa, then went into coma, became cold, and died. The investigators further ascertained that the tissues of the animals succumbing to the action of the radium are themselves radioactive. They have observed, on the other hand, that the injection of gas charged with the emanations of radium into the peritoneal cavity of guinea-pigs or rabbits, has no toxic effect.

At the meeting of the Académie de Médecine on June 14, an important communication was made by Tuffier and Mauté concerning the value of the intravesical separation of the urine of the two kidneys, with a view to the diagnosis of their functional and anatomical condition. The method used was that of Luys. They showed that this method makes it possible for one to know the exact

functional condition of one kidney in comparison with that of the other. They added, however, that the examination of the separated urines should be preceded by the examination, during several successive days, of the renal function as a whole, that is, of the 24-hour urine, and that it is only in view of such knowledge that one can learn from examination of the separated urines what part is taken by each kidney. The separation of the urines should be continued with the separator of Luys for about half an hour, or until 10 c.c. at least has been obtained from each kidney. In each of the separated products it is primarily important to know the relation between the freezing point and the volume excreted; that is, Δ V, which gives the number of molecules of solids excreted by each kidney in a unit of time. But the fact that the functional activity is notably diminished on one side is not necessarily diagnostic of a renal lesion on this side, for a simple obstruction in the renal circulation, as that produced, for instance, by a pararenal tumor, is sufficient to produce important modifications in the renal secretion.

Doumer and Lemoine of Lille have treated twenty cases of cancer of the stomach with Röntgen rays. They have obtained three definite cures, and in two other cases there was marked improvement. In all these cases the diagnosis rested on clinical symptoms, namely, tumor in the region of the stomach, gastrorrhagia, gastric pain, dyspepsia, and emaciation. In the favorable cases, not only did the functional symptoms disappear, but the tumor itself diminished or disappeared.

Professor Grancher has emphasized the value of making early diagnosis in gland or pulmonary tuberculosis, among the children of primary schools, for if this disease can be treated early, there will be a chance of saving a large proportion of the children. It is indeed well proved that the earlier treatment is begun, the more amenable to it is tuberculosis. To illustrate the need of treatment—in a boys' school 14 per cent. were found to have tuberculous lesions, and in a girls' school, 17 per cent. Professor Grancher thinks that schools for these children should be built in the country, where life in the open air, judiciously combined with studies, would cure the greater part.

In the Société de Chirurgie, Ricard, who has had more than one hundred cases of operative treatment of ulcer of the stomach, stated that it is not best to operate on ulcers of the stomach during the period of active hemorrhage, because such interference is useless and dangerous, and, moreover, that it is not best to operate on ulcers of the stomach unless they are complicated by hemorrhage or stenosis. In the latter case, the operation of choice is gastroenterostomy.

Pousson of Bordeaux discussed and defined the indications for prostatectomy. In twenty-three prostatectomies, he operated twenty-one times by the perineal route and twice by the transvesical. The first method gave a mortality of 19 per cent. and the second of 50 per cent. Pousson, in view of these figures, considers prostatectomy a serious operation. In his opinion, the indications for it are—difficulty in catheterization, vesical infection, at least when this is accompanied by pyleonephritis, and the coexistence of a vesical calculus. He much prefers the perineal route to the transvesical, because of the better drainage.

Lejars reported an interesting observation of Launay, who, in the course of extirpating a cancerous tumor of the thyroid, in a woman sixty-five years old, lacerated the common carotid for a distance of one and a half centimeters. Stopping the hemorrhage temporarily with artery clamps, Launay first removed the tumor, then proceeded immediately to suture the wound of the artery. This was done with a fine needle, by continuous suture. The operation succeeded perfectly, convalescence proceeded without incident, and the patient was presented three weeks afterward, completely cured, at the Société de Chirurgie. Seven months later, the patient continued to enjoy excellent health, and no cerebral trouble had appeared.

At the Société des Internes des Hôpitaux de Paris, Professor Grancher gave an address on general tuberculosis, considered as an economic peril. He described it as a terrible enemy, more difficult to vanquish than the great contagious diseases, as, for example, cholera. Against these, indeed, the government appoints an official armed with dictatorial power, who, supported by public opinion, completely sacrifices individual liberty to public health. He burns all objects which are sources of infection, and rigorously isolates all contaminated persons. A war undertaken in this way against tuberculosis is impossible, since this disease has penetrated almost every family and it would be necessary to arm one-half of France against the other half, instituting thus a veritable civil war. Since this method is impossible, it is necessary to find another less stringent, and to avoid difficulty by going to the source of the evil. For, as tuberculosis in the beginning is easy to cure, that is, when it exists as scattered tubercles which can be absorbed, so, on the other hand, when the lesions are advanced, when cavities are formed, therapy is in vain. Professor Grancher considered it above all important that the physicians who heard him should understand their duty of taking part in the grand struggle undertaken against tuberculosis. The chief duty of the physician, according to his idea, is to search out tuberculosis in its beginning, and thus to make early diagnosis, for at the time when the disease takes root, it is curable by rest, air, and forced feeding, in the enormous proportion of 80 per cent. To diagnose tuberculosis before the first stage is passed, in such a way as to save many human lives, and to aid in diminishing this terrible disease, is the primary duty of the physician. This early diagnosis can be made chiefly by auscultation, for the trained ear can easily detect at the beginning slight changes in breath sounds, and so make possible a correct diagnosis. It is thus by means of prophylaxis that the physician will be able to play his part, surely a great economic rôle, in the battle against tuberculosis.

In the Société de Biologie, Gilbert and Lereboulet gave an interesting report on the hepatic origin of hemorrhoids. Passive congestion of the portal system, due to hepatic alteration, is the chief cause, local causes being always secondary. It is true that most of the affections of the liver are accompanied by hemorrhoids, but this is because they induce portal hyperdistension, which, in turn, leads to dilatation of the hemorrhoidal veins. Hemorrhoids have often a considerable diagnostic value, since they may be the first sign of a latent affection of the liver, and treatment directed against that and against the resulting portal congestion, furnishes, by its success, a new proof of their hepatic origin. Direct massage of the liver, by modifying the hepatic circulation, may have an indisputably curative action on hemorrhoids.

Aubertin and Baujeard have recently studied the modifications of leukæmic blood under the influence of radiotherapy. In myelogenous leukæmia, radiography of the splenic region causes a diminution in the number of leucocytes, but this diminution is not regularly progressive. Each treatment, indeed, is followed by a sudden and considerable increase in the total number of white cells.

Among the deaths which have occurred recently in the scientific world we would mention that of Gilles de la Tourette, who was one of the brilliant pupils of Charcot. He was physician in chief of the Paris Exposition. He leaves works of real value, such as his books on the neurasthenic states, hypnotism, hysteria, and on nutrition and medication in nerve diseases.

EXECUTION BY ELECTRICITY.

To the Editor of the Medical Record:

Sir: In the Medical Record of June 25, 1904, is chronicled another instance of failure in electrocution. It occurred in the Ohio Penitentiary, where Michael Shiller received a shock of 1750 volts, and recovered. Later the condemned man was given 1900 volts without fatal effect. Still later another shock proved inadequate. Last month (May 25, 1904) Antonio Triala, an Italian, who killed a vaudeville singer, was sent to the chair. A shock of 1700 volts was given and continued for thirty seconds. Four more were required at intervals before Triala was pronounced dead. At the time it was explained that five shocks were necessary because the criminal was very thin and his body was a bad conductor, and also because his hair was thick and oily. A number of cases like those of Schiller and Triala might be recited. These suggest, at least to the mind of the writer, the question, are we ever entirely sure that the person in the chair is killed by the electric fluid? There are those who think that the so-called *post-mortem* is in most cases *ante-mortem*, and that the knife, not the electric current, does the work. Now if death is in reality occasioned by the so-called autopsy, it is hard to see how we have improved upon the medieval methods of depriving men of life judicially. Is vivisection any advance upon the old-time evisceration, empalement, crucifixion, and burning at the stake? I cannot resist the belief that in a large number of cases the criminal is killed, not by electricity, but by the surgeons who are the real executioners. That opinion is not mine alone, I share it with others in the medical profession and in other professions. There rests upon the table before me at this writing a letter which I received a few days ago from a prominent physician in New York City who has given much time to the study of electrical therapeutics. He frankly writes that he has long been of the opinion that a considerable number of those who have been sent to the chair could have been resuscitated after they had been pronounced dead, and up to the time of the so-called autopsy.

Will you allow me sufficient space in the Medical Record to suggest the propriety of returning to a classic method of inflicting the death-penalty which seems to

he writer much better than that now legal and practised in the State of New York. It is both humane and effective, as well as inexpensive. Centuries ago Socrates drank the fatal cup. Plato has preserved for us, in his Dialogues, a wonderful picture of the last hours of that great and good man.

We would not, as in the olden time, administer hemlock but there are many substances now known to physicians and chemists that give no pain, are inexpensive, and work much more rapidly than did the potion given by the executioner to the unfortunate philosopher. Chloroform might not be a bad substitute for electricity. Prussic acid is one of a number of chemical agents worth considering in this connection. There are narcotics that might be used. The criminal could be made to sink through a quiet sleep into that deeper sleep from which he will not revive as did the prisoner in the Ohio Penitentiary. Should he refuse the draught, a hypodermic injection would certainly cover the case.

It is contended by the advocates of electrocution that death by the current is painless. There is abundant reason for believing the contrary to be the case. A number of persons who have received shocks of high voltage from which they have recovered testify to the great distress they endured. The pain is described as having been intense. The following paragraph is taken from a communication addressed to the *American Inventor* by Mr. A. B. Brooks, an electrician of some celebrity. He accidentally got hold of a telephone wire grounded. He says: "The duration of the shock could not have been more than a couple of seconds. A man riding by on a wheel going at a good speed had only time to pass about thirty yards beyond me when the operator got through talking and opened the switch, yet I could see every spoke in the bicycle, and it barely seemed to me to be turning. I could feel every reversal of the current, and these reversals occur at the rate of sixty complete cycles per second It is this intense activity of the brain to electrical impressions that makes an instant of electrical shock seem hours to the sufferer Of course it is impossible to know what a man dying of strangulation suffers, but I will positively affirm that any man who has ever had a severe shock will prefer anything to another. The fact that my own case was not fatal does not alter my opinion that death by the electric chair is most painful. The sensations of pain and the elongation of the sense of consciousness of time seem to increase in direct proportion to the violence of the shock. If I suffered what seemed to me hours with a current which did not kill, what may not a man suffer with a stronger shock between the time of its first application and his final loss of consciousness."

May I also add that we want a court of pardons to relieve the executive from the responsibility of last resort, and we also want an official executioner who is educated for his work, and who will not be guilty of any of the miserable failures that so often occur The execution itself should have, as has been pointed out by another, these four prerequisites: "Certainty in Result, Celerity in Action, Painlessness in the Endurance, and the Maintenance of a Decorous Solemnity." There should be no public display, no *pompa Mortis*, no exchange of civilities between prisoner and sheriff. The narcotic cup, it seems to the writer, would do away with all the objectionable features alluded to in this communication.

Frederic Rowland Marvin.

Albany, N. Y.

The Hereditary Transmission of Syphilis.—Neumann believes that the maternal syphilis has a more intense effect on the progeny than that derived from the father. Infection of the mother after conception has taken place may be transmitted to the fœtus even during the later months of pregnancy. His observations are based on a series of fifteen families in private practice, and he finds that in many marriages, where the offspring are afflicted with hereditary syphilis, the mothers remain free from the disease, while the fathers present evidences of old or recent disease. Without distinct evidences of a former infection it is not wise to make a diagnosis of latent syphilis in the mother. The manner in which the paternal transmission takes place has been proved and the spermatic fluid carries the virus which infects the embryo. But the idea of an exclusive maternal transmission cannot be recognized, nor can that of an infection through the placenta alone.—*Wiener klinische Wochenschrift*

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 14, 1904.

Functional Albuminuria, with a Report of a Case.—J. Bergen Ogden reports this case: The patient was a boy of nineteen years, and apparently in every way healthy. Aside from a neurotic temperament, the albumin in his urine was the only thing to attract attention. The urine was generally free from albumin on rising in the morning. The amount then rose to a maximum of 0.05 per cent. in one instance. The quantity of albumin was usually small, its fluctuation being largely due to the amount of exercise taken, and also, to a less extent, to the intake of food, irrespective of its quality or quantity. Generally, the largest amount of albumin was found in the evening or after he had reached home and had had his dinner. On one occasion no lunch was taken, but he remained active; the amount of albumin was apparently not affected. On another day he lay down for four hours. This resulted in a complete disappearance of the albumin at that time. In the majority of instances the specific gravity was in the neighborhood of 1.021. The percentage of urea varied between 1.01 and 3.68. Since October, 1903, a number of thorough microscopical examinations of the urine have revealed no casts. The writer believes that the possibility of an incipient chronic disease of the kidneys can be eliminated. The treatment is simple and the reverse of what is ordinarily considered suitable in renal disease. Good, simple food, fresh air, vigorous exercise, and tonics are suggested.

Experimental Decapsulation of the Kidneys. N. H. Gifford gives the following summary: Following the decapsulation of kidneys in rabbits, in normal dogs, in dogs with induced nephritis, in dogs with infarcted kidneys, but with additional work thrown upon them, the writer finds the following conditions: In all of his cases of two days and under and in the controls, the entire thickness of the capsule had been removed over two-thirds of the surface by the operation of decapsulation. There is a certain amount of intracapsular tension in undecapsulated kidneys, normal or with nephritis, as shown on removal of capsule. There is an immediate increase in size of decapsulated kidneys persisting up to one month at least; afterward, a decrease to approximately normal size complete at the end of six months. There is congestion, moderate in degree, most marked in the intertubular blood-vessels in the cortex, lasting three to five days after the operation. No histological change in the renal epithelium follows the operation of decapsulation of kidneys. A new capsule, very vascular, at first two to four times the thickness of old, is well marked at the end of eight days. At the end of six months it returns to approximately the normal thickness and vascularity. The new capsule arises chiefly from the connective-tissue cells of the intertubular connective-tissue, but in part from the retroperitoneal connective-tissue which is present in the new bed of the kidney. No new vessels are formed which anastomose with those of the kidney. The increase in size is due primarily to the increase in blood-supply, possibly resulting from the removal of the capsule.

Journal of the American Medical Association, July 16, 1904.

Pin in the Appendix.—Evan O'Neill Kane reports this case. The appendix was found imbedded in adhesions, greatly thickened and friable, its hue dark crimson, almost purple, with two points of complete mortification. The organ measured but two inches in length. In the appendix was found a pin slightly bent in the middle and covered heavily with concretions, except toward the point. It must have entered the appendix head first. The patient had never complained of any symptoms which pointed to its possible presence except an attack of appendicitis four years prior to operation.

Will the Long-continued Administration of Digitalis Induce Cardiac Hypertrophy?—Frank W. Wynn says that various authors make the statement that digitalis will cause cardiac hypertrophy, but he was not aware that experiments had been made which prove it. He took healthy Belgian hares, giving both experimental and control animals, and after work covering a period of 120 days, concluded that the difference in heart weight, when taken in conjunction with the general loss of weight of the experimental group and the gain of the control animals, showed that digitalis did produce a slight degree of cardiac hypertrophy. But that the remedy is responsible for hypertrophy to any great degree in valvular heart disease seems doubtful.

Falling of the Hair.—R. A. McDonnell says the most common cause of premature loss of hair is seborrhœa and the resulting eczema. Barber shops were greatly at fault in the spread of seborrhœa, as also were head-rests of operating chairs, hat-pegs at clubs, backs of railroad seats, etc. Hair dyes and bleaches are certainly responsible

for no small amount of baldness. The practice of saturating the hair with water is a damaging one. The pressure by stiff hats is another cause. The various diseases causing dandruff is the most fertile source of alopecia. Next to dandruff is heredity. Other causes of premature loss of hair, their diagnosis, prognosis, and treatment were considered in the paper merely for the sake of completeness. The object of the paper was to call attention to the great variety of causes which may produce falling of the hair, and to show that no treatment is liable to be successful unless based on a proper analysis of the case.

Does Gonorrhœa Cause Prostatic Hypertrophy?—Edward L. Keyes, Jr., expresses his views in the following summary: (1) Among 433 cases suffering from prostatic hypertrophy, only 18 show clinical evidence of previous prostatitis. (2) These 18 present no marked difference in point of size of the prostate, or of beginning of the disease to differentiate them from the remaining 415. (3) Comparison of these 18 cases of chronic prostatitis without hypertrophy shows that the proportion of such cases suffering from prostatic hypertrophy varies little from the normal. (4) Prostatitis lasting more than ten years probably tends to produce prostatic atrophy rather than prostatic hypertrophy. (5) Therefore, if it is true that hypertrophy of the prostate is pathologically referable to inflammation, the clinical data suggest that this inflammation is either early gonorrhœa of relatively brief duration or some obscure sclerotic process associated with advancing years. (6) The late date at which prostatic hypertrophy begins and its infrequency, compared with that of early gonorrhœa, make it seem clinically most improbable that early gonorrhœa is the cause.

Radium and Its Therapeutic Possibilities.—Wm. Allen Pusey says that radium produces effects upon the tissue closely analogous to, if not identical with, those produced by *x*-rays. The indications for its therapeutic uses are along the same lines as those for *x*-rays. Future experience only will determine which of the two agents will be of the greater practical value in meeting these indications. In the far greater number it seemed to him that the *x*-rays would have the larger field of usefulness. It is probable that Becquerel rays will be efficient only to a very limited depth. Becquerel rays have theoretical advantages over *x*-rays in the accuracy of dosage and in the ease of application at inaccessible points. They have a disadvantage in the relatively small quantity of energy available, and in the limitation accordingly of any single efficient exposure to a very small area. It is highly improbable that radium is going to be of epoch-making importance in therapeutics. It supplements and may add materially to the methods now at command for using actinic radiant energy in therapeutics. If it becomes less expensive and obtainable in relatively larger quantities, it may supplant to a limited extent the use of *x*-rays and ultra violet light, although this is not probable. Finally, he believes the therapeutic possibilities of radium has rather been overstated.

Medical News, July 16, 1904.

Cocainism.—Charles T. Douglas speaks of the particularly injurious effect on the skin that cocaine produces. It causes abscesses and other sores. Hallucinations are often present in cocainism. These often relate to the skin. The patient will believe, for example, that insects are burrowing in the cuticle. Hallucinations of hearing may exist, and the patient thinks that he hears "voices." Emaciation is almost a universal symptom. Cocaine victims are greatly distressed by insomnia. Cocainism is one of the most readily cured of drug addictions. It is remarkable how promptly these patients usually return to a normal state by proper sanatorium treatment.

The Extraperitoneal Relations of the Appendix Vermiformis to the Posterior Surface of the Cæcum, with the Report of a Form Hitherto Undescribed.—C. E. Briggs describes an interesting case. At an operation for appendicitis in the case of a girl of twenty years, the cæcum and appendix were readily located. The appendix emerged from the cæcum at the point noted in the large majority of cases—a little internal and slightly posterior to the projection of the caput. The end of the cæcum was drawn upward, making prominent the line of reflection between the cæcal and parietal peritoneum. On careful inspection it was seen that what appeared to be the adherent tip of the appendix was merely a constriction narrowing the appendix to about one-quarter its proximal diameter. From this constriction the remainder of the appendix was seen in dim outline to lie extraperitoneally along the cæcum as far as the line of peritoneal reflection mentioned, from which point it was lost to view in the retrocæcal connective-tissue. The extraperitoneal part of the appendix was 1 cm. long. A short incision was made along the line of peritoneal reflection and the retrocæcal connective-tissue separated along the appendix to its tip. This part of the organ was 1 cm. long, making the entire appendix 4.5 cm. in length, the free mesenteric part 2.5 cm., the extraperitoneal part 1 cm., the retrocæcal part 1 cm. The writer then gives a list of the types of extraperitoneal relations of the appendix to the posterior surface of the cæcum and ascending colon, which have been recorded. The writer thinks it probable that in this case reported the tip of the appendix became adherent rather late in the descent of the cæcum, so that only a small part became lodged in the retrocæcal connective-tissue. The part of the appendix between the retrocæcal tip and the mesenteric part became adherent in some way to the cæcum, the adherent peritoneal surface changing to connective-tissue.

Treatment of Lobar Pneumonia in the Adult.—William H. Dukeman believes that in pneumonia toxæmia calls for the first attention. To combat this, the skin and bowels are the main avenues through which this may best be accomplished. In the early stages a good sponge bath of hot water and soap, followed by a hot foot-bath containing mustard, will act well on the skin. The foot-bath is best taken in bed by putting the feet into a small tub under the blankets. Hot lemonade aids free perspiration. The foot-bath may be continued from one half to one hour. The patient should sweat for about half an hour freely, when he should be dried and rubbed well with coarse towels to get up a good cutaneous capillary circulation. The chest is then encased in the cotton jacket. In case of any pain, a mustard plaster is placed over the area, and after it is removed, the chest is well oiled with camphorated oil. For the bowels it is well to give 2 or 3 grs. of calomel in divided doses of half a gr. every half hour, followed in six to eight hours by a Seidlitz powder or dose of Epsom salts. The action of the kidneys is best kept up by the free administration of pure water at the temperature of the room. The least medicine given the pneumonia patient the better are his chances of recovery. The teeth and mouth must be kept sweet and clean. A daily sponge bath with tepid water and soap and a daily dose of a mild saline aperient should be given. Plenty of pure water at room temperature should be given, and all food should be liquid—chiefly milk. To help ward off heart weakness, strychnine is given. In cases of high fever and little or no delirium, and when the heart sounds have lost their force, half an ounce of whiskey or brandy every three hours is indicated if the patient is more quiet after its administration. If he becomes restless, it must be stopped. In case of cyanosis, champagne or the aromatic spirit of ammonia is given, as well as inhalation of oxygen. A mustard plaster over the heart is also of service. The writer advocates strongly the use of oxygen.

New York Medical Journal, July 16, 1904.

Some "Liver" Cases.—J. H. Carstens says that formerly all abdominal troubles were referred to the liver, were they intestinal indigestion, autointoxication, constipation, or diarrhœa. It was such a handy thing to say it was "the liver." Cathartics were used and with benefit because of the depletion of the abdominal viscera. Flushing the bowels expelled the bacterial invasion. Vast strides, however, have been made in diagnosis, and to-day we are able to make correct diagnoses, and only in a few instances are we obliged to resort to exploratory operation. Thinking that a few illustrations of the various phases might be interesting, he picks out six cases in which he had operated during the past year, each one of which teaches a different lesson in the diseases of the liver.

Congenital Inspiratory Laryngeal Stridor, with Report of a Case.—Samuel Kohn presents a child, two years old, who has been suffering with marked laryngeal stridor since her birth. She had been under his care since she was eleven weeks old. A very difficult laryngoscopical examination revealed a small epiglottism involved at its edges, giving it the appearance of a hollow cylinder; the aryepiglottic folds seemed hypertrophied and flabby. The encroachment upon the introitis laryngis, by the infolded epiglottis and the flaccid, hyperthrophied aryepiglottic folds, and the still further narrowing of the opening during inspiration by suction inward of these soft parts, seemed fully to explain the stridor. A consideration of the diagnosis, causation, and treatment of laryngeal stridor then follows.

The Dysentery of the Tropics, with Special Reference to Our Insular Possessions.—Frederick M. Hartsock, U. S. A., says the types of dysentery met with in our insular possessions may be sharply separated into the following: (1) Catarrhal; a simple form due to the natural hyperæmic condition of the intestinal mucosa of the Europeans in the tropics, plus some irritating substance, bacterial, parasitic, or chemical, which gains access to the intestinal mucosa. (2) Amœbic; here is seen the greatest amount of destruction of intestinal mucosa and is depend-

ent on or associated with a parasitic amœba. (3) Acute specific: the lesions are in the large and lower part of the small intestine and mesenteric glands, and in which is found a bacillus "related in its cultural and physiological properties to bacillus typhosus," which agglutinates with the blood of patients with this form of dysentery. The most simple cases of intestinal inflammations in the tropics should receive prompt and vigorous treatment, for ever before us is the chance of psilosis succeeding a refractory case. Sprue is one of the most frequent sequelæ of the amœbic form, especially in the Philippine Islands. Acute specific dysentery, as seen in the Philippines, is one of the most dangerous affections of the intestinal canal, excepting cholera. The infection may be so overwhelming that death follows soon after the onset.

American Medicine, July 16, 1904.

The Carotid Body; Anatomy, Histology, Embryology, and Tumors Arising from It.—John Funke describes the carotid body as being the size of a grain of rice, oval in shape, red, firm, and vascular. In structure and consistence it resembles the superior cervical ganglion. By means of a small band it is attached to the carotid at the bifurcation. This body is in relation with the "nervis mollibus," formed by a plexus from the superior cervical ganglion. A branch from the glossopharyngeal nerve, after sending a branch to the "nervis mollibus," penetrates the ganglion. Before entering the ganglion, however, it receives another branch from the vagus. To find the ganglion one need only remove the common carotid, together with about an inch of the internal and external carotids. From his own investigations, the author does not think that it is possible to believe that the carotid body is present as often as is generally thought. The body is enclosed by a fibrous capsule, the density of which varies at different points. This fibrous tissue contains many blood-vessels. The lobules of the body are composed of collections of cells with no definite arrangement. There are various theories concerning the embryology of the carotid body. The tumors of this body occur especially in adolescence and in adult life. Neither sex seems predisposed. In two cases out of fourteen there was a history of malignant disease in the family. Heinleth says that the carotid body develops until the age of puberty, when it either atrophies, or the development is arrested; if the body continues to grow, a tumor is formed. As to the diagnosis of these tumors, the position is first noted—anterior to the sternomastoid muscle extending from the superior margin of the thyroid cartilage to within a few centimeters of the angle of the jaw; the evident pulsation, but no expansion; the murmur over the growth, but no more intense than over the carotid artery; the synchronous pulsation in both temporals; the boggy or elastic character of the tumor; the movable skin over the growth; a history of long standing and of slow enlargement; occasional vasomotor disturbances.

Fractures of the Extremities: a Report of 1,000 Consecutive Cases, Verified by Radiographs. G. G. Ross and M. I. Wilbert point out various interesting facts in connection with their study of this series of cases. It has been suggested that a fracture of the carpal bones not infrequently occurs in falls from the bicycle. The writers note that fractures of one or more of the carpal bones are not nearly as frequent as they were four or five years ago. The bicycle is not in such general use as it was several years ago. The importance of the routine use of the Röntgen rays in all cases of injury to bones, is emphasized. Of these thousand cases, 642 were of the upper, and 358 of the lower extremities. A total of 517 of the cases involved the right, while 483 involved the left side of the patients. There were 791 male patients and 209 female. The greater number of fractures occur between the ages of eleven and forty. Up to the tenth or even twentieth year, injuries at or near the elbow are comparatively more frequent than any others, and are among the most difficult to diagnose satisfactorily. The reason is that the peculiar and varying development of the lower end of the humerus, differing as it does even in individuals of the same age, is likely to be misleading unless both elbows are carefully examined. In children, especially in boys of ten or twelve, a marked separation of the epiphysis of the inner epicondyle is not of infrequent occurrence. Of the fractures at or near the wrist, 238 in number, 96 involved the radius alone, 68 were fractures of the radius with an accompanying fracture of the ulna about on the same plane, while five were fractures of the lower end of the radius with a fracture of the ulna higher up. There were also 9 simple fractures of the ulna. Out of a total of 50 cases of fracture of the forearm, 15 involved the radius alone, 8 were of the ulna, and 27 were of both the radius and the ulna. Of 39 fractures of the leg, 15 were of the shaft of the tibia, 7 of the fibula, and 17 involved both the tibia and fibula. Injuries involving the ankle-joint are among the most trying with which the medical practitioner has to contend. Because the patient can often move the foot, and even walk on it, he refuses to have the joint immobilized or properly treated. Of the 80 fractures of the foot, 35 were of the metatarsal bones, 28 of one or more of the phalanges, 15 of the metatarsal and tarsal, and 2 of the metatarsal bones, including one or more of the phalanges. With the exception of a few minor details, the writers believe that their figures present a very fair average of the number and kinds of injuries that our osseous framework is subject to at the present time.

The Concussional Vertebral Reflexes.—Albert Abrams declares that concussion of the vertebral spinous processes, whether by manual manipulation or by vibratory massage, will induce palpable lung, heart, liver, spleen, stomach, and intestinal reflexes depending upon the vertebræ subjected to concussion. The writer employs a dental mallet weighing about 4 ozs. and a pleximeter of felt. The reaction on the viscus is of short duration, hence the objective demonstration of the viscual reflex as ascertained by percussion must be executed immediately, after vertebral concussion. It is contended that it is impossible in arteriosclerosis to produce variations of the aorta that occur normally. The aorta dilates if the region over the arch is struck with the percussion hammer, while it shrinks in size if the blows are struck in the epigastrium. But the writer believes that the phenomena have been misinterpreted. What is really elicited is a circumscribed lung contraction adjacent to the part struck on the chest by the hammer, and the blow on the epigastrium merely causes the collapsed lung area to dilate, thus supplanting dulness by resonance. Concussion of the dorsal vertebræ, 8, 9, 10, 11, and 12, will cause dilation of the aorta, and the course of the arch of that vessel can easily be defined, owing to the dulness obtained by strong percussion after vertebral concussion. Concussion of the seventh cervical vertebra causes the dulness to evanesce at once. The lung is in no wise implicated in the percussion changes. Invoking the aortic reflexes may be important in determining the elasticity of the aorta, and thus recognizing early arteriosclerosis. One may elicit the heart reflex of contraction without inducing the lung reflex of dilation by concussion of the seventh cervical vertebra. There are many indications for the practical application of the heart reflexes, one of which is the differentiation of a dilated heart from a pericardial effusion. In effusion the area is uninfluenced. When the skin in the region of the lower liver border is irritated, the lower liver border may be observed by percussion to recede half an inch or more. The faculty of the liver and spleen to contract is diminished in certain pathological conditions, and when such conditions are fully recognized the liver and spleen reflexes will become endowed with a definite diagnostic significance. When the first three lumbar vertebræ are concussed, the tympanicity of the stomach and intestines will be supplanted by dulness. The writer describes a manœuvre for inducing the stomach reflex of contraction, by which the determination of the motor power of the stomach may be accomplished, as well as defining its area. The presence of a neoplasm and its association with the stomach may be shown to exist by aid of the stomach reflex, for elicitation of the latter will cause a dislocation of the growth upward and to the left.

The Lancet, July 2, 1904.

On the Frequency of Aseptic Necrobiosis or Red Degeneration of Fibromyomata of the Uterus.—Frank E. Taylor reports two such cases. The appearance of such a tumor is striking; it is usually single, with a well-marked capsule, distinctly red, mahogany or liver colored, fleshy looking, and loose textured, having been compared to raw beef steak. There is nothing in its external appearance before section to indicate its nature. In the majority of gynecological textbooks there is not the slightest hint that such a condition may occur. Tables are given based on the material obtained in the pathological department of the Chelsea Hospital for Women at St. Thomas's Hospital, giving a total of over six hundred specimens of fibromyomata of the uterus examined and 6 per cent. showed aseptic necrobiosis, or red degeneration.

Note on the Concentration of Chloroform Vapor in Air Drawn from Beneath the Skinner Mask.—W. Legge Symes presents certain observations undertaken at the suggestion of A. D. Waller, and from these it appears that, at ordinary room temperatures, with moderate and approximately equal quantities of chloroform, the Skinner mask yielded vapor of fairly uniform concentration between the desirable limits of 1 and 2 per cent., but reaching as high as 3 or 4 per cent. when the chloroform was copiously applied. The more open of the two fabrics employed gave vapor of higher and, with douches, less uniformly sustained concentration than the closer one. Comparison of the drop and douche methods showed that a desired concentration is as certainly attained and more

uniformly sustained by the former. It was reasonable to conclude that changes in respiration will produce variations in concentration, and it was emphasized that fall in frequency and depth of respiration may lead to inhalation of dangerously concentrated vapor, even when the amount of chloroform used is not excessive.

Diabetic Neuritis.—F. W. Pavy points out that an altered vascular state emanates from nerve lesions through the influence exerted on the functional capacity of the vessels. Nutritive operations are liable to be influenced secondarily. He refers to the trophic condition arising from diabetic neuritis, and says that trophic lesions may occur in connection with diabetes as a primary result of the effect of the sugar abnormally passing through the system. Diabetic neuritis is a very variable affection with respect to location, but its development exhibits a symmetrical character The lower limbs suffer more frequently than the upper. Sometimes the neuritis is localized in a single nerve. Looking at the circumstances existing, it is not surprising that we should have a protean class of symptoms to deal with in diabetic neuritis. Some few cases had fallen under his observation in which anginal symptoms had existed in connection with the diabetes, probably arising from involvement of the pneumogastric nerve. A toxic factor operates in peripheral neuritis, and in books it is stated that a toxic agent stands as an operative factor in diabetic neuritis as well. In Ross and Bury's work on "Peripheral Neuritis" it is stated that certain facts seem to indicate that the neuritis is not due to an excess of sugar in the blood. His experience was diametrically opposed to this allegation acquitting the sugar. Neuritis does not occur where the sugar is kept down by treatment. Conjoined with the dietetic and codeina or opium treatment for the diabetes, he has obtained beneficial effects from the administration of 5 grs. of iodide of potassium and 10 grs. of bromide of ammonium thrice daily. If there is much superficial pain he applies cautiously linimentum aconiti.

The Treatment of Congenital Equinovarus During Early Infancy.—E. Laming Evans says that during 1903 he had treated fifty-three cases of congenital equinovarus. The method adopted by him was a slight modification of that first introduced by W. T. Little and emphasized by W. Adams. It consists of two stages: (1) The correction of the varus, and (2) the correction of the equinus. Stage 1 is commenced as early as possible, and consists in the subcutaneous division of the tendons of the tibiales anticus and posticus and flexor longus digitorum above the ankle-joint with immediate rectification of the varus as far as possible with subsequent manipulation to complete the correction, and in the intervals of manipulation the retention of the foot in the improved position by means of a padded malleable-iron splint. The time taken to correct the varus averaged in his cases thirty days. Stage 2 is then commenced by subcutaneous division of the tendo Achillis with immediate rectification as far as possible and subsequent manipulation to complete the correction of the equinus, with retention of the foot in the intervals in a padded tin shoe of special design. The treatment of congenital equinovarus may be divided into two main schools: (1) those who treat during early infancy, employing various methods; and (2) those who wait till childhood has well advanced and then correct by one of the various major operative procedures. The arguments used in favor of the latter are the dangers of chloroform during early infancy, the risk of ulceration from pressure of the plaster cast, the insufficient support of the latter because it softens with the urine, the long course of treatment during which the child suffers pain, and the parents are much inconvenienced. The chloroform argument is twice answered; for first, the risk in the hands of a skilled anæsthetist is no greater at the age of eight weeks for simple manipulation of tenotomy than it is at the age of six years for extensive tarsectomy; and, secondly, in ten out of the eleven cases in this series no chloroform was used. The plaster-of-Paris argument does not apply to this method as it was not used.

Berliner klinische Wochenschrift, June 27, 1904.

The Physiological Action of Radium.—J. Wohlgemuth has investigated the effects of this substance on the principal constituents of the body—albumin, carbohydrates, and fat. These were exposed to the radiations daily for fifteen to thirty minutes, and at the end of five days analyzed. Repeated observations were entirely negative, the composition of the material remaining unchanged. It was also found that no elective action on the lecithin of fat resulted, as stated by other observers. The action of radium on the autolysis of tuberculous lungs was also studied, and it was determined that exposure of a portion of this tissue to radium in an incubator resulted in the absorption of an amount of nitrogen four times greater than that of the control specimen. This phenomenon he explains by assuming that the resistance to autolytic processes after death is lessened by the action of radium. If this assumption is correct, then the difference in the amount of nitrogen would become less as the resistance in the control specimen was overcome. This was found to be so as a matter of fact, and after ten days the amounts of nitrogen in solution were practically the same in both and continued so.

The Agglutination of the Typhoid Bacilli in Icterus and Hepatic Diseases.—H. Kammerer has examined fifty cases of icterus, with reference to the behavior of the Widal reaction, and found that among this relatively large number agglutination at a dilution of 1:50 occurred only once, while in the majority of instances it took place at 1:10 or less. The patients included fifteen cases of cirrhosis of the liver, eight of carcinoma of the liver, two of myocarditis, and one each of carcinoma of the gall-bladder and hepatic syphilis. It seems, therefore, that the theory which assumes that agglutination is brought about by the presence of biliary elements in the circulating blood finds little support from this investigation. The author believes that it is more probable that the presence of an icterus produces agglutination of closely-related bacterial species—a so-called "group agglutination." The purity and freshness of typhoid cultures employed for the Widal tests should always be definitely ascertained, and tested by controls. It is also well to confirm the results by the use of Ficker's diagnosticum. This investigation shows that the Widal reaction is still the most reliable test for the differential diagnosis of typhoid fever, especially if a positive reaction results with a dilution of 1:100 or over.

The Effect on Secretion and Motility of the Stomach of Endofaradization and Endogalvanization.—A. Borri has made a careful study of this subject on a large number of patients in the Augusta Hospital in Berlin, in order to determine whether electrotherapeutics would be attended with equally favorable results when applied in gastric disorders, as in other parts of the body. Most observers have contented themselves with external applications of electricity, whereas the author has made a special study of the endogastric methods. Thus far no consensus of opinion has been reached, some writers ascribing a stimulating action to the faradic current and an anæsthetizing influence to the galvanic current, while others claim that the effect of faradization is largely sedative. Borri studied the effect of the currents on secretion in ten persons, two of whom were perfectly normal as regards their gastric and intestinal functions. It was found that the results as regards any changes in the secretions were entirely negative, and the author believes that in those instances in which an increase was noted after the application of electricity the effects were due, not to the current, but to the manipulations which the procedure entailed. The pepsin content was also found unchanged in these experiments, or, as in a few cases, was slightly diminished in amount. Gastric motility was studied by giving the patients test breakfasts on two successive days, on one of which endofaradization was also done. No constant differences were noted, and in two cases of atony no effect was observed which could be ascribed to the electric current. In contrast to these negative results was the effect on the sensibility of the stomach. Here a well-marked anodyne effect followed the application of the galvanic current when the negative pole was placed in the stomach.

Münchener medizinische Wochenschrift, June 28, 1904.

Radioactive Substances in the Nauheim Springs.—Schott briefly notes the results of the observations which have been made on the waters of these springs with reference to the presence of radioactive materials. The sediment from two of the main springs was found to possess a radioactivity varying from 23 to 34. This is a higher figure than any previously noted in other well-known deposits of radioactive clays or other substances. In other springs in the neighborhood the figures rose to 250. Knowledge of these facts may explain the hitherto doubtful efficacy of certain balneological therapeutic measures.

Muscular Dystrophy Following Trauma.—S. Hösslin reports a case of muscular dystrophy in a man of twenty-one, which ostensibly followed a traumatism of the shoulder. More careful inquiry elicited the fact that a muscular weakness existed before the injury was sustained. It seems fair to assume, therefore, that the dystrophy was present before any injury took place, and the same was merely aggravated by the latter. There was no hereditary history. The case teaches that the scientific value of statements made by injured persons as bearing on the etiology of a condition of this kind should be accepted with doubts.

Researches on the Bacteriology of the Lower Air-passages and the Pathogenesis of Pneumonia.—H. Durck has already shown, by means of animal experiments, that

the deeper air-passages are inhabited by bacterial flora which, under ordinary circumstances, are not pathogenic, but may readily become so when any lesion of the mucous membrane occurs. Inhalations of dust which caused irritation, by either mechanical or chemical means, were proved to be the most common factors, but the writer also succeeded in showing that exposure to cold and the subsequent chilling of the body were followed by the same result. An animal kept in an incubator at a temperature of 37-38° C. for twenty-four hours, and then plunged into ice-water, soon after became afflicted with pulmonary pneumonia. These assertions have been combated by other writers, but the author claims that, as the results of further extended observations, it may be stated that, although the pneumococcus may be accepted as the immediate cause of genuine fibrinous pneumonia, it can bring on the disease only when its virulence is so great that as soon as it enters the air-passages it is able to overcome the natural protective barriers, or when the mucous membranes have been weakened by some other factor. These observations have been confirmed since their publication by other investigators. The author has also repeated his own experiments, but, instead of exposing the animals to a high temperature, he merely immersed them up to the neck in cold water for a period of from two to ten minutes. In about one-half of the cases more or less extensive pneumonic processes developed within a few days. Marked hemorrhages were present in almost all instances.

Coxa Vera.—F. Härting discusses the etiology and treatment of this condition and reports a case in a woman of twenty-six who came under his care for a simple fracture of the shaft of the femur. The patient at the same time presented a coxa vera. There was apparently no history of rickets, but about eleven years previously she had an attack of pain in the same leg, which disappeared under rest and massage. For the succeeding six years it recurred annually, and the limb underwent a gradual shortening, but then the pain no longer returned. This may possibly have been one of those instances of late or retarded rachitis, which becomes localized in some spot, as here, in the neck of the femur. Although rachitis, osteomalacia, tuberculosis, arthritis deformans, fractures, etc., may be regarded as predisposing causes, the immediate cause is undoubtedly mechanical. Coxa vera results from the weight of the body bearing down on a weakened neck of the femur, which has become so as the result of some of the affections just noted. The author has also observed that the condition is ordinarily found in young men who have experienced a rapid growth and present a well-marked skeletal development, but an insufficient development of the musculature. The treatment in most cases should be an expectant one, the patient being kept in bed for a prolonged period, with an extension apparatus on the leg. When the pain disappears the treatment may be supplemented by massage, active and passive movements. Operative interference should only be considered after the inflammatory symptoms have subsided and when the deformity is marked. Osteotomies of various types have been suggested, together with division of the adductors, and, in extreme cases, resection of the hip-joint. The most successful osteotomy has thus far been that suggested by Hoffa—the oblique subtrochanteric.

French and Italian Journals.

Radiograph and Chemical Analysis of Calcified Arteries.—A. Gascard declares that it is rare to see a radiograph which gives an outline of the arteries. These vessels are normally as transparent as the surrounding muscular tissue. When arteries become atheromatous and calcified, they may become as opaque as osseous tissue. In a patient who entered the hospital last summer the tibial arteries, anterior and posterior, the peroneal, the cubital, radial, deep palmar arch, and the collateral artery of the thumb were all shown in the radiograph that was taken. The patient was a man of seventy-four years. Later the patient died from the effects of an accident, and chemical examination of these arteries revealed the presence of calcium phosphate, calcium carbonate, and magnesium phosphate. The composition of the mineral matter of these arteries was the same as that of the ashes of bones.—*La Revue Médicale de Normandie*, June 25, 1904.

A Special Necrotic Change in the Hepatic Cells in Tuberculous Infection.—B. Pernice finds alterations in the livers of persons affected with tuberculosis when there is no involvement of the liver itself. The most common alterations are the granulo-fatty, amyloid, and coagulation necrosis. Epithelial necrosis is much more common in the livers of tuberculous subjects than is generally believed. It is due to the toxins circulating in the blood. In such cells the nucleus and cell protoplasm have become atrophied. In a case observed by the author the alterations were as follows: There was a filamentous condition of the protoplasm, which did not stain uniformly; the nucleus was enlarged, and there were many vacuoles in the cell body. In some the nucleus was entirely gone. He calls this condition vacuolar necrosis.—*La Riforma Medica*, June 1, 1904

Note as to the Question of the Scarlatiniform Eruptions that Present Themselves in the Course of Diphtheria.—Carle Francioni states that the differential diagnosis is difficult between the different forms of eruptions occurring during the course of diphtheria. These may arise from true scarlatina or may be late manifestations of the use of antitoxic serum. Still it is very important to know whether we have to deal with a harmless serum eruption or with a dangerous complicating disease. Lobligois has observed that on examination of the blood, polynucleosis is more marked in scarlatina than in serum eruptions; eosinophiles are rarer in scarlatina; anomalous forms are found in serum that are absent in scarlatina. On examination of the urine the diazo-reaction is frequent in scarlatina, and rare in diphtheria. If this reaction is found, the eruption is that of scarlatina. The author believes that the eruptions of serum, occurring late, are coincident with and dependent upon the production of the specific antitoxin in the blood. A test for the presence of this may be made by the presence of pricipitin in the blood. The author has made this test in five cases of true scarlatinal eruptions observed by him, in none of which was precipitin found.—*Revista di Clinica Pediatrica*, May, 1904.

Peritonitis.—F. Mariani writes of the conclusions derived from his researches on peritonitis. They referred to the power of the peritoneum to react against pathogenic germs of different virulence, and against the same germ in different strengths; that is the power of the peritoneum to destroy pathogenic bacteria; also as to the action of innocuous germs on a peritoneum which had been subjected to some previous irritation, as by laparotomy, or the use of irritating drugs. He further studied the conditions under which germs inoculated at a distance affect the peritoneum, either by direct contact or through the circulation. He concludes that the peritoneum possesses a destructive power that is slight for some virulent germs, such as the pneumococcus; but has a powerful destructive action on others, staphylococcus and colon bacillus. This destructive power is lessened by previous operation or irritation; it is lessened at first by laparotomy, but if the subject live for fifteen or twenty days the resistance of the peritoneum becomes greater. Irritant drugs have the same action. Drastic purgatives which increase peristalsis, lessen the resistance of the peritoneum, while morphine increases it. If the bacterial infection is rapid and acute, the colon bacillus is not found in the peritoneum, but if the case is chronic these bacteria are found in life and after death on the peritoneum.—*Il Policlinico*, May, 1904.

Sarcoma of the Testicle.—Malloizel and Claret report this case. The patient was a man aged twenty-seven years. He was a tuberculous syphilitic. He came to the hospital on account of an enlarged testicle which was beginning to give him pain. The tumor was firm in its lower part, but pseudo-fluctuating above. There was no special sensitiveness perceptible. No lumbar ganglia could be felt. The urine was free from albumin. There were a few râles in the lung just below the right apex. Operation was decided upon, although the prognosis as to recurrence was grave. The testicle was removed as well as a part of the cord. Five days later the wan and anxious aspect of the patient was marked. The urine was clear and normal in quantity. Œdema gradually developed. Pain in the region of the two kidneys distressed the patient. Three weeks after the operation, anuria developed and this condition continued for eight and a half days, when the patient died. There had been no hæmaturia. At autopsy no recurrence was noted in the scar. An enormous soft, pliable mass had destroyed and replaced the left psoas muscle. On the right there was a small mass of the same kind. Microscopical examination of the testicle revealed a fibrosarcoma. In the lungs were found epitheliomatous, sarcomatous, and tuberculous tissue. The epitheliomatous tissue was far more abundant than the sarcomatous. The writers believe that the tumor of the testicle had been primarily mixed, but that the sarcomatous tissue had increased while the epitheliomatous tissue had disappeared. The kidneys showed the lesions of acute nephritis. The anuria was due to the nephritis, but the cause of the nephritis was difficult to determine. Acute nephritis in a cancerous patient is very interesting without a neoplastic focus in the kidney to cause the epithelial proliferation.—*La Tribune Médicale*, June 18, 1904.

Book Reviews.

Die Syphilide (Syphilis der Haut und Schleimhaut). Von Dr. Jessner. II Teil: Therapie. Würzburg: A. Stubers, 1904.

This is No. 12 of Jessner's small works on dermatological subjects. The questions here discussed are time-honored but have an ever-present interest for those engaged in the diagnosis and cure of skin and mucous membrane syphilides.

Anæsthesia in Dental Surgery. By Thomas D. Luke, M.B., F.R.C.S.E., Anæsthetist to the Dental Hospital, The Deaconess Hospital, and Instructor in Anæsthetics to the University Surgical Classes, Royal Infirmary, Edinburgh. With twenty-eight Illustrations. New York: Rebman Co., 1903.

So great a variety of methods of making dentistry painless have arisen that a volume devoted to the subject seems not amiss, especially as no work of which we know covers this field exclusively. The aim of the present volume is practical utility, with descriptions of way of applying the various local and general anæsthetics.

The use of chloroform and its abuse are considered at length, and accidents are discussed from standpoints of prevention and relief.

Des Haarschwunds Ursachen und Behandlung. Vierte Auflage. Von Dr. Jessner. Würzburg: A. Stubers, 1904.

This is the first number of Dr. Jessner's Dermatologische Vorträge für Praktiker. It is a fifty-page brochure, which aims to explain why the hair falls and how to prevent and cure it. Many of the suggestions are very practical, and the subdivisions of the subject are scientific.

A Textbook of Operative Surgery, Covering the Surgical Anatomy and Operative Technique Involved in the Operations in General Surgery. Written for Students and Practitioners. By Warren Stone Bickham, M.D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York. Late Visiting Surgeon to Charity Hospital, New Orleans. Second Edition. New York, Philadelphia, London: W. B. Saunders & Co., 1904.

In the short time that has elapsed since the first edition of this work, there has very naturally arisen no need for extensive alterations in its text or in the illustrations. A few typographical errors have been corrected, but the book in its entity is practically unchanged.

Medical Diagnosis. A Practical Treatise on Medical Diagnosis for Students and Practitioners, by John H. Musser, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia and Presbyterian Hospitals; Consulting Physician to the Woman's Hospital of Philadelphia and to the West Philadelphia Hospital for Women, to the Rush Hospital for Consumptives and the Jewish Hospital of Philadelphia; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicians; President of the American Medical Association, etc. New (5th) edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1904.

The natural growth of diagnosis of internal disease has been reflected in the various editions of the work before us. In the present edition the author has rearranged the whole book, so that its usefulness has been increased. The older theoretical portions have been condensed to make room for new material, but so great was the amount that another hundred pages had to be added. Not only has the text been enlarged but the illustrations have been doubled in number, including many new colored plates. These cannot be too highly praised, since they teach valuable points with the slightest effort on the part of the reader. The author approaches the subject in the same manner that the clinician approaches his study of a case, and the book has been accordingly divided into sections treating of the historical diagnosis, subjective diagnosis, objective diagnosis, physical diagnosis, and laboratory diagnosis. The smaller and second part treats of special diagnosis, arranged in a manner similar to the textbooks on general medicine.

Bacteriology of Milk. By Harold Swithinbank of the Bacteriological Research Laboratory, Denham, and George Newman, M.D., F.R.S.E., D.P.H., Medical Officer of Health of the Metropolitan Borough of Finsbury, and formerly Demonstrator of Bacteriology in King's College, London. New York: E. P. Dutton & Co., 1903.

The authors have here treated this interesting subject most exhaustively and from every point of view. While questions of preventive medicine and of the control of the milk supply are still open to revision, and comparatively little is known of the relationship between disease in the cow and its transmission to man by means of milk, these questions are here considered in the light of all tho knowledge up to date. Many collateral problems are alse studied that may throw light upon the original questionf Thus investigations were made into the bacteriology o. the air of dairies, milk-shops, bakehouses, workshops, and the open air in town and country. The authors found no exact relationship to exist between percentage of CO_2 in the air and numbers of organisms, although, in a general way, where CO_2. was most largely present, organisms were most numerous. Fermentation in milk is carefully studied, and, in order to give a better understanding of the subject, the process of fermentation, as a whole, is considered. The authors divide this process into two chief kinds: (1) When the action is direct and the chemical changes involved in the process occur only in the presence of a cell, the ferment or cell being described as an *organized ferment;* (2) when the action is indirect and the changes are the result of the presence of a soluble material secreted by the cell, acting apart from the cell, this soluble substance being termed an *unorganized ferment* or *enzyme*. The organized ferments are yeasts, bacteria or vegetable cells allied to them; the enzymes are ferments found in the secretions of highly specialized cells in plants or animals and have their best illustrations in the digestive agents which bring about assimilation of pabulum in the human body. This function is performed in some cases by the enzyme combining with the substance on which it is acting, and then by decomposition yielding the "new" digested substance and regenerating the enzyme; in other cases the enzyme, by its own molecular movement, sets up molecular movement in the substance it is digesting, and thus changes its condition. This is only one example of the many interesting topics constantly being discussed in a way to throw light on the original proposition. Epidemics of various diseases that have been traced to milk are described at length with the methods of contamination. The control of the milk supply by private and public agencies is also exhaustively considered. The book will prove especially interesting to all who are interested in public health problems. The general make-up of the volume, and particularly the plates, are clear and attractive

Railway and Other Accidents with Relation to Injury and Disease of the Nervous System. A Book for Court Use. By Allan McLane Hamilton, M.D., F.R.C.S. New York: Wm. Wood & Co., 1904.

This book, we are told, is intended for lawyers as well as for physicians. In the first and second chapters the disease conditions, or the diseases commonly known as traumatic neurasthenia and hysteria, or traumatic neuroses, are considered under the name of "accident aboulia." The writer has no doubt of the psychic origin of accident aboulia. "The symptoms are those of inaction and disordered cerebration, which need not have a serious pathological explanation, . . . at times the symptoms resemble those of real disease." This would seem to mean that "accident aboulia" is not a real disease. Headache, which is such a conspicuous symptom in these cases, is considered to be dependent upon anæmia (p. 31), although hæmatological studies do not seem to substantiate this statement. "The deeper reflexes may be absent in hysterical hemiplegia," the author says, but the deeper reflexes include the knee-jerks and the ankle-jerks, and we venture to say that these are never absent in hysteria.

The third chapter is devoted to injuries of the cranium and its contents, concussion, compression, and fracture of the skull being briefly discussed. Infective meningeal and cerebral disease and epilepsy are also considered. The fourth chapter deals with traumatic insanity. The author ranks himself with those who believe that head injuries are not frequently the cause of insanity, "yet many irregular psychoses are undoubtedly traumatic." He uses the term "acute dementia," as synonymous with hebephrenia or "a form of the dementia præcox of Pick." In chapter 5 injuries of the vertebral column and its contents are considered, the symptomatology of cord lesions being discussed briefly. Dr. Hamilton has never met a case of spinal progressive muscular atrophy which could be attributed to trauma, but he accepts "the possibility of a locomotor ataxia which may very closely resemble the form universally supposed to be so distinct an entity." In chapter 6 peripheral nerve injuries are discussed. This contains a great amount of tabulated matter about the nerves and muscles, their relations and distribution, which requires close study to comprehend. The concluding chapters are devoted to "Examination and the Possibility of Error," "Prognosis in Relation to Verdict," and "Fraud." The book contains a glossary for the aid of the non-medical reader, for the lawyer for whose guidance, as the title implies, the work is largely intended.

Society Reports.

AMERICAN THERAPEUTIC SOCIETY.

Fifth Annual Meeting, Held in New York City, June 2, 3, and 4, 1904.

(Special Report to the MEDICAL RECORD.)

THE meeting was called to order by President Howard H. Barker of Washington. After prayer by Rev. Thomas C. Easton, D.D., Reynold W. Wilcox of New York delivered the address of welcome to the visiting members. D. Olin Leech of Washington responded in appropriate terms. After the regular order of business had been transacted, the president delivered his annual address.

Presidential Address.—Dr. H. H. BARKER of Washington, D. C., reviewed the progress of therapeutics during the last year He first pointed out obstacles to such progress, viz., the prevalence of nostrums and proprietary remedies, and their exploitation by the press and the profession. He entered a protest against this practice, and discussed the ethics of the use of patent and proprietary medicines. A second obstacle was the growing evil of quackery. Quacks have multiplied *pari passu* with the adoption of medical practice acts, and probably in consequence of them. Such acts have been so loosely drawn that they might be construed as merely prohibiting the use of drugs—or the courts have so construed them—showing thereby that they were alarmingly ignorant of the true meaning of the term practice of medicine. Several decisions were cited in support of this statement. Dr. Barker protested against such a construction of the law, and urged that all who claimed to treat disease in any way whatsoever should be required to comply with the spirit of the law. A united effort on the part of the profession would remove these obstacles by disseminating wholesome information among physicians, medical students, and the laity. The following method of procedure was suggested: "(1) Discourage the advertisement of patent and proprietary medicines in the medical journals by withdrawing support from such as persist in accepting them. (2) Change patent and copyright laws so as to deprive such preparations of the protection of the law. (3) Secure the adoption and enforcement of just and uniform medical practice acts, and see that the phraseology of such laws is in no way ambiguous." Dr. Barker next considered recent advances in the etiology, diagnosis, and treatment of tuberculosis. The paper concluded with a discussion of recent advances in treatment by antitoxic sera, and by organic extracts, particularly those derived from the suprarenal capsule.

Symposium on Recent Advances in Anæsthesia.—Dr. R. W. WILCOX of New York referred to the discovery of ether anæsthesia and its first public demonstration in 1846 by W. G. T. Morton. Until that day no discovery in therapeutics had stood out in bold relief; since then, the discovery of asepsis alone was of importance comparable to the boon given to the world by Morton. Asepsis was a necessary corollary of anæsthesia. After lauding the beneficent effects of anæsthesia, Dr. Wilcox suggested the following points for discussion: (1) Of what avail is the enormous number of facts ascertained concerning anæsthesia, if the future anæsthetist is not to receive a thorough instruction as to the principles deduced from these facts? (2) While the best preparation for anæsthesia is the selection of a competent anæsthetist, has not the consideration of the patient as a subject for anæsthesia received too little attention? (3) Is it not too frequently the case that deaths not apparently intimately associated with anæsthesia have been ascribed to other causes, when a more careful study would have developed a causal relationship? (4) Has not the widespread use of general anæsthesia resulted in a higher death rate than is inseparable from its employment? Under the last heading, Dr. Wilcox urged greater care of the patient. The operating room was no place for lectures upon either the patient or the operation. General anæsthesia was next considered, as regarded, first, individual anæsthetics, and then the various mixtures of ether, chloroform, alcohol, and ethyl chloride. Such mixtures were undesirable, as a rule, on account of the difference in volatility of the ingredients. The paper concluded with a consideration of the latest aspects of local anæsthesia.

Recent Experimental Work on Anæsthesia.—Dr. T. SOLLMANN of Cleveland, in an exhaustive paper, considered the theory of the action of volatile liquid anæsthetics; the histological changes caused by anæsthetics; the dosage of chloroform and the effects of this drug on the heart and vasomotor system; treatment of the accidents of anæsthesia; operations in the excitement stage of ether, and various other topics.

General Advances in Anæsthesia.—Dr. M. F. THOMPSON of Washington, D. C., lauded the beneficence of anæsthesia, drawing a vivid picture of the sufferings of the patient without anæsthesia, and comparing early operations with the painless, deliberate, and thorough operations of to-day. After dealing with the subject historically, Dr. Thompson compared the anæsthetics in common use as to their advantages, disadvantages, indications, contraindications, etc. He spoke especially of nitrous oxide, and contrasted the early methods of making and transporting the gas with the present simply and efficient methods. Administration of the rubber hood was sometimes ineffective because of the admission of air through the moustache of the patient. He commended nitrous oxide-ether anæsthesia in the hands of experienced anæsthetists, but under ordinary circumstances preferred one anæsthetic or the other. Chloroform was next considered: its advantages, disadvantages, method of administration, evil effects, indications, contraindications, etc.; also the use of anæsthetics in labor, particularly chloroform. The paper concluded with a consideration of ethyl chloride as a local and general anæsthetic.

Recent Advances in Local Anæsthesia.—Dr. E. J. KEIPE of Buffalo, N. Y., began with a discussion of the method of action of local anæsthetics. Pressure anæsthesia induced by artificial œdema, as seen in massive infiltration, either alone or with pressure, offered gratifying results. Cocaine and eucaine still held first place as local anæsthetics. Other agents were open to the objection that they were either decidedly toxic, were not sufficiently penetrating, or were too irritating. After speaking of the strong solutions of cocaine formerly deemed necessary, Dr. Keipe noted the gradual diminution in the strength of solution employed down to that used by Schleich. The latest suggestion was that absolute anæsthesia could be secured for certain operations by injections of sterile water alone. In conclusion the author discussed the advantages of combining suprarenal extract with local anæsthetics.

Local Anæsthesia by Cataphoresis and by Pressure.—Dr. W. J. MORTON of New York suggested the term "electric medicamental diffusion," inasmuch as medicaments might, by electric pressure or voltage, be made to enter the sound skin or mucous membrane not only at the cathode but also at the anode of a battery. The subject was first treated historically. Little was really accomplished until the advent of cocaine; since 1886 the method had made rapid strides, and it could now be used efficiently for minor operations and major operations also, if desired. The addition of guaiacol or carbolic acid to the cocaine was an important step, diminishing the time of administration and the amount of current required. Dr. Morton had devised a new form of cataphoric electrode of metal, perforated with drill-holes in order to form honeycomb-like recesses for the fluid, thus providing a continual feed to the blotting-paper intervening between the skin and the metal. After discussing the physical basis for the method, the writer

illustrated the technique and cited an instance in which a nævus, 1 x 3 inches in area, was removed from the breast of a physician under this form of anæsthesia without any pain, the dissections extending to the depth of over an inch. Pressure anæsthesia was produced by forcing anæsthetizing solutions into the tissues by the pressure of vapors or gases, or by mechanical pressure. The method was devised by the speaker, and had become well-nigh universal, he said, in dental practice. A pledget of absorbent cotton, saturated with the anæsthetizing solution, was placed in the cavity of a tooth and closely sealed in with a soft rubber stopping; in a few minutes perfect anæsthesia was produced, so that the operator could excavate or even extract the nerve painlessly. It would seem that the evaporation of the ether forced the anæsthetic into the sensitive tissue of the tooth cavity.

Sterile Water Anæsthesia in the Treatment of Rectal Diseases.—Dr. Samuel G. Gant of New York described his method and illustrated it by a painless operation for prolapsus ani. He began experiments with sterile water in 1901. Recently the technique had been so improved that he used it to the exclusion of general and medicinal local anæsthetics in practically all but capital operations. He had employed it with gratifying results in several hundred operations, particularly about the rectum and lower bowel. The advantages of the method were: "(1) Effective local anæsthesia is easily and quickly obtained, thus saving the patient the annoyance and expense of hospital treatment under general anæsthesia. (2) The anæsthesia is produced instantly, and the operator can work quickly and treat the patient in the office. (3) Absence of complications and sequelæ. (4) Less pain and bleeding than when medicinal anæsthetics are used. (5) It eliminates the danger to life through complications which may follow general anæsthetics, as also the pain and hemorrhage due to straining and vomiting after general anæsthesia. (6) The only requirements are a hypodermic syringe, a suitable needle, and boiled water. (7) The radical treatment of hemorrhoids can be so easily carried out by the physician in his office, with so little danger and inconvenience to the patient, that it should relegate to oblivion the much vaunted injection treatment, which is so dangerous and uncertain." In conclusion, the paper dealt with the indications and contraindications of the method.

The Medical Treatment of Appendicitis.—Dr. A. J. Hall of Washington, D. C., believed that so many cases recover without surgical interference that therapeutics had not received the credit to which it was entitled. Appendicitis might be treated medically with a fair proportion of as good results as those obtained by the surgeon, the proportion of recoveries being so large that the physician could safely count upon successfully carrying his patient through the first and second acute attacks. The proposition to operate should be considered in the interval between the second and prospective third attacks. He presented statistics in favor of this view. This included every variety, from the mild "catarrhal" to the severest "pus" cases. His treatment was as follows: Rest in bed; hot poultices to the abdomen; liquid diet, mainly milk, 4 to 6 oz. daily; internally, the arsenite of copper and creosote; no purgatives nor opiates. His conclusions were that (1) the tendency in appendicitis was toward recovery; (2) all acute cases should be treated medically until, after mature deliberation, it was shown that operation offered a better prospect for recovery; (3) in recurrent cases operation should be advised in the interval after recovery from the second attack.

Dr. O. T. Osborne of New Haven spoke from a medical standpoint, but believed that one should always consider appendicitis a surgical disease. It might be necessary to consider operation at the very first attack. One could never tell from the severity of the symptoms the extent of the abdominal lesions, and anything but a little "flare-up" should be considered by surgeon and physician together. He reviewed the symptoms which, in his opinion, would call for an operation.

Dr. Leonard Weber of New York agreed with Dr. Osborne. Medical treatment did not cure appendicitis; the patients might get well, but there was always a probability of recurrence. He discussed the indications for operation. The question as to the best time for operating must be answered according to the merits of each case. He did not hesitate when there was much pain and swelling to give a small hypodermic of morphine.

Dr. D. Olin Leech of Washington, D. C., said that appendicitis was a surgical disease, and should be so treated. He did not believe that a case was ever cured by medicine alone, and the physician who temporized, and treated the patient by this means alone, was liable to make a serious mistake. The patient with appendicitis was like a man with a stick of dynamite in his pocket, one could never tell when there would be an explosion.

Dr. Carl Beck of New York spoke of the treachery and uncertainty of appendicitis as a distinguishing feature. One could not tell from the symptoms the severity of the abdominal lesions, and mild cases often suddenly became grave Some patients recovered without operation, but how was one to tell which would recover and which would die? No case was really mild, in view of this uncertainty, and one should choose the lesser of two evils and operate early.

The Need of Revising Our Ideas of Stimulation.—Dr. E. H. Long of Buffalo said that in view of the more exact knowledge of the action of drugs upon the system which obtains to-day, we could not employ the term stimulation as meaning always a definite and invariable kind of influence or phenomenon. Several factors related to this proposition: (1) a confusion of terms; physiological action and therapeutic effect were often confused; (2) a difference of view-point, *e.g.* that of the pharmacologist and clinician; (3) the factor of inhibition. He suggested the following classification of stimulants: (1) Agents that increase the irritability of nerve centers, or the conductivity of nerve fibers, thus increasing the potential of function, *e.g.* strychnine. (2) Agents that determine a more rapid or more powerful discharge of energy in the activity of a function, thus converting potential into kinetic energy, *e.g.* members of the digitalis group. (3) Agents that depress the nerves or nerve centers which exercise a restraining or inhibitory influence over an organ, thus allowing greater freedom of activity in its function, *e.g.* glonoin. A stimulant might be defined as any agent that increased temporarily the efficiency of a function by improving its innervation or increasing the activity of the organ or by lessening the restraint upon its action.

The Treatment of Chronic Colitis.—Dr. Jesse Shoup of Washington, D. C., after referring briefly to etiology and symptomatology, stated that he never saw a case of chronic colitis in which gastroptosis or enteroptosis was not present. Such defects should be remedied at the outset. He outlined the treatment as follows: "(1) Treat the attack of pain which precedes the passage of mucus by a hypodermic of morphine with atropine, and promote thorough evacuation of the bowels by giving large doses of castor oil by the mouth, and high enemata of oils or alkaline solutions. (2) Prescribe a carefully selected diet to suit the individual case, after a chemical examination of the stomach contents has been made. (3) Assist digestion, and allay fermentation. (4) Keep the bowels open by oils given by the mouth (the oil acts both as laxative and lubricant). (5) Apply a suitable support to overcome any ptosis of the abdominal organs (6) Treat locally by astringent enemata and oils. (7) Secure rest in the recumbent position, and where practical, change to the air of mountain or seashore."

The Etiology and Treatment of Arteriosclerosis.—Dr. O. T. Osborne of New Haven, after stating that a modification in the quality of the blood or a change in blood

pressure played an important part in all of the causes that had been assigned for generalized arteriosclerosis, emphasized the importance of a disturbance in the function of the ductless glands as the prime factor in the production of the disease. The gradual sclerosis which came on as age advanced was due to a natural increase in arterial tension and blood pressure, and this in turn he believed to be due largely to a modification in the function of the ductless glands. After discussing the function of each of these glands, he concluded that the thyroid furnished vasodilator material, and the suprarenals vasoconstrictor material, and any marked change in blood pressure, in the absence of drug stimulation, must be due to diminution of thyroid secretion or increase of suprarenal secretion, or both. After the age of fifty the thyroid secretion gradually diminished, the blood pressure gradually rose, and there was an increasing tendency to sclerosis, until, in old age, when the thyroid had atrophied and blood tension was at its highest, arteriosclerosis was in evidence. The only other hypothesis must be the possibility of some irritant in the blood which either stimulated the vasomoter centers to keep up peripheral contraction, or finally caused a slow-going endarteritis with resulting arteriosclerosis. So long as there was an adequate compensatory hypertrophy and an increased power of propulsion of the blood, the individual had no trouble; but when this muscular power was upset in any way, significant symptoms arose, which, if recognized as indicating a coming arteriosclerosis, would enable the physician so to treat his patient that the disease might be postponed for years. He should eat less, drink less, take regulated exercise to get more blood into his muscles and relieve the arteries, take regularly a period of business rest, and perhaps some proper medication. The patients could not, however, as a rule stand large doses of arterial depressors without complaining of malaise. The author referred to the following accepted causes of arteriosclerosis: Nervous strain, with its resulting increase of blood pressure, due to pressure of business, exciting diversions, etc. Overeating, which produced arteriosclerosis by causing the absorption of toxins from imperfectly digested food, thus irritating the blood-vessels to contract and causing endarteritis, or possibly, the toxins might irritate the suprarenals to increased action. Alcoholism tended to cause atrophy of the thyroid with a resulting diminution of vasodilator secretion. Severe and prolonged muscular exercise tended to produce increased arterial pressure, and hence, arteriosclerosis. Syphilis could not be declared a cause of arteriosclerosis until we had separated its results from those of the chronic action of mercury. The alteratives acted by modifying the secretions of the ductless glands; the metals interfered with the action of the thyroid; the prolonged administration of mercury caused atrophy of the thyroid with increased arterial tension, and connective-tissue formations. Lead, in chronic poisoning, acted in the same way. In renal insufficiency the blood tension because relatively high, and there was a tendency to arteriosclerosis. The gouty diathesis was also attended with increased arterial tension. He suggested, as a cause of gout, a disturbance of suprarenal secretion, perhaps an increase of it. Treatment, to be successful, must aim to diminish the high blood pressure. This could well be accomplished by thyroid extract or the iodides in small doses, if we believed that the thyroid secretion was diminished. Diet, exercise, rest, and other hygienic factors should receive careful attention, and directions should be given for the avoidance of causes tending to produce high arterial tension. The paper closed with the suggestion that it was possible that in the future one of the suprarenals might be removed, or its artery tied for the relief of gout or arteriosclerosis.

Dr. J. N. Hall of Denver spoke of severe muscular exercise as an etiological factor. He cited the case of a man who had to walk seven hundred miles over mountains, with a pack on his back; he did it in twenty days, apparently without harm. But at the age of forty-one, six years later, he had a marked arteriosclerosis with mitral symptoms. He commended aconite as the best remedy in most cases.

Dr. L. Weber of New York spoke particularly of arteriosclerosis of the heart and kidneys. He drew a distinction between the affection in old age and that which came on earlier in life: the latter was abnormal and dangerous, inasmuch as it was associated with organic changes. Syphilis, gout, and alcoholism were the most important causes of premature arteriosclerosis. A syphilitic was more liable than others to have arteriosclerosis. Moderate doses of iodide give the best result; it acted as a poison to the mushroom growth of cell infiltration which was at the bottom of the syphilitic endarteritis. Gouty cases were benefited by sodium iodide. Patients with interstitial nephritis returning from watering-places where they had been drinking an excess of water did badly; the excess was not beneficial, but harmful. Finally, no matter how much work a man was forced to do, unless some underlying disorder was present he was not likely to have arteriosclerosis, as if this factor was present.

Symposium, the Combat with Infection. Infection and Immunity.—Dr. T. E. Satterthwaite of New York first considered the subject historically, giving credit to the discoverers whose names figured prominently in the domain of bacteriology. He then discussed the germs which caused the different infectious diseases, and classified them as bacteria, fungi, and protozoa. After speaking of the products of germ growth, and contagion as contrasted with infection, the paper dealt with the subject of human as compared with animal infection. The behavior of an animal toward an infection varied according to the species, the individual, and the circumstances. Hence there was liable to be a wide difference between the human disease and the experimental disease of animals as to both symptoms and lesions. As an example he mentioned tuberculosis. The lesions were very unlike in men and animals. In 1896 Theobald Smith noted also a difference between the bacilli. The writer next dealt with immunity, natural, acquired, and inherited. He recognized two varieties of the acquired form, active and passive. Active immunity was such as was caused by one attack of an infectious disease, small doses of virulent cultures, etc. Passive immunity was a condition such as that produced by serum therapy, the individual inoculated with the antitoxin sharing the immunity passively with the animal from which the antitoxin was drawn. Mixed infection was next considered, and then curative sera and their preparation and standardization, and finally agglutination tests. The paper closed with a discussion of the various theories of immunity: (1) the exhaustion theory; (2) the retention theory; (3) the phagocytic theory; (4) the humoral theory; (5) the cellulohumoral theory, which sought to unite the theories of the phagocytic and humoral schools. Ehrlich's side-chain theory was considered, the author concluding that while it had met with opposition, and would doubtless be modified to meet reasonable objections, it was convenient for us to accept it provisionally as a good working hypothesis that would be helpful in discovering the principles that governed immunity, whatever they might be.

Antisepsis in Internal Medicine.—Dr. J. N. Hall of Denver spoke of the advances of the last decade. They had been more marked in surgery than in medicine. After discussing the efficacy of the various antitoxins, the author considered antisepsis in digestive diseases. He emphasized the fact that the hydrochloric acid of the gastric juice was the natural antiseptic at the gateway to the system, minimizing the danger of infection. The reported hyperacidity of the digestive fluids of carion-eating birds was significant in this connection. The administration of hydrochloric acid in typhoid fever was based upon two foundations: it supplied a digestive ingredient lessened by the fever, and it tended to prevent the growth of organisms

in the intestines of the patient weakened by fever. Intestinal antisepsis was next considered. Failure to obtain the results once confidently expected in typhoid fever might have been foreseen. We might be able to modify the symptoms arising from the absorption of toxins, but the bacilli established in the spleen, mesenteric glands, or even the meninges, must also be dealt with; we could scarcely cure a typhoid meningitis by the exhibition of an intestinal antiseptic. After a caution as to the abuse of remedies of this class, the author turned to antisepsis of the genitourinary tract. Here success had been more marked. Typhoid and colon bacilli in the urine had been made to disappear rapidly by the use of internal remedies. There was good ground for hope that we might yet find an intestinal antiseptic as efficacious as some of our urinary antiseptics. Turning to respiratory disorders, the author considered tuberculosis at length. Creosote and its congeners acted by rendering the soil unsuitable as a culture ground rather than directly as germicides. He found antistreptococcus serum disappointing in cases of mixed infection. In a case of "streptococcus consumption," however, it promptly caused the disappearance of the germs. Intravenous injections of dilute formaldehyde solution were very painful and produced no obvious good results. The paper concluded with a consideration of the efficacy of certain silver salts as internal antiseptics.

Protective Inoculation.—Dr. G. F. Butler of Alma, Mich., said that in its development, inoculation had followed the lines of folk-lore in which human sacrifice became modified into animal before passing into the mere symbol. Through this line of evolution all therapeutics and pathology had passed in the employment of animals to determine certain effects on human beings. One element of error existed, particularly in case of protective inoculations. the difference between man and animals were ignored, while in the cultivation of an alleged microbe Koch's law was ignored. The microbe or protozoon found with a disease was regarded as the cause, and was cultivated to produce a serum. A given hypothesis, however, to be accepted must not only explain all of the facts, but must exclude all other explanations. Hence this requirement was set at defiance, and the possible was but too often taken for the real. Microbes and protozoa were not the same biologically or nosologically. The history of smallpox protective inoculations demonstrated the line of research to be followed in the evolution of future systems of inoculation. In studying protective inoculation, comparative medicine first demanded thought. The writer called attention to the difference between the manifestations of disease and bacteriological effects in different classes of organisms, *e.g.* animals and man. He discussed Ehrlich's theory and the subject of mixed infection. Tuberculosis was caused by the tubercle bacillus, the pneumococcus, the Pfeiffer-Canon bacillus, and pus cocci. Furthermore, tuberculosis of cattle differed from that of man. To meet all of these factors by inoculation was a difficult problem. He concludes: "The problem of protective inoculation, therefore, implies a study of comparative medicine with the variation between man and animal taken into account, but also, a careful study of the hygiene and prophylaxis of the animal employed and of the human being, before, during, and after inoculation."

Dr. E. H. Long commended the papers as being interesting and instructive. For the general practitioner as much could be gained by the use of intestinal antiseptics as from gastric examination and treatment based upon it. Fermentation, due to factors hindering digestion, was the great difficulty rather than deficient digestive power. Intestinal antiseptics could only modify the severity of typhoid fever, and according to his experience bismuth, creosote, naphtol, and salol were most reliable. Conclusions concerning the efficacy of antistreptococcus and antipneumococcus serum were as yet immature and not final. He mentioned two cases in which these serums were given for scarlet fever and pneumonia respectively with the result that they saved the patients lives.

Dr. O. T. Osborne commended the use of hydrochloric acid in typhoid fever. Formerly he gave a diet without salt; this was a mistake, as it produced almost an absence of the acid in the stomach. He also commended the use of intestinal antiseptics. Salol should not be given in large doses, or long, without daily examinations of the urine for albumin, and if this were found, the salol should be discontinued. Acute rheumatism he believes to be an infection starting from the bowel; hence the advantage of the salicylates. Arsenic gave good results in pernicious anæmia, but its administration should not be pushed either in this affection, or in leukæmia. The evil effects of creosote upon the digestive organs often more than off-set its beneficial effects.

Dr. T. E. Satterthwaite expressed pleasure that the use of intestinal antiseptics had been endorsed by the speakers. He had often been obliged to defend their administration. He advocated bismuth and hydrochloric acid in typhoid fever. He used them first in a great epidemic and got better results than from any other method of treatment. The value of antistreptococcus serum was still under consideration, and he was glad to hear that it had met with some success.

Arthritis Deformans and Its Treatment.—Dr. L. Kolipinski of Washington, D. C., after speaking briefly of etiology and symptoms, recommended treatment under the following headings: (1) relief from pain; (2) correction of stiffness, rigidity, and contractures; (3) increase of the muscular strength; (4) cure of the anæmia, (5) increase, when necessary, of the body weight; (6) treatment of the heart. To accomplish these ends three agencies were necessary, no one or two of which would suffice: for the pain, anæmia, weak pulse, and malnutrition, arsenic; for stiffness, contracture, and muscular atrophy, voluntary exercise; for the weakness, loss of weight, and pain, improvement of the nutrition by increase and selection of the food supply. The arsenic must be used for a year or more. It might be given in the form of Fowler's solution, the arsenite of zinc, or hypodermic injections of the acid, according to the variety and indications. He lay special stress upon the value of voluntary exercise and dietetic treatment. The diet should be liberal, varied, and mixed.

The meeting closed with a symposium upon "Recent Advances in Special Therapeutics." The following members read papers: Drs. D. B. St. John Roosa of New York, Carl Beck of New York, Solomon Solis Cohen of Philadelphia, W. J. Morton of New York, Russell A. Hibbs of New York, E. B. Bronson of New York, Charles H. Knight of New York, James Pederson of New York, and Noble P. Barnes of Washington.

Officers.—The following officers were selected for the coming year: *President*, Oliver T. Osborne of New Haven; *Vice-Presidents*, J. N. Hall of Denver, Carl Beck of New York, and John V. Shoemaker of Philadelphia; *Secretary*, Noble P. Barnes of Washington, D. C.; *Treasurer*, John S. McLain of Washington, D. C.; *Recorder*, William M. Sprigg of Washington, D. C.; *Curator*, George C. Ober of Washington, D. C.

Light Treatment after Sensibilization.—Dreyer says that we can render sensitive yellow and green luminous rays in bacteria and infusoria by adding a little erythrosine to their nutrium medium. In lupus this application permits a deeper action and with more prompt effect than the ordinary method of treatment. He employs solution of one to one thousand of Grubler's erythrosine in physiological salt solution. Subcutaneous injections are made from half a gram to a gram, and exposure to light is made four to eight hours after the injection.—*Dermatologische Zeitschrift.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held May 17, 1904.

DR. CHARLES H. LEWIS, CHAIRMAN.

Notes on Some Uncommon Forms of Nervous Diseases.—Dr. L. PIERCE CLARK read this paper (see page 121).

The Modern Tuberculosis Dispensary, with a Report from the Health Department.—Dr. S. A. KNOPF read this paper (see page 125).

Dispensary Treatment of Tuberculosis at Gouverneur Hospital.—Dr. STELLA J. BRADFORD read this paper. She stated that prior to October, 1903, there had been no separate clinic for the treatment of tuberculosis under any city jurisdiction and she reviewed what had been done at that time. In October Dr. Seamore asked that a separate clinic be formed and in January appointments were made. This separate clinic had now been in existence for seven months, and Dr. Bradford reported observations and the results obtained from systematic treatment of these patients, numbering ninety-two. Only one room was available for this work, and unfortunately there were as many as ten or fifteen people in this room at once. Of this number, diagnosed as tuberculous, sixty were males and thirty-two females. The range of ages was large but the largest number was between the fourth and fifth decades. Regarding nationality, Americans were only second to the Russians. The histories given by these patients showed the principal symptom to be cough in 77, weakness in 35, pain in the chest in 16, hemorrhages in 10, etc. The symptoms were, as a rule, fairly classical. The sputa in 54 per cent. gave positive diagnosis. The treatment was a very simple one. Full histories were taken on blanks furnished them and a thorough physical examination, including measurements, was made. Hygienic treatment was emphasized and methods for prophylaxis were taught. For a stimulant and tonic strychnine was depended upon. Heroin was relied upon to control the cough; it was given in aqueous solution, 1-24th of a grain four times a day, and the dose was increased according to indications. Of the 92 cases 49 presented themselves with fair regularity; 8 were in the hospital, 2 in the country, and 1 under the care of a private doctor. The remaining 32 were referred to hospitals, but there was no way of learning whether they went or not. Twenty-six gained in weight averaging four pounds; 13 lost weight averaging $2\frac{1}{4}$ pounds. Many difficulties were experienced in treating these cases. They were not able to provide milk or eggs and they had no specially trained nurses. Dr. Bradford referred to the great importance of teaching children the dangers of the disease. Work should be provided for those who were able and willing to work.

Dispensary Treatment of Tuberculosis at Vanderbilt Clinic.—Dr. LINSEY R. WILLIAMS said that, at this clinic, they dealt almost entirely with advanced cases of tuberculosis and among the very poor and a great many difficulties were encountered in obtaining cures. This special work, he said, was begun by Dr. Miller in 1893. An important part of the treatment consisted in gaining the confidence of the patients; they were then informed what the disease was, the value of rest, ventilation, etc., and its dangers, and how avoided. Records were made of the temperature, pulse, respirations, weight, and the amount of food taken and work done. District nursing was made possible by donations from Mrs. Vanderbilt. A nurse visited the homes of those afflicted with the disease, left slips, etc. As many as 225 to 250 calls a month had been made on 125 patients. Beginning May 1, 118 people a week were visited. Practically no incipient cases were encountered. Through the kindness of Dr. James a small fund was obtained with which to provide printed slips and sputum boxes. No milk or eggs could be supplied them, but the Charity Organization Society aided them greatly in their work. The Board of Health examined the sputa and gave fumigations. The work was as yet small, but they reached a great many people.

Dispensary Treatment of Tuberculosis at Bellevue Hospital.—Dr. JAMES A. MILLER said that this work was opened in December, 1903, and he considered the work done under five headings as follows:

1. Careful medical attention in special clinic by experienced physicians was given. These patients were sent into a special room where the temperature, pulse, respirations, chest measurements and weight with the patient stripped to the waist were taken. If they were found to be afflicted with tuberculosis the name and address were taken and given the nurse for visitation. The sputum was sent to the Health Board for examination. Printed circulars and other instruction was given them and the diet dwelt upon. Milk and eggs were provided if too poor to buy them, and but little attention was paid to any medication. Pocket sputum box was given the patient and the patient was then requested to return once a week.

2. A thorough investigation of the home conditions by a special nurse was made. At Bellevue there were two such nurses. After they had made thorough inspections of the homes a report was made. An attempt was made to arrange the whole domestic economy of the home and practical disinfection was demonstrated.

3. Proper education of the patient and his family in regard to hygiene and the prevention of the spread of infection was attempted and circulars of information given.

4. A study of the social and economic conditions as obtained in each case was made, and upon this was based the method of management of the case. They kept in close touch with sanatoria and hospitals and charitable organizations, such as the Charity Organization Society, etc. Milk and eggs were provided from the hospital store. Tents and cottages had been placed upon the hospital grounds.

5. An opportunity for scientific investigation and clinical study was thus afforded for doctors and students.

During seven months they had had 166 cases; the small number was due to the fact that part of the time the out-door department was closed. About 40 new cases a month came in. These patients made 667 visits to the clinic; the nurses made 411 visits to their homes. Of this number, 166, 28 were not found. Sixty-seven cases had been sent to the hospital. May 1 there were 71 cases under observation. In 122 instances help was given, the help coming sometimes from different sources. A total of 2544 quarts of milk was given away at a cost of about $127 and 495 dozen eggs at a cost of $108, a total cost for milk and eggs of $235.

Dispensary Treatment of Tuberculosis at the Throat, Nose, and Lung Hospital.—Dr. J. L. BARTON said that this special department was organized in 1891 and incorporated in 1893, and this clinic for the treatment of tuberculosis was rather unique in that it used the cabinet and gave Koch's tuberculin; otherwise it differed but little from other clinics of same nature. The experience of ten years in this work was encouraging and, in a large number of cases, the disease was arrested. The result of their work warranted him in giving the following conclusions:

(1) Tuberculosis, as a rule, was contracted by those who were suffering from malnutrition; (2) each case *sui generis* was treated without any idea of attaining the Utopian; (3) any clinical division of the disease seemed unimportant; (4) patients in the incipient stages and those whose vitality was not exhausted not only improved but got well; (5) a very large proportion of those afflicted with the disease need not leave their homes or places of business; (6) every form of treatment was of value when used as an adjunct; (7) well

organized clinics with trained district nurses will do more to eradicate the disease than can be done in any other way; (8) hospitals should be provided for those having no means; advanced cases were likely to be centers of infection; (9) the greatest cause of the spread of tuberculosis was malnutrition; (10) an optimistic attitude on the part of the physician was necessary to success; (11) people should be taught how to live, including self-control.

Use of the X-ray in the New York Health Department.—Dr. C. T. Graham Rogers contributed this paper to the symposium. He said that a method for detecting tuberculosis in its early stages was much needed, and efforts in this direction should not be condemned. Before undertaking the study of diseased pulmonary conditions fluoroscopical charts of normal chests should be carefully studied. The doctor then described his technique. The right apex did not appear as distinctly as the left. The action of the diaphragm was very well marked. In incipient stages of the disease, with slight infiltration, it appeared merely as a haze and, as the disease progressed, the haze changed to a shadow showing consolidation. Many cases showed a thickened pleura. Limitation of cavities could be shown. In cases of miliary tuberculosis the appearance was mottled. Certain restrictions to the movements of the diaphragm should lead to very careful examinations. The physical examinations of the chest were always made with special reference to the fluoroscopical markings. Good effects were to be had not only from the influence of the rays but also from the inhalation of ozone. Among the seventy-one cases, thirty had been *x*-rayed, each patient coming three times a week; this would relieve the pain and, in some cases, the cough and the patients were helped also, because they knew that something was being done for them besides the giving of medicines internally. As a result of his observations he stated that the *x*-ray may aid in the recognition of the disease in its early stages; that the development and inhalation of ozone was a factor in the treatment; that the psychic effect was of great value.

Dr. John H. Huddleston said that the oldest line of work in the treatment of the ambulatory cases of tuberculosis was shown in New York City dispensaries, and to-day those afflicted with the disease were better off in the city, under the care of competent physicians, than if they were sent away to an excellent climate without the trained direction of competent physicians. He said that few realized how very young this work was, dating as it did to 1895 in one instance, and to 1904; October, 1903; early part of 1903; December, 1903 and 1904, the figures given by the readers of the papers. More than 5,000 consumptives were supposed to be under control, and these people were being properly treated and instructed, being made centers of instruction rather than centers of infection. The disease was a chronic one, and the successful treatment of it depended largely upon the personality of the physician, and just so much as the physician can command obedience just so much could the patients be helped. He emphasized the fact that what is *told* the patient is remembered and not what is written. Nurses should be provided wherever possible to see that the physicians instructions were being faithfully carried out.

Dr. George William Beach of Binghamton said that similar work had just been started in Binghamton and as yet nothing had been accomplished In his city, although there were no tenements, the conditions were just as bad, for frequently ten or more people slept in the same room in the cottages.

Dr. John L. Barton said that he never sent patients away now unless they wished to go, because they could be made to do just as well here, if not better. He also did not place much importance upon stomach medication.

Dr. J. Finley Bell of Englewood said that frequently the good result of a sojourn in the Adirondacks was lost, because too much dependence was placed upon living in a certain locality; there was too much insistence upon climatic conditions to the neglect of other features in the treatment of these sufferers.

Dr. S. A. Knopf, in closing the discussion, said that while Dr. Rogers had read an admirable paper on the use of the *x*-rays as a means of early diagnosis and as a therapeutic adjuvant in certain cases, he had failed to speak of the *x*-rays as a valuable means to make a prognosis. Dr. Knopf thought that a large area of perfectly transparent pulmonary tissue, revealed by the fluoroscope, was a justification for making a favorable prognosis, particularly when there were other concomitant favorable symptoms. He thought the fluoroscope of greatest diagnostic value in cases in which the tuberculous deposits were disseminated here and there through the lungs, and too small to be discovered by the ordinary physical means of examination. In interpreting an ordinary shadow one should always think of the possibility of a thickened pleura, an old pneumonia, or new growths of other than tuberculous character (carcinoma, echinococcus cysts, etc.).

The remarks made by the various speakers about the advisability of treating all patients in New York City who do not themselves insist upon going away, Dr. Knopf said he wished to endorse with some qualifications. He had always maintained that the majority of patients, who are the poor and the laboring classes, should be treated in the same or nearly the same climate in which they would have to live and labor after their restoration to health. This, however, did not mean that we should be nihilists in regard to climatotherapy. Climate and altitude were certainly valuable adjuvants to the hygienic and dietetic treatment of consumptives, and there was no doubt that the majority of patients did better at an altitude of from 300 to 1,500 feet, or even more, when under proper medical supervision. Quiet, peaceful, natural surroundings, a great deal of sunshine, and a dust-free atmosphere were conditions which were not easily obtained in the city of New York—at least, not for the majority of patients. While great climatic changes were not necessary, Dr. Knopf firmly believed that sanatoria situated at not too great a distance from large centers of population, but in particularly healthful country districts, would give better results than when located in the city. The relative proximity to the former home of the patient would exclude nostalgia, which was so often a depressing factor when patients went to far-off health resorts.

Conference of State and Provincial Boards of Health.

The nineteenth annual conference of State and Provincial Boards of Health of North America was held at the New Willard Hotel, Washington, D. C., June 3 and 4, 1904. After the president of the conference, Dr. J. N. Hurty of Indianapolis, had delivered his annual address, the secretary, Dr. Gardner T. Swarts of Providence, R. I., presented his report, and also the report of the treasurer, in the absence of the latter. Dr. John S. Fulton of Baltimore, Md., submitted the report of the committee appointed to investigate and report as to an approved disinfectant to be used by licensed embalmers when transporting bodies. The reports recommended the use of bichloride of mercury 1-1000, and formaldehyde ten-per-cent. solution, for use on the exterior of the body and wrappings. The report of the committee was adopted, and the committee continued for a further report at the next annual meeting.

The committee, which had under consideration the question of affiliation with the American Medical Association, presented its report through Dr. Henry D. Holton. For several reasons, the committee thought that the interests of the organization could be better subserved by retaining its own identity to the fullest extent. The

report was adopted. There was also considered a resolution which was presented at the Baltimore meeting last year, relative to legislation looking to the prevention of typhoid fever, caused by sewer contamination of oysters. Dr. Swarts reported considerable interest in the matter throughout the country, particularly in New Jersey and California. There was considerable discussion on this subject by Drs. Lee, Fulton, Mitchell, and Lindsley. It was stated that the infection took place after the oyster was removed from the salt water and put into fresh water ponds for the purpose of enlargement by absorption of the water. This water, often contaminated, caused the infection of the oyster. The resolution offered by Dr. J. A. Egan of Springfield, Ill., at the meeting in Baltimore, in 1903, to the effect that measures be taken by boards of health, boards of education, and school authorities to compel legislation looking to the examination of the eyes and ears of all school children, was considered in connection with a paper by Dr. Frank Allport of Chicago. As Dr. Allport was not present, the secretary read his paper.

Dr. C. E. Cooper of Denver, Col., introduced a resolution recommending the disinfection of railway cars and their contents by air pressure. The resolution was freely discussed, then referred to a committee to report at the next meeting of the conference.

Dr. Holton presented the report of the committee to consider the best means of controlling the spread of venereal diseases. The committee prepared a leaflet containing instructions for the patient, which it recommended should be widely distributed. The report of the committee was adopted. In connection with the same subject, Dr. F. C. Valentine of New York City read a carefully prepared paper on the dangers and spread of venereal diseases. On motion, the Committee on Veneral Diseases was continued with the request that everything possible be done to further the work.

A paper prepared by Mr. Henry Clay Weeks, secretary of the National Mosquito Extermination Society, Bayside, L. I., was read by L. O. Howard, Chief Entomologist U. S. Department of Agriculture. Dr. Carl L. Barnes of Chicago discussed disinfectants to be used by undertakers.

The officers elected for the ensuing year were: *President*, Dr. John S. Fulton, Baltimore, Md.; *Vice-President*, Dr. M. K. Foster, San Francisco, Cal.; *Treasurer*, Dr. J. A. Egan, Springfield, Ill.; *Secretary*, Dr. Gardner T. Swarts, Providence, R. I.

Pathological Society of Philadelphia.

At the annual conversational meeting, held April 28, Dr. Milton J. Rosenau, Director of the Hygienic Laboratory of the United States Public Health and Marine Hospital Service, delivered, by invitation, an address entitled "Some Studies in Yellow Fever." He first paid a deserved tribute to the genius of American investigation that is to be credited for the solution of one of the most important problems in the field of trophical medicine. It is true that the cause of yellow fever is as yet undiscovered, but its mode of transmission has been definitely and conclusively established, and as a result a successful means for preventing the dissemination of the disease has been devised and put into practical operation. Jenner has made his own monument in the discovery of vaccination as a preventive of smallpox, Pasteur his in the prevention and treatment of hydrophobia, and Reed and his colleagues theirs in the demonstration that yellow fever is conveyed by the stegomyia fasciata, and that transmission can be prevented by preventing access of this parasite. It was at first thought that the salivary glands of the mosquito played an important part in the transference of the virus of the disease, but it was later found that the œsophageal diverticulum constitutes the intermediating structure in this connection. The most careful microscopical examination and the most painstaking culture experiments failed to disclose any organism that could be considered as the cause of yellow fever. The myxococcidium stegomyiæ was found definitely not to hold this relation, and it was proved to be merely a yeast, of which innumerable varieties prevail in tropical climates. Interesting studies of the yeasts upon various fruits were made. Careful observations, the results of which accorded with those of others, showed that the period of incubation of yellow fever is between three and four days under ordinary conditions—that is, when infection takes place in the customary manner. This of course is a matter of the greatest importance in connection with the public health and the measures to be instituted to prevent the spread of the disease from the sick to the well. In cases of artificial inoculation, however, the period was extremely variable somewhat in accordance with the previous treatment and the mode of inoculation. It was less than two days when infected blood was injected directly into the veins and as long as twelve days when the inoculations were made into persons that had previously received injections of immunizing serum. The disease could be produced by means of serum obtained from the blood of infected persons by sedimentation and passed through a Pasteur-Chamberland filter B. That the bodies passing through such a filter are not necessarily ultramicroscopic was shown by the fact that carbon in the form of India ink passed through and the particles could be demonstrated microscopically. Comparative experiments with malarial blood showed that when inoculations were made with the serum of blood obtained at the height of the paroxysm and promptly defibrinated and filtered a single malarial paroxysm resulted, which it was thought might possibly be due to the malarial toxin. This result was obtained in a case of tertian fever, but failed to take place in a case of estivo-autumnal fever when the blood was obtained in the decline of the febrile paroxysm and the serum was permitted to separate slowly in the refrigerator. Two forms of albumin were found in cases of yellow fever examined from this point of view. The one was ordinary serum-albumin demonstrable with the usual tests and due to the fever and the general intoxication. The other was precipitable by ascetic acid, and was thought to be of cellular origin resulting from the alterations induced in the kidneys. It was again demonstrated that fomites had no influences whatever in the transmission of the disease. If sick and well were kept together, even in the most intimate contact, but the stegomyia was excluded, infection was never transmitted. It was found that a screen with 17 strands of wire and 16 meshes to the inch still permitted the passage of the mosquito, while a screen with 20 strands and 19 meshes prevented its passage. The insects could be made to bite and suck the blood of cadavers dead of yellow fever, but the infectivity of the blood under such circumstances was not marked and the danger of infection from such a source is considerable. Although the insects bite especially by day, they are capable of manifesting their activity by artificial light at night and also in the early morning. The best culicide was found to be sulphur. The stegomyia was shown to be a domestic insect, flourishing in small accumulations of water in yards and about dwellings, as in old tin cans or bottles or jars. Both males and female may live for three months or more.

Liverpool's Enterprise.—The enterprise of Liverpool is a pleasant thing to contemplate in these days of supposed national degeneration. Its School of Tropical Medicine is the most famous in the world; its ambulance system a model for all cities; its new university one of the most active and successful. Its latest development is the founding of the leading school of veterinary science in Great Britain, where the veterinary surgeon can obtain an education as complete as that of the medical student. This means not merely that disease amongst animals will be more successfully prevented than ever, but that highly trained veterinarians will be able to throw much new light upon human ailments.—*The Globe.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

TRANSACTIONS OF THE VERMONT STATE MEDICAL SOCIETY FOR THE YEAR 1904. 8vo, 298 pages, muslin. Free Press Association, Burlington, Vt.

DIE NASALEN REFLEXNEUROSEN UND DIE NORMALEN NASENREFLEXE. Von Dr. A. KUTTNER. 8vo, 252 pages. August Hirschwald, Berlin, Germany.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPICAL AND CHEMICAL METHODS. By Dr. CHARLES E. SIMON. Fifth Edition. 8vo, 695 pages. Illustrated, muslin. Lea Brothers & Co., Philadelphia.

LA GASTRO-ENTEROSTOMIE — HISTOIRE GENERALE, METHODES OPERATOIRES LES CENT CINQUANTE PREMIERES OPERATIONS DE LA CLINIQUE CHIRURGICALE D'ANGERS. Par Dr. A. MONPROFIT. 8vo, 376 pages. Illustrated. Institut International De Bibliographe Scientifique, Paris. Price 15 fr.

ZUR PSYCHOPATHOLOGIE DES ALLTAGSLEBENS (ÜBER VERGESSEN, VERSPRECHEN, VERGREIFEN, ABERGLAUBE UND IRRTUM). Von Prof. Dr. SIGM. FREUD. 8vo, 92 pages. S. Karger, Berlin. Price, 3 M.

FIEBER UND FIEBERBEHANDLUNG. Von Dr. BERGEL. 8vo, 70 pages. S. Karger, Berlin. Price 2 M.

PHYSICAL TRAINING FOR WOMEN BY JAPANESE METHODS. By H. IRVING HANCOCK. 8vo, 152 pages. Illustrated, muslin. G. P. Putnam's Sons, New York.

TWENTY-EIGHTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE NEW JERSEY STATE HOSPITAL AT MORRIS PLAINS, FOR THE YEAR ENDING OCTOBER 31, 1903. 8vo, 122 pages. Illustrated. Sinnickson Chew & Sons Company, Camden, N. J.

HISTOIRE DE LA COCA LA PLANTE DIVINE CDS INCAS. Par Dr. W. GOLDEN MORTIMER. 8vo, 328 pages, illustrated. A. Maloine, Paris.

THIRD ANNUAL REPORT OF THE METROPOLITAN WATER AND SEWERAGE BOARD. January 1, 1904. 8vo, 354 pages. Illustrated. Muslin.

MEDICAL TUBERCULOSIS; ITS RATIONAL AND NATURAL CURE, ITS SEVERAL STAGES, AND ITS RELATIONSHIP TO CANCER. By R. B. SEARLE, L.R.C.P., M.R.C.S., L.S.A. 12mo, 40 pages. The Scientific Press, Ltd., London, England. Price, 1 shilling net.

DIAGNOSIS FROM THE EYE: A NEW ART OF DIAGNOSING WITH PERFECT CERTAINTY FROM THE IRIS OF THE EYE, THE NORMAL AND ABNORMAL CONDITIONS OF THE ORGANISM IN GENERAL, AND OF THE DIFFERENT ORGANS IN PARTICULAR. By HENRY EDWARD LANE, M.D. 8vo, 156 pages. Illustrated. Muslin. Kosmos Publishing Co., Chicago, Ill.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Drs. HOBART AMORY HARE and H. R. M. LANDIS. Vol. 6, No. 2. By various authors. 8vo, 334 pages. Illustrated. Lea Bros. & Co., Philadelphia. Price, $6 per annum.

MODERN OPHTHALMOLOGY: A PRACTICAL TREATISE ON THE ANATOMY, PHYSIOLOGY, AND DISEASES OF THE EYE. By JAMES MOORES BALL, M.D. 8vo, 820 pages. Illustrated. Muslin. F. A. Davis Company, Philadelphia. Price, $7 net.

UNCONSCIOUS THERAPEUTICS: OR, THE PERSONALITY OF THE PHYSICIAN. By ALFRED T. SCHOFIELD, M.D., M.R.C.S. 8vo, 317 pages. Muslin. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $1.50 net.

NEW YORK EYE AND EAR INFIRMARY REPORTS. 8vo, 100 pages. Illustrated. G. P. Putnam's Sons, New York. Price, $1.50.

DIGEST OF RESEARCHES BY LABORATORY WORKERS OF THE SMITH, KLINE & FRENCH COMPANY. Vol. 1. 8vo, 66 pages. Smith, Kline & French Co., Philadelphia.

ARTERIA UTERINA OVARICA: THE UTERO-OVARIAN ARTERY OF THE GENITAL VASCULAR CIRCLE. By BYRON ROBINSON, B.S., M.D. 8vo, 182 pages. Illustrated. Muslin. E. H. Colegrove, Chicago, Ill. Price, $1.

TRAITEMENT DE LA TUBERCULOSE PULMONAIRE PAR LA MÉDICATION INTRA-TRACHEALE. Par Dr. HENRI MENDEL. Introduction by Professor BRISSAUD. Deuxieme Edition. 8vo, 146 pages, illustrated. F. R. de Rudeval, Paris, France. Price, 5 fr.

TRAITÉ DE MÉDECINE. By various authors Volume IX, second edition. 4to, 1092 pages, illustrated. Masson & Cie, Paris. Price, 18 fr.

UEBER IMMUNITÄT BEI SYPHILIS NEBST BEMERKUNGEN ÜBER DIAGNOSTIK UND SEROTHERAPIE DER SYPHILIS. Von Dr. FRANZ NAGELSCHMIDT. 8vo, 70 pages. August Hirschwald, Berlin.

UEBER DEN SCHLUCKMECHANISMUS. Von Professor Dr. JULIUS SCHREIBER. 8vo, illustrated, 91 pages. August Hirschwald, Berlin.

LEHRBUCH DER SPECIELLEN CHIRURGIE FÜR AERTZE UND STUDIRENDE. Von Dr. FRANZ KOENIG. Achte Auflage. Bände 1 and 2. 8vo, illustrated, paper. Band 1, 803 pages. Band 2, 941 pages. August Hirschwald, Berlin.

SEVENTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF OHIO year ending December 31, 1902. 8vo, 508 pages.

LES ACTUALITES MÉDICALES. CHIRURGIE NERVEUSE D'URGENCE. Par le Dr. A. CHIPAULT. 12mo, 96 pages. J. B. Baillière & Fils, Paris, France. Price 1 fr. 50.

THE DEVELOPMENT OF THE HUMAN BODY: A MANUAL OF HUMAN EMBRYOLOGY. By J. PLAYFAIR MCMURRICH, A.M., Ph.D. 8vo, 527 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

A SYSTEM OF PRACTICAL SURGERY. By Drs. E. VON BERGMANN, P. VON BRUNS, and J. VON MIKULICZ. Volume 3, SURGERY OF THE EXTREMITIES. Translated and Edited by WILLIAM T. BULL, M.D., and JOHN B. SOLLEY, M.D. 8vo, 918 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $6.

A CLINICAL HAND-BOOK OF URINE ANALYSIS. By CHARLES H. BEDFORD, D.Sc., M.D. Second edition. 8vo, 172 pages, illustrated, muslin. Bell & Bradfute, Edinburgh.

TRATADO DE GINECOLOGIA. Por Dr. MIGUEL A. FARGAS. Two volumes. I, GENERALIDADES, pp. 1-299. II, ENFERMEDADES DE LA VULVA Y VAGINA, pp. 303-513. 8vo, illustrated, paper. Salvat y Ca, S. en C., Barcelona.

THE THERAPEUTICS OF MINERAL SPRINGS AND CLIMATES. By Dr. I. BURNEY YEO. 8vo, 760 pages, muslin. W. T. Keener & Co., Chicago, Ill. Price, $3.50 net.

DERBY BOROUGH ASYLUM, FIFTEENTH ANNUAL REPORT, 1903. 12mo, 47 pages.

ELECTRO-DIAGNOSIS AND ELECTRO-THERAPEUTICS. By Dr. TOBY COHN. Translated and edited from the second German edition by Dr. FRANCIS A. SCRATCHLEY. 8vo, 280 pages. Illustrated. Muslin. Funk & Wagnalls Company, New York. Price, $2 net.

THE OPHTHALMIC YEAR BOOK: A DIGEST OF THE LITERATURE OF OPHTHALMOLOGY WITH INDEX OF PUBLICATIONS FOR THE YEAR 1903. By EDWARD JACKSON, A.M., M.D. 8vo, 260 pages. Illustrated. Muslin. The Herrick Book & Stationery Company, Denver, Colo.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY, FIFTEENTH SESSION, held at Washington, D. C., May 12, 13, and 14, 1903. Edited by WALTER LESTER CARR, M.D. 8vo, 234 pages. Illustrated. Muslin.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION AT THE FIFTY-NINTH ANNUAL MEETING, Held in Washington, D. C., May 12-15, 1903. 8vo, 507 pages, illustrated.

DER EINFLUSS VON BODEN UND HAUS AUF DIE HÄUFIGKEIT DES KREBSES NACH DETAIL-UNTERSUCHUNGEN IN BAYERN. Von Dr. KARL KOLB. 8vo, 146 pages. J.F. Lehmann, München, Germany. Price, 4 M.

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THE CHRONIC DISEASES: THEIR PECULIAR NATURE AND THEIR HOMŒOPATHIC CURE. By Dr. SAMUEL HAHNEMANN. Translated from the second enlarged edition by Prof. Louis H. Tafel. 8vo, 269 pages, muslin. Boericke & Tafel, Philadelphia. Price, $1.25.

DEPARTMENT OF THE INTERIOR, BUREAU OF GOVERNMENT LABORATORIES. Reports on—SOME PULMONARY LESIONS PRODUCED BY THE BACILLUS OF HEMORRHAGIC SEPTICÆMIA OF CARABOAS. By Dr. PAUL G. WOOLLEY 8vo, 11 pages. I. NEW OR NOTEWORTHY PHILIPPINE PLANTS. II. THE AMERICAN ELEMENT IN THE PHILIPPINE FLORA. By ELMER D. MERRILL, BOTANIST. 8vo, 36 pages. A DICTIONARY OF THE PLANT NAMES OF THE PHILIPPINE ISLANDS. By ELMER D. MERRILL. 8vo, 103 pages. THE GUTTA PERCHA AND RUBBER OF THE PHILIPPINE ISLANDS. By PENOYER L. SHERMAN, Jr., PH.D. 8vo, 43 pages, illustrated.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 16, 1904:

	Cases.	Deaths.
Measles	269	13
Diphtheria and croup	309	41
Scarlet fever	89	7
Smallpox	...	...
Varicella	16	...
Tuberculosis	380	134
Typhoid fever	60	10
Cerebrospinal meningitis	...	23

The Treatment of Simple Goiter by Intraglandular Injections of Iodized Oil.—Dr. Dubar reports a number of successful cases of simple goiter treated with intraglandular injections of iodized oil. He used injections of 1 c.c. once a week, but thinks that this dose could be safely increased.—*Le Progrès Médical.*

A Case of Post-basal Meningitis Due to the Pneumococcus Lanceolatus; Recovery.—J. Porter Parkinson had the following case under his care: The patient, aged two years and two months, was admitted into the hospital with a temperature of 104.8° F., pulse of 141, and respiration 70 a minute. There were definite signs of pneumonic consolidation at the apex of the right lung both before and behind. The child was small for its age, rather fretful, and had some cough. The forehead was rather unduly prominent, and the anterior fontanelle admitted the tip of the finger. There were general signs of rickets. The abdomen was swollen and the liver and spleen were slightly enlarged. There were daily, five or six loose, offensive green stools. About eleven days after entrance to the hospital the rigidity of the muscles at the back of the neck, which had existed for the previous week, was noted to be increasing, drawing the occiput well downward; gradually complete opisthotonos of the trunk muscles supervened. The legs were rigid and extended, while the arms were rigid and flexed at the elbow. The forearms were pronated, while the fingers were flexed over the adducted thumb. The patellar reflexes could just be obtained, and Kernig's sign was not well marked. There was slight bulging of the fontanelle and the fundus of the eye appeared to be normal. Two weeks after the entry to the hospital, half an ounce of clear fluid was withdrawn from the spine by lumbar puncture. It contained a trace of albumin. The Diplococcus lanceolatus with its characteristic capsule was demonstrated. The child's condition remained unchanged for about five weeks, during which time the sight appeared to be lost. The diarrhœa continued, and there was infrequent vomiting. The temperature remained slightly below normal. There was no discharge from the ear and the membranæ tympanorum were normal. After a little over two months' illness the opisthotonos gradually diminished and the sight returned. A little later a voracious appetite developed. The chief interest of the case lies in the fact that the cerebral symptoms, though clinically those of a typical case of posterior basic meningitis, appear to have been due to the Diplococcus lanceolatus and not to the Diplococcus intracellularis, as a pure culture of the former was obtained from the spinal fluid. Although most of the cases of pneumococcal meningitis complicating pneumonia affect chiefly the vertex of the brain and are said to be invariably fatal, this case appears to show that the inflammation may be chronic and situated at the posterior part of the base, and that recovery may be possible. In this case the definite cerebral symptoms did not appear till a fortnight after the commencement of the illness. They were ushered in by a further rise of temperature which continued for ten days, while they lasted six weeks.—*The British Journal of Children's Diseases.*

Middle-ear Disease and Visceral Abscess.—S. MacCuen Smith reports three cases and arrives at the following conclusions: (1) The most notable early symptom was the acute exacerbation of a chronic aural discharge, which, although usually innocuous in character, in a few cases became ichorous, and should have pointed suspiciously to a possible systemic infection. (2) The most constant and characteristic symptom was that of *severe pain* in the *right shoulder* and *neck*, which appeared synchronously with the beginning of hepatic suppuration. (3) The manifestation of pain and tenderness in the right hypochondrium unerringly indicated the liver as the seat of disease. (4) The repeated chills, unusually high temperature, and leaky skin demonstrated that the toxic process was septic in character and likely to prove fatal. (5) The marked accessions and remissions of temperature were typical of an acute suppurative hepatitis or multiple abscess of the liver. (6) While jaundice was a constant factor, it appeared so irregularly as to be of little diagnostic value, save in a confirmatory way. (7) The history of secondary infection in each of these cases is sufficiently clear to warrant the conclusion that a metastatic abscess of the liver, or other viscera, may originate from a suppurative disease of the ear.—*Annals of Otology.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 16, 1904:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, San Francisco	June 26–July 3	1	..
Florida, General	July 2–9	8	1
Illinois, Chicago	July 2–9	11	..
Danville	July 2–9	5	..
Kentucky, Covington	July 2–9	2	..
Massachusetts, Fitchburg	July 2–9	1	..
North Adams	July 2–9	1	..
Michigan, At 79 places	June 25–July 2	(Present)	
Missouri, St. Louis	July 2–9	3	..
Nebraska, Omaha	July 2–9	2	..
South Omaha	July 2–9	2	..
New York, Niagara Falls	July 2–9	..	1
New York	July 2–9	1	..
Ohio, Cincinnati	June 23–July 8	6	1
Zanesville	June 4–July 2	7	..
Pennsylvania, Philadelphia	July 2–9	1	..
Williamsport	July 2–9	1	..
Wisconsin, Milwaukee	June 25–July 8	9	..

SMALLPOX—FOREIGN.

Brazil, Rio de Janeiro	May 22–June 5	291	103
China, Shanghai	May 14–June 14	..	10
Cuba, Habana	June 18–25	..	1
		Source of infection probably imported to case	
Great Britain, Birmingham	June 18–25	1	..
Bristol	June 25–July 2	7	..
Glasgow	June 24–July 1	20	1
London	June 18–25	16	1
Manchester	June 18–25	2	..
New-Castle-on Tyne	June 18–25	12	1
Nottingham	June 11–18	..	6
India, Calcutta	June 4–11	..	1
Karachi	June 5–12	2	2
Java, Batavia	May 14–28	6	..
Mexico, City of Mexico	June 12–26	12	5
Russia, Moscow	June 11–18	18	4
Odessa	June 18–25	1	..
Warsaw	June 11–18	..	22
Straits Settlements, Singapore	May 7–14	..	1
Turkey, Beirut	June 4–11	(Present)	
Constantinople	June 19–20	..	4

YELLOW FEVER.

Brazil, Rio de Janeiro	May 22–June 5	6	2
Mexico, Coatzacoalcos	June 11–25	2	..
Merida	June 18–25	7	2
Tehuantepec	June 19–25	2	1
Vera Cruz	June 25–July 2	5	1

CHOLERA.

India, Bombay	June 7–14	..	2
Calcutta	June 4–11	..	7
Madras	June 4–10	..	1
Turkey, in Asia	June 6	361	210

PLAGUE.

Africa, Cape Colony	May 21–28	1	..
Natal	June 2	(Present)	
Brazil, Bahia	July 9	5	2
Rio de Janeiro	May 22–June 5	3	1
Chile, Arica	July 10	..	1
Antofagasta	May 1–31	..	52
Egypt	May 28–June 14	14	8
		Including 4 cases, 1 death in Alexandria, and 1 case in Port Said.	
India, Bombay	June 7–14	..	63
Calcutta	June 4–11	..	36
Karachi	June 5–12	21	22
Mauritius	Apr. 8–May 5	3	3
Peru, Truillo	July 10	..	1

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AGE AND YOUTH IN MEDICINE.*

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I KNOW nothing more inspiring than a scene like the present. Before me is a company of young women and young men, recruits in the medical army, anxious to press forward to all the dangers, trials, failures, and successes of a medical life to final victory. My career will soon end while yours is just beginning. I look toward the western setting sun, you greet the eastern rising sun. Mine is the past with its splendid accomplishments, its dismal failures, its disheartening, unaccomplished tasks. Yours is the golden future, yours to renew the attack where we have failed and to win the battles that we have lost, yours to fulfil our unaccomplished tasks. Naturally, therefore, the occasion suggests a contrast between myself and yourselves, and, accordingly, I have taken as my topic "Age and Youth in Medicine."

Let me recount briefly some of the wonderful things that I have seen accomplished in the more than three-score years covered by my own life and then glance at what may be in store for you.

First, the geographical and political changes I have seen have been almost kaleidoscopic in their variety and extent.

The map of Europe has been remade. Since 1859, the year that I graduated from the University, Italy has been re-created as a united Kingdom. This new political life has been followed by a wonderful intellectual revival, so that Italian medical science and letters to-day have won an enviable place. Austria has lost her Italian possessions and has been deposed from her Teutonic hegemony. Germany has been created by the welding of two-score states into one imposing Imperial Power. Spain, one of Lord Salisbury's "dying nations," has lost her colonies and her prestige. France has been shorn of Alsace and Lorraine. The Danubian Principalities have taken the first steps toward freedom from the rule of the "unspeakable Turk," the one foul blot still existing on the map of Europe.

The map of Africa has been drawn anew since my boyhood. The "terra incognita" which well described central Africa when I first studied geography, has been explored, and Stanley, its foremost explorer, lies in a new-made grave. The sources of the Nile have been found; the Mountains of the Moon have disappeared. Egypt has been renovated by Anglo-Saxon genius. The boundless resources of tropical Africa have aroused the earth, hunger of European nations until nearly the whole of it has been parcelled out among them. A railroad will shortly connect Cairo and the Cape, and modern steamers will soon ply upon every great river of the Dark Continent.

*Address at the Commencement of the Medical Department of Cornell University, June 8, 1904.

The old map of Asia has been torn in pieces by Russia. Step by step, stealthily, yet steadily, she has encroached upon the various predatory nations of Asia and has made herself master of one after another until it seemed as though everything north of the Himalayas would fall into her capacious maw. But the new map of Asia is now in the making, and in its reconstruction, Japan, thank God, will have much to say; Japan, that wonderful country, which only emerged from feudal seclusion as I was just approaching middle life and entered upon the most remarkable career of national development ever witnessed in historic time.

And, what shall I say of America? True, its boundaries had been enlarged a century ago, but it was still only a vast virgin wilderness, over which roamed the bison, the bear, the Indian, and a few adventurous trappers. In my young manhood Indian wars were of more than annual occurrence, and practically the whole of our little army occupied frontier forts, which now are centers of a busy civilization. The "prairie schooner," slowly creeping across the plains, faintly presaged the Pacific railroads; Chicago was Fort Dearborn when I was born; St. Paul was a village and Minneapolis was a name yet uncoined when I graduated from Brown University; Texas, California, and Alaska were all added in my early years, and even you have seen Hawaii, Porto Rico, and the Philippines become possessions of the Great American Republic

In the arts and sciences that minister to the progress and comfort of man, the changes have been equally rapid and widespread. The railroad and the steamboat were just at the beginning of their marvelous development when I was born. No human face had yet been fixed by the complaisant sun on the plate of the daguerreotype, the ambrotype, or the photograph. The scythe has been replaced by mowing- and reaping-machines; type-setting and printing were done by hand instead of type-setting machines and the swift Hoe printing press. In my childhood days the rag-picker was a familiar figure on the streets, hooking over the piles of waste to find the linen rags from which paper was made, and paper, therefore, was very costly. Now, our forests are ground into paper and the modern penny newspaper has been born. I shall never forget my father's incredulity when he first read of a machine which would do the work of a woman's deft fingers, but the American sewing machine has conquered the world.

In my boyhood, electricity was scarcely known outside of the laboratory. Its marvelous multitudinous uses, to-day barely at the beginning of their development, were utterly unknown. The first commercial telegraphic message was sent in the very year of my birth—now it is one of the daily needs of millions. Its omnipresent wires have scaled mountains, burrowed under the slime of the sea, girdled the earth, and put Puck to shame as a lagging messenger. Even in late years, the telephone, the trolley, the dynamo, the electric lamp,

and wireless telegraphy have all sprung into being as by magic and soon all of our rivers will be harnessed and made subservient to the comfort of mankind.

The human hand, that most perfect instrument, has been almost driven out of the industrial market by various machines which do its work so much more cheaply and often so much better. Metallurgical processes have so cheapened the production of iron, copper, aluminum, and other metals that whereas a few years ago their use was impossible on account of their cost, they are now common household implements.

When I was in college, the so-called Fraunhofer lines were simply a curious phenomenon in the solar spectrum; yet, a few years later, they furnished us with a chemical analysis not only of the sun, but of far distant comets and nebulæ, and have determined even the velocity of light from the furthest confines of the universe. Nay, more, by means of the spectroscope elements unknown on the earth have been discovered in the sun; and now that by its means we have discovered helium and know that uranium becomes changed into radium and radium into helium, one element into another, the asserted philosopher's stone of Paracelsus and the other alchemists, by which they could transform the baser metals into gold, may possibly be found to be of more substantial stuff than dreams are made of.

Meanwhile educational endowments of millions have been made. Philanthropy cares for the children, the prisoner, the degenerate, and even the lower animals; slavery has been abolished; the International Tribunal of Arbitration will soon be housed in a palace dedicated to Peace and erected by an American, and religious liberty is enjoyed as never before.

But, with all this wonderful progress, where has medicine been? Has it kept step with the other arts and sciences or has it lagged behind? It delights me to say that it has not only kept up with the foremost rank, but has even outstripped not a few. In 1846 and 1847 ether and chloroform were discovered and the operating table was robbed of well-nigh all its terrors. Thirty years later, thanks to Lister, antisepsis added its benison to the blessing of anæsthesia, and operations have been deprived of nearly all their pain and of their former frightful mortality. These two blessings, the one making operations painless, the other making recovery almost certain, have made possible a new surgery which was not only impossible but even undreamed of when I began to study medicine. In this way have been developed the surgery of the kidney, of the liver, of the gall-bladder, of the pancreas, of the stomach, of the intestines, of the appendix, of the prostate, of the brain, of hernia, of the pelvic organs, and even of the heart. By these means the mortality of compound fractures and of ovariotomy, which used to claim two out of every three patients, is now reduced almost to a vanishing point. In fact, were my old teachers of surgery, Gross and Pancoast, to come to life, they could not even understand our modern vocabulary; and if they were to visit a modern surgical clinic, they would think us stark mad.

Moreover, we have blocked many diseases at the fountain-head by discovering their causes and the means by which they become diffused among the well. Thus we have found that the guilty culprit spreading yellow fever and malaria is the mosquito, and that the cause of malaria is a parasite whose life history is now perfectly known. The efficiency of our means for preventing outbreaks of both of these scourges of the human race will find a splendid illustration within the next few years in the sanitation of the Isthmus of Panama, which will be Chapter II in the splendid volume, whose first chapter was written in Cuba by Major Walter Reed of the United States Army. The cause of the plague and its dissemination by the rat is well known; the cause of typhoid fever and its dissemination by flies and through drinking water, and of cholera and its diffusion through drinking water, are also matters of popular knowledge. We know now the deadly cause of diphtheria, and the use of its antitoxin is making the once loud wail of parents for their lost little ones as after the death of the firstborn in Egypt to grow fainter and fainter. The prevention of smallpox has been known for a century, and lately its cause has been found by an Italian and an American. The causes of cancer, of scarlet fever, of measles, and of many other of the commoner diseases of childhood, have as yet eluded the scrutiny of the ablest men of the profession. The discovery of these is among the unfulfilled tasks to which I referred a few moments ago, which is committed to your hands.

Microscopical analysis and the chemistry of the secretions have been wholly rewritten within the past quarter of a century, while the examination of the blood as a means of diagnosis and the serum treatment of disease have made splendid beginnings. Percussion and auscultation have opened a new world to us in the diagnosis of diseases of the chest and abdomen.

Meantime numerous instruments have been added to our armamentarium, without which the modern physician and surgeon would be almost helpless. The thermometer, which has only been our handmaid for about thirty years, has substituted exactness for surmise; the hypodermatic syringe disclosed a new method of medication about the same time; the aspirator was not known till after I graduated in medicine; the ophthalmoscope has revealed an unknown world in the interior of the eye, which, with many other instruments of precision, has made ophthalmology one of the most exact of the medical sciences and a model of accurate measurement and statement for all its sister sciences. The otoscope, rhinoscope, cystoscope, œsophagoscope, and other similar instruments have revealed to us the interior of other organs of the body in a way formerly wholly unknown, while the simple hæmostatic forceps and retractors have made many modern operations physically possible.

The growth of medical laboratories within the last twenty-five years has been phenomenal. The laboratory has done much more than merely afford the opportunity for investigations which have yielded such an abundant fruit. It has cultivated laboratory methods—that is to say, methods of exactness, and the use of instruments of precision. The experimental method in medicine has done more than any other one thing to widen the boundaries of our knowledge. Besides this, it has cultivated precision in thinking, which is more important than any instrument or method. The vague theories and subtle reasoning of our forefathers are now replaced by exact methods of investigation. The difference is well set forth by Mumford when writing of Rush and the yellow fever. "Like the rest of the profession," says he, "Rush was at his wits' end, and it is interesting to note how different from modern methods were the means adopted by such men for solving the problem of treatment. In these days the natural history of a disease is worked up, its pathological anatomy investigated, and clinical and laboratory researches elaborately and carefully made in order to learn the exact nature of the phenomena under dis-

cussion and so, perchance, to find an appropriate and rational remedy. Those ancient men, on the contrary, had their preconceived notions as to the nature of the disease, and limited themselves mainly to searching the literature of the subject and to experimenting with drugs." Reasoning about the yellow fever and its effects, Rush "thought he saw that the debility indicated by the low pulse was due to the 'oppressed state of the system' [whatever that may mean] which must be relieved by purging, supplemented by bleeding."

Imagine, if you can, the forlorn condition of the doctor sixty years ago without our present means for physical diagnosis, without the thermometer, the hypodermatic syringe, the various specula and other instruments I have named, without the aid of hæmatology, of anæsthetics, of antisepsis, of the modern microscope, without our laboratories, and our experiments, our chemistry, our bacteriology and our antitoxins—without everything except his eyes, his ears, and his fingers: then you can appreciate the triumphal march of medicine during a single lifetime.

In this brief review I have given you, very hastily and imperfectly, something of what has been done in medicine during my own lifetime. What, now, has the future in store for you?

You entered the medical school in vastly different conditions from those which obtained when I began the often weary study of Gray, Gross, Watson, and Ramsbotham. I am often reminded of the time when the Chief Captain rescued St. Paul from the mob, and asked him whether he were a Roman citizen. When the Apostle declared that he was, "With a great sum obtained I this freedom," said the Chief Captain; to which his Hebrew captive proudly answered, "But I was born free." You, too, are "born free"; born to an inheritance of anæsthesia, of antisepsis, of laboratories, of improved methods of teaching, of many heretofore unknown drugs. "With a great sum" of toil, and work, and worry the men of my generation have obtained the freedom which you have inherited.

What use will you make of this freedom? First, you will improve, I trust, on our present laboratory methods and our present methods of teaching. Pathology, a feeble aid to medicine and surgery when I began my medical studies in 1860, and bacteriology, a word found in no lexicon of that date, have become veritable foundations of the medical curriculum even since I began to teach. You, in your turn, must develop other and at present equally unsuspected sources of knowledge. You will introduce new instruments of precision, new means of investigation, and will thus be able to defeat, and, still better, to prevent disease. The men who will make the most progress in the next generation will be the physiological physicians and surgeons, those who are best acquainted with chemistry and physics, and who will investigate the blood, the secretions, and the tissues in present ways more perfectly developed, and in new ways of which now we cannot even guess the method or the object. Leucocytosis, iodophilia, cytodiagnosis, cryoscopy, blood pressure—all these you will use and improve upon far more than I dare picture. Comparative pathology will enrich and broaden your views. Possibly the original suggestion of Sir Christopher Wren, of intravenous medication, which we practise to but a small degree to-day by infusions of salt solution and of adrenalin, may become one of the recognized avenues for the administration of remedies. The ultramicroscopic vision which has just been conferred upon us, by which minute particles far beyond observation with our ordinary microscopes have been made visible, has opened up a new world for investigation which may develop truths as yet unsuspected.

Ten years ago who would have believed that it would be possible to look through skin and flesh, bandages and splints as though they were not, and to see our bones and determine their state of health or disease, of fracture, or integrity; and yet to-day this is known to every layman. Radioactivity, and possibly new means for the employment of light, may open new avenues for treatment. Certain it is that your studies in immunity, in toxins, and antitoxins will give you new weapons by which to prevent or vanquish disease and confer health. We need a new and safe anæsthetic. We need new drugs, new instruments of precision, by which new properties of matter, and novel methods of physical diagnosis shall be discovered, and the beneficence of medicine illustrated by unexpected and, to-day, impossible methods of cure. In these researches, alas, I shall take no part, but I can at least goad you on to their accomplishment.

But I must not forget that I am speaking to American graduates in medicine. When I was a young man, every young graduate who could afford the time and expense went to Europe to put the finishing touches to his medical education. But the current is turning westward, and will enable us ere long to repay the great debt we owe to our European brethren by freely sharing with them our future wealth of scientific and practical knowledge and experience. We have awakened to a new life of research in the laboratories founded by liberal citizens—and no institution has more reason to be proud of a generous patron than Cornell—we have felt a new intellectual impulse in our colleges—our physicians and surgeons are alert and progressive as never before. Coincident with a great political expansion that has carried us half way around the globe, with a commercial expansion which has made the world stand amazed at what we have accomplished—if the experience of England under Elizabeth, of Italy under Victor Emmanuel, of Germany under two Kaisers is any guide—there will surely be in America an equal intellectual and scientific expansion. The future belongs to America—it belongs to you—if you but show yourselves worthy of the great inheritance to which you are heirs, and of the splendid possibilities which medicine offers you with lavish hand. You will be unworthy children of worthy sires if you do not rise to the level of these opportunities. Shall it be said that our statesmen, our merchants, and our manufacturers are abler, more enterprising, more conquering than our scientists, our surgeons, and our physicians? Nay, verily. You, new members of our own profession will assuredly prove yourselves equal to the mighty task set before you, and conquer the world by being its noblest, wisest, and most unselfish benefactors.

Permissive Milk Adulteration.—Dr. Collingridge, Medical Officer of Health for the city, draws attention in his annual report to what he calls "permissible milk adulteration" in London. Of forty-eight authorities whose opinions were collected, thirty-one had adopted in practice various minimum limits of water adulteration. The list extends from a 2.4 per cent. limit of added water to 7 per cent., sixteen authorities fixing the limit at 5 per cent. Of the other seventeen authorities, some prosecuted if below the standard, others considered each case on its merits, some were guided by the opinion of the analyst, two fixed no limits, and one did not allow added water at all.—London *Standard*.

OBSERVATIONS ON RADIUM.

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In a former paper * I have described radium receptacles for the œsophagus, stomach, and rectum. They serve the purpose of allowing radium to act upon internal organs. Similar instruments can be constructed with minor modifications for other hollow viscera.

In this paper I wish to make some contributions to the method of radium treatment, its physiology (perhaps also its diagnostic value), and to its therapeutic results in carcinoma of the œsophagus.

Method of Radium Treatment—The radium receptacles first constructed were of glass. As this substance is fragile, the question arose whether the capsule could not be made of other material. It is, of course, self-understood that that substance will be most suitable which will best transmit the radium rays. To test this I had constructed capsules of the same size and thickness of glass, hard rubber, bone, celluloid, wood, and aluminium, and subjected them to the following tests: (1) The distance was measured at which a certain quantity of radium enclosed in these capsules would produce a trace of light upon Kahlbaum's barium platinocyanide screen. (2) Photographic plates enclosed in black envelopes were exposed to radium in the different capsules for two hours; the latter resting on a key which had been placed upon the plate. The pictures were then compared with one another. The first test was applied several times. I find among my records the following:

March 19, 1904. 0.25 radium (Curie 20,000) is placed in the various capsules and the distance at which fluorescence still occurs on the screen is measured. The result was as follows:

Glass	5 cm.
Hard rubber	4¾ cm.
Celluloid	4½ cm
Aluminium, not very brilliant even nearby	3¼ cm.

March 20, 1904. The same experiment is repeated with 0.25 radium (Curie 26,000 strength) with the following result:

Glass	4½ cm.
Hard rubber	4¼ cm.
Celluloid	4¼ cm.
Aluminium	2½ cm.

March 22, 1904. The same experiment was done with 10 mg. pure radium bromide (1,000,000 strength) and the following figures found:

Glass	4½ cm.
Hard rubber	3¾ cm.
Celluloid	3¾ cm.
Aluminium	2 cm.
Ivory	2½ cm.

These experiments showed that glass, hard rubber, and celluloid passed the rays of radium better than aluminium and ivory.

The key was photographed with 0.25 radium (Curie 20,000 strength) with two hours' exposure in glass, hard rubber, celluloid, wood (lignum), and aluminium capsules. The various photographic results are here shown (Figs. 1–5). This photographic experiment also shows that glass, hard rubber, and celluloid transmit the radium rays better than aluminium and wood.

From this it is evident that glass, celluloid, or hard rubber would be most suitable for our purposes. I chose hard rubber, because it is not easily broken, is cheap, and can be conveniently worked, and I have accordingly used these hard rubber capsules almost exclusively in the treatment as well as in our other experiments.

* Max Einhorn: "Radium Receptacles for Œsophagus, Stomach, and Rectum," MEDICAL RECORD, p. 399, 1904.

In the radium treatment of internal organs it is necessary to know, how deep, *i.e.* to what extent the radium rays penetrate. It is probable that different substances vary in their penetrability. To determine this experimentally I had a metal measure case constructed 10 cm. long and about 1 cm. broad, with one narrow wall of hard rubber. One of the long sides is divided into centimeters and carries a float, destined to receive the hard rubber capsule containing the radium (Fig. 6). The substance to be examined as to its penetrability by radium rays is placed in the box, and the radium capsule is moved until only a faint light appears on the fluorescent screen, which is applied directly to the hard rubber side of the box. This distance can then be read off in centimeters. As an example, I applied the following experiment:

April 23, 1904. 0.25 radium (Curie 20,000 strength) in hard rubber capsule is placed into the float of the measuring box and the distances for the following substances determined:

Air	5¾ cm.
Water	2½ cm.
Milk	2½ cm.
Uranine solution (strongly fluorescent)	2½ cm.

June 16, 1904. The same experiments with 50 mg. pure bromide of radium (1,000,000 strength)

FIG. 1. Radiophotograph of a key through a glass capsule.

in hard rubber capsules were repeated. The distances were:

Air	16½ cm.
Water	10½ cm.

(Since the box is only 10 cm. long, the screen was removed from the box and the distance added). Among the substances examined air seems to be the best transmitter of radium rays.

Transillumination of Various Organs with Radium.—*Mouth.*—If 0.25 radium Curie 20,000 strength) is held in a hard rubber capsule between teeth and cheek and the mouth is closed a strong illumination is produced on the screen. The same capsule held between tongue and teeth produces only a faint light on the screen, *i.e.* the cheek bones may be transilluminated. Whether this method of transillumination will be of any diagnostic value in diseases of the antrum of Highmore, I am unable to say. It is worth while to determine this more accurately.

Stomach.—The attempt to transilluminate the stomach with the same amount of radium 0.25

(Curie 20,000 strength) was negative. With 0.05 grams of pure bromide of radium (1,000,000 strength), however, the organ was easily and clearly transilluminated. It is best to use an instrument resembling in its construction the radium receptacle for the œsophagus, which is provided with an opening above the capsule for the insufflation of

Fig. 2. Radiophotograph of a key through a hard-rubber capsule.

air after introduction. We might call this instrument the "Radiodiaphane" (Fig. 7).

We best proceed as follows: the patient is examined on an empty stomach either before breakfast or seven to eight hours after a meal. The patient must remove all clothing from thorax and abdomen. The radiodiaphane (containing 0.05 bromide of

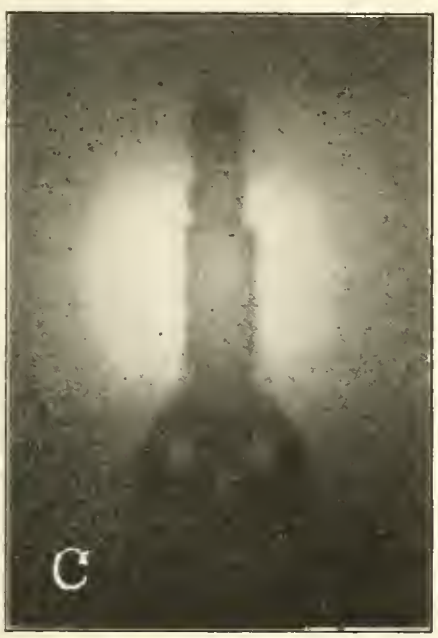

Fig. 3. Radiophotograph of a key through a celluloid capsule.

radium of 1,000,000 strength in its capsule) is slightly moistened with water and introduced into the stomach; the above mentioned Kahlbaum's fluoroscope is applied to the upper left abdominal wall and observed in an absolutely dark room. (The latter is essential, the eyes must also first accustom themselves to the darkness, which usually take one to three minutes). A figure is then observed resembling the stomach and of the color of the moon. Around this figure a feint halo may be seen to the left above the stomach up to the ensiform process, to the left axillary line and even to the left side of he back (where, however it is much fainter), *i.e.* the lungs above the stomach

Fig 4. Radiophotograph of a key through an aluminium capsule.

and the diaphragm are transilluminated. To the right the liver does not transmit the rays and the screen remains dark. If the screen is moved further down over the abdomen the illumination usually ceases below the large curvature. Besides we observe a very intense spot of illumination (about the size of a big walnut) which corresponds to the position of the radium capsule. If air is

Fig. 5. Radiophotograph of a key through a wooden capsule.

insufflated into the stomach the illumination is more marked. On deep inspiration the illumination becomes weaker (probably on account of the greater distance of the abdominal wall from the radium capsule; on deep expiration, however, the illumination becomes much brighter.

When the radiodiaphane is withdrawn, one ob

serves how the intensely illuminated area (of the size of a walnut) travels upward, to disappear in the region of the ensiform process. When the instrument again descends into the stomach, the light at once reappears.

I have practised radium transillumination in a large number of patients, and am convinced that by means of this method the position of the large curvature can be determined In patient R. D., for example, it was a finger's width above the navel; in patient N., however, who was suffering from pyloric stenosis, it reached down to the symphysis. I add a radio-photograph of the stomach of patient R. D. It was obtained by placing on the abdomen of the patient a photographic plate in a black envelope, as used for *x*-ray purposes. This was thus exposed for an hour to 0.05 bromide of radium (1,000,000) strength inside the patient's stomach. A safety pin was intentionally interposed between abdomen and plate in order to determine more easily the action of the light.

Colon.—The descending colon, or rather the sigmoid flexure, may also be transilluminated by means of radium. The radiodiaphane for the bowel is of similar construction as that for the stomach. It is only somewhat shorter and made from stiffer rubber, so that no mandrin is necessary for its introduction. Near the capsule the instrument is provided with an opening to allow the insufflation of air. Before the examination (about half an hour) the bowel must be thoroughly flushed with one to two quarts of water. The radiodiaphane is then introduced as far as is possible without kinking it, and with the patient on the back, the lower abdominal region is inspected with the above mentioned fluorescent screen. Usually there is nothing visible until air has been insufflated, when translucency occurs on the left side. If the air escapes, the screen becomes darker; if air is again introduced it becomes lighter; deep inspiration lessens, deep expiration increases the translucency. I have tried transillumination of the rectum with radium several times in patients and have always obtained the above results.

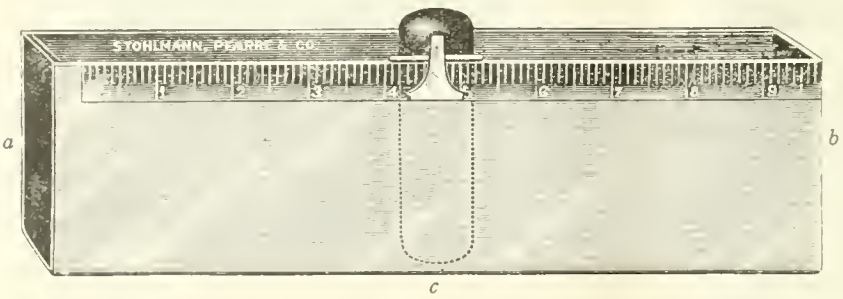

FIG. 6. Radium measure box: *a*, hard rubber wall; *b*, metal wall; *c*, capsule with float.

*Lungs.**—The lungs may be transilluminated from the œsophagus. The radiodiaphane moistened with water is introduced into the upper part of the œsophagus (the distance of the capsule from the teeth should be about 10 or 12 inches) and the naked thorax inspected with the screen. By moving the latter the lungs may be examined both anteriorly and posteriorly. Normally we obtain moonshine color wherever there is lung, only anteriorly on the left side there is a feint shadow corresponding to the heart. We would expect that marked infiltrations of the lung and exudates would cause a change in the normal translucency. This is really the case. As an illustration I will cite the following examples:

May 21, 1904. H. B., suffering from tuberculosis of the lungs, is examined with the radiodiaphane. After a few minutes we find the left half of the thorax above anteriorly and posteriorly well illuminated; the right side, however, showed a more opaque transillumination above anteriorly and posteriorly. If the screen is held toward the middle of the thorax, we see a shadow corresponding to the heart (which, corresponding with the pulse beat, shows apparently a slight enlargement) and light zones on both sides. Below and behind the lungs are also well transilluminated.

June 10, 1904. M. N., a patient of the German Hospital suffering from exudative pleurisy on the right side, is examined with the radiodiaphane by introducing it 12 inches into the œsophagus. The lungs are well transilluminated above anteriorly and posteriorly, whereas, in the lower part of the thorax to the right behind we have a shaded figure, the corresponding part on the left side being brightly illuminated. I append a photograph of the upper thorax (Fig. 9), which was obtained with an exposure of two hours to the radiodiaphane in the œsophagus (12½ inches from the teeth), in a patient suffering from œsophageal cancer (Mrs. G. L.). I had attached in this case also a safety-pin to the pocket containing the plate, which is visible in the picture.

The results obtained by transillumination are certainly interesting, primarily as a physiological fact. We see that apparently bones do not offer a stronger resistance to the passage of radium rays than ordinary muscles and skin; they are therefore transilluminated without throwing a shadow. These radium transilluminations may be of diagnostic value. The fact mentioned above, that tuberculous infiltrations and pleuritic exudates are recognizable by their shadow, seems to point to this. The radium transillumination of the stomach allows an examination of the organ laterally and to the left of the back, both regions that are inaccessible to the ordinary electric gastrodiaphane.

We may possibly be able to discover tumors in this manner. The same may be said of the transillumination of the œsophagus. At present I have yet no experience upon this subject.* Therapeutically also these transilluminations of the stomach and lungs may be of value, since they show that sufficient rays pass through these organs to be perceptible to the eye outside of the body. We might therefore expect that we would be able to subject these organs to the therapeutic influence of radium.

Radium Therapy of Œsophageal Cancer.—I have treated in all nine cases of carcinoma of the œsophagus internally with radium applications. The radium receptacle for the œsophagus was used with 0.25 Curie's radium (20,000 strength) for one-half to one hour. Otherwise nothing else was done in these cases except regulation of the diet and the occasional use of codeine.

CASE I.—November, 1903. Ferdinand S., sixty-five years old, has been suffering from dysphagia for four months. The examination with the sound reveals an impassable stricture of the œsophagus 12 inches from the incisors. Swallowing sound absent. With the œsophagoscope we see, just above the stricture, a reddened mucous mem-

*The transillumination of the stomach and lungs by means of radium was demonstrated by me on a patient at a meeting of German physicians of New York, May 27, 1904.

*Since writing this paper I have been able to diagnose once an intrathoracic and once a gastric tumor by the lack of translucency with the radiodiaphane.

brane mottled with white spots about the size of kernels of rice He was treated with radium for two or three months, on an average of about twice a week. The condition remained the same, the stricture remained at 12 inches. There was no pain. In March the patient began to cough and lost quickly; he died in April, 1904.—Result of radium treatment equals 0.

Case II.—March 8, 1904. Mrs. Esther R., about thirty-four years old, came to the German Hospital with a gastric fistula that had been made in another institution. She had some fever, a swollen liver, and an impassable stricture of the œsophagus, 14 inches from the teeth. She complained of intense pains in the chest, some cough, and irritation in the throat accompanied by nausea. The food introduced through the gastric fistula caused diarrhœa. She was treated daily for a week with radium. The pains as well as the nausea became apparently less. The objective signs at the seat of stricture have not changed. Radium treatment was discontinued because the patient left the hospital. The result of one week's treatment was negative.

Case III. March, 1904. Mrs. Esther C. W., sixty-five years old, was admitted to the German Hospital March 19, 1904. Family history: parents died of heart disease; one aunt died of tuberculosis; husband died of cancer of the rectum. Previous history. Measles and scarlet fever in early childhood. Dysmenorrhœa between ages of sixteen and twenty-four. Pain was referred to epigastrium. Has complained of sharp severe pain in the stomach for the last twenty-five or thirty years. Never had typhoid or malaria. Menopause twenty-three years ago. About sixteen months ago she suffered from abdominal pain, intermittent in character, lasting about four months; then the pain became more localized, being especially felt in the left hypochondriac and epigastric regions, pain gradually became more and more severe five months ago, it being almost constant. The pain was intensified by ingestion of food, which seemed to her to remain above and not to enter the stomach. She then started to vomit food which she had swallowed and which was practically unchanged. Meats particularly she could not retain. Patient has lost about 30 pounds in the last year and a half and is considerably weaker. Bowels somewhat constipated. Stricture found at 14½ inches from the teeth.

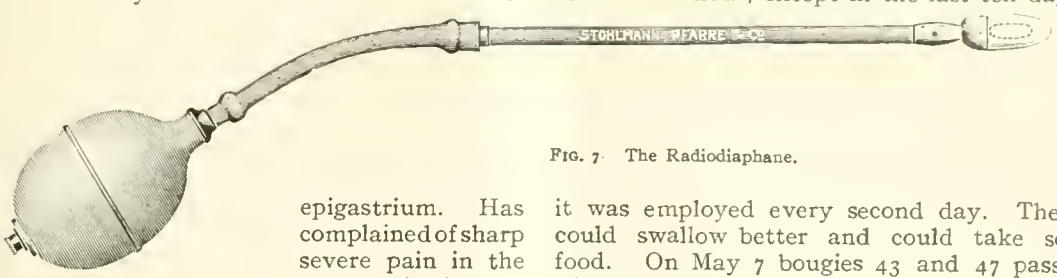

Fig. 7. The Radiodiaphane.

March 23, 1904. Gastrostomy was performed by Dr. Willy Meyer. Radium treatment (0.25 Curie, 20,000 strength) begun March 19 and continued daily from March 19 to March 22, 1904, inclusive, then discontinued on account of the operation. It was again given daily from April 1, 1904, to April 11, the day when she was discharged. The radium was left *in situ* for one-half hour each time.

April 11, 1904. Impassable stricture of the œsophagus found to be 15¾ inches from the teeth. Result of two weeks' radium treatment consists in diminishing the stricture which began originally at 14½ inches to 15¾ inches, *i.e.* 1¼ inches. The patient could swallow better.

Case IV.—April 16, 1904. Mrs. G. L., forty-eight years old, does not remember ever having been ill until nineteen years ago, when her breast became swollen and painful; swelling diminished somewhat on massage. Breast was amputated about this time. Family history negative. Four months ago the patient began to feel as though her food remained in the œsophagus for a time before entering the stomach. Shortly afterward she began to regurgitate her food, and found it impossible to eat meats or solid food. She has always been able to live on a semi-solid diet. She has never had real pain, but complains of a heaviness in her stomach. Has lost forty pounds in six months.

April 17. Bougie No. 43 passed down 12 inches from teeth, where it met with resistance; bougie No. 35 passed into stomach. Radium treatment was begun.

April 25. Bougie No. 43 passed down 12½ inches meeting there with resistance.

April 27. Radium applied for two hours, photographic plates exposed.

April 30. Bougie No. 43 meets with slight resistance at 12½ inches, which, however, is easily overcome, the bougie then passing easily into stomach.

May 3. Bougie No. 47 passed into stomach, meeting with slight resistance at about 12½ inches.

May 14. Bougie No. 43 passed into the stomach, meeting with quite some resistance. Radium treatment during this time had been applied daily for half an hour, except in the last ten days, when it was employed every second day. The patient could swallow better and could take semi-solid food. On May 7 bougies 43 and 47 passed with slight resistance. The patient felt better and could swallow some meat and crackers. Treatment was now given semi-weekly for one week, at the end of which the patient said that she could not take anything solid and that she had more pain. Bougie No. 47 and 43 encounter resistance at 12⅓ inches, No. 40 passes with slight resistance into the stomach. The radium treatment is now done every other day for a whole hour. On May 27, bougie 47 passes again into stomach; bougie 50 meets with resistance at 13½ inches from the teeth.

Objective result: the stricture enlarges from 35 to 43 F. and descends from 12⅓ to 13½ inches, *i.e.* the strictured œsophagus became entirely clear in a circumference of over 1 inch. It is now eleven weeks from the beginning of treatment and the patient has not lost in weight.

Case V.—March 28, 1904. Miss Eliza W., about fifty-five years old, is suffering from malignant stricture of the cardia, which is still passable and is 15½ inches from the incisors. Patient was treated only five days with radium, and was then operated on account of inability to take even fluid food (gastric fistula). She died a few days later.

Case VI.—April 7, 1904. Mrs. D., about sixty years old, was sent to me for diagnosis by Dr. Hutcheson. There was a malignant stricture of œsophagus, 15 inches from the teeth. On my advice Dr. H. treated the patient daily for an hour with 0.25 radium (Curie 7,000). About three weeks later the stricture was found at 15¾ inches. Objective result was descent of the stricture by ¾ inches.

(Report of Dr. Thomas Byrne.)

Case VII.—April 28, 1904. Michael G., age forty-three, complains for the last three months of difficulty in swallowing, particularly solid food. For the past two weeks he has been unable to swallow anything but liquids.

April 29. Examination by Dr. Einhorn shows that only smallest size olive tip bougie could be passed into the œsophagus as far as the lower third.

May 2. Began treatment with radium (10 milligram—strength 1,000,000) lasting one-half hour every day for the first week.

May 9. Weight 154 pounds. Passed No. 30 olive bougie with a little pressure; continued radium treatment daily for one hour.

May 16. While putting the œsophageal radium receptacle into position it slipped (*i.e.* passed the stricture) into stomach and was withdrawn without using any force. Patient says he has much less difficulty in swallowing, feels better, and looks better.

May 18. Patient eats for breakfast two boiled eggs with bread and coffee, for dinner at night eats chicken fricasee and says he had little or no difficulty in swallowing.

May 24. Passed No. 35 olive easily. Patient eats well—chicken, scraped beef; at times steak, vegetables, mashed potatoes, etc.

May 30. Radium treatment twice daily for one hour.

May 31. Weight 165¾ pounds, a gain of 11¾ pounds in one month.

June 9. The patient is examined by me in the presence of Dr. Byrne. Bougie No. 30 passes into the stomach with only slight resistance; No. 38, however, encounters resistance at 12 inches from the teeth.

Objective result: a stricture at first impassable for bougie No. 30, is now passable for that number and patient can eat better.

Case VIII.—May 25, 1904. Wilhelm A., fifty years old, while in hospital in 1904, noticed that when hungry and after eating rapidly he would have difficulty in swallowing, which was most marked in the morning. This has gradually increased until now patient can swallow only finely masticated food. About March 15, 1904, dysphagia became extreme and even fluids could be swallowed with great pain. Patient went to the German Dispensary, where he was considerably but not entirely relieved. After each meal he feels slightly nauseated and full. Has never vomited. Bowels very constipated. Pain in epigastrium after taking of food or liquid persisting until food is in stomach. Complains of salivation. Does not know whether he has lost weight, but has grown weaker.

May 25. No. 30 bougie arrested at 10¾ inches. Radium treatment, one hour daily, begun.

June 4. No. 30 passed into stomach, No. 36 arrested at 10¾ inches.

June 11. No. 36 arrested at 10¾ inches.

June 14. No. 30 passed through obstruction, No. 38 arrested at 10¾ inches.

June 18. No. 30 passed obstruction, No. 39 arrested 10¾ inches.

May 27, weight 139½ pounds. May 30, weight 141 pounds. June 6, weight 142½ pounds. June 13, weight 141 pounds. June 20, weight 140½ pounds.

Objective result: a stricture impassable for bougie No. 30 became passable for same.

Case IX.—May 3, 1904. Jacob R., forty-seven years old, began to vomit in December, 1903, about five minutes after taking of food. No pain, no tympanites, but at times acid eructations. Condition persisted until four weeks ago and patient had to go to bed. At the same time that vomiting began patient experienced difficulty in swallowing his food. The dysphagia has steadily increased until patient can at present swallow only fluids. Has lost flesh and is growing weaker. Patient once vomited fluid and clotted blood.

May 31. Obstruction of the œsophagus not admitting the smallest bougie at 14½ inches from the incisors.

June 1. Radium treatment, one hour daily, begun.

June 4. Bougie No. 30 arrested at 13¾ inches.

June 8. Small size olive point bougie passed by Dr. Caillé to 13½ inches.

June 11. No. 30 arrested at 13¼ inches, No. 21 at 13⅝ inches.

June 18. Smallest size olive No. 21 F. could be passed up to 15¼ inches.

May 29, weight 117¼ pounds. May 30, 119 pounds. June 6, 113¼ pounds. June 13, 111 pounds. June 20, 106¾ pounds.

Objective results at first a continuance of the process, the stricture ascending from 14½ to 13¼ inches. Later it seemed to recede again, and bougie No. 21 could be introduced to 15¼ inches. Constant loss of flesh.

Of the nine cases described six showed an improvement of the stricture. At the same time the patients could take food better. In three cases no improvement could be noticed; in two treatment had not been continued long enough (in Case II, Esther R, one week; in Case V, Eliza W, five days) and in a third (Case I, Ferd. S.) treatment had been too irregular to allow us to expect a good result.

Judging from the few cases that have been treated regularly and long enough, it seems to be demonstrated that a partial shrinking of the tumor causing the stricture is the rule. There were never any disagreeable occurrences incident to the treatment. A diminution of the pains could be observed in some cases, but by no means in all.

Although I could not completely cure any one of the cases, the resultant improvement is in itself of sufficient importance; the more so as we are dealing here with a condition against which we are entirely powerless (even surgically). If it is, therefore, possible to render the stricture more pervious by means of radium treatment and thus keep the patients alive for a somewhat longer time, it means a step forward.* Perhaps it will be possible to obtain even a cure in some cases by beginning treatment before the cancer has as yet progressed far. Further research on this subject is certainly desirable.

*Since this paper was written, A. Exner (*Wiener klinische Wochenschrift*, 1904, Nr. 4) has reported three cases of œsophageal cancer treated by the same method, in which there was a dilatation of the stricture as a result of the radium applications.

How a Russian Surgeon Sent the News.—A Russian correspondent of *The Times* says that the mother of one of the Jewish surgeons who were sent from Warsaw to the war recently received from her son a letter written in the usual official Russian style and bearing the stamp of the censor. The latter stated that the writer was in good health, that admirable order prevailed among the troops, who were certain of victory and amply supplied with all necessaries, and that there was so little illness that the army surgeons had hardly anything to do. It concluded with a request that his mother send some Hebrew books, of which he gave the titles. These read: "Famine and Destitution," "Consequent Fearful Epidemics," "Scarcely Any Sanitary Appliances," "Demoralization of the Army Constantly Increasing," "End of Discipline," "Wish I Were Taken Prisoner." Evidently the censor did not know Hebrew.

TIC.*

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"CHOREA! and always Chorea! as if that word chorea magically and majestically swept aside all difficulties of interpretation and comprehension." Thus passionately and truly exclaimed Charcot on being told by a patient with a generalized motor tic, that he had long been treated for chorea.

The nebulous ideas held in general regarding the relation of the various diseases characterized by irregular, spasmodic, and more or less uncontrollable muscular movement, is most regrettable.

The name chorea, meaning dance, which Sydenham unfortunately applied to a very common nervous disorder of the developmental period of life, probably of infectious origin, and which has not a dance step in its symptomatology, still clings as a nosological epitaph to a monument not erected to a philologist but to a wonderful clinician.

Chorea has been made a nosological hook upon which writers and observers have indiscriminately hung all sorts of affections which are characterized by coarse muscular trembling and irregular movement, either coördinate or incoördinate. Apparently it has been necessary only for a more enthusiastic than accurate medical observer to remark a patient with some strikingly abnormal and unwilled muscular movements appearing in any or all of the parts of the body, when he immediately proceded to burden medical literature with a new nosological monstrosity, like *chorea scriptorum*, dancing writer's cramp; paralytic chorea, paralytic dancing. Think of them! Shade of Paracelsus! Indeed we find in one of the most complete of the later-day medical dictionaries ninety-four separate affections defined as subdivisions of chorea.

Chorea is a poor term for a disease which has no dancing symptoms, and of whose pathogenesis we have no accurate knowledge. Nor has a better one been offered. Centuries of usage and its origin has sanctified and sanctioned it. It should and will be retained.

There are but two choreic diseases; Sydenham's chorea, often erroneously called chorea minor, and the hereditary involutional chorea of Huntington.

Superficial observers have likened tic convulsif to chorea both in appearance and in origin. The clinical pictures in no way resemble each other, and their origin differs more widely than hysteria and epilepsy. The only relation between the two diseases is seen in the engrafting of a tic upon a chorea; in which case tic is a sequel by suggestion. By this I mean that the substratum of psychic impressionability of youth, especially neurotic youth, is so sensitive that morbid habits easily take root. The depth and strength of this root (to carry the simile to its end) will entirely depend upon the measure and vicious fertility of this subsoil of neuropathic and psychopathic inheritance and development.

Under the titles of tic, *Maladie des tics*, tic convulsif, Giles de la Tourette's disease, mimic spasm, habit spasm, habit chorea, choreic tic, choreiform affections, one can find much written upon a peculiar disease of the nervous system, in which certain muscular movements are markedly in evidence.

In an attempt to clear the foggy atmosphere with which centuries of misunderstanding has surrounded the subject, I wish to propose an original classification that appears to me to possess not only merit, but also is more in conformity with the classification now accepted by many alienists for the better studied mental alienations. This classification is based upon the recognized periods of life which we denominate evolutional and involutional—the developmental and the senile. The classification is believed to be particularly comprehensive since it has long been the idea of the profession that tic can be broadly divided into two varieties—senile tic and early tic. The first, a result of approaching senile involution or disease; the latter that which occurs early or in the evolutional period of life and previous to the development of the involutional changes of advancing years. Therefore, I would primarily classify tic into (1) involutional tic, the so-called senile acquired tic of other writers, and (2) evolutional tic, or the so-called early tic. The first variety usually presents itself in a simple form, but not rarely may be quite complex and even associated with psychic stigmata. Evolutional tic may be divided into (*a*) degenerative evolutional tic, which is a morbid manifestation on the part of a degenerative nervous system, usually inherited, but possibly acquired; (*b*) acquired evolutional tic, and (*c*) imitative evolutional tic.

Tic literally means a knack—a trick. The word is a fitting illustration of the denominative power of the French. Tic—a knack—a trick. Motor tic—trick of movement—the knacky trick of a muscle. *Tic de pensée*—a knackish trick of thought. How perfectly expressive of the idea—how comprehensive of the varieties of the disease! It is indeed a good name and a short word. I shall use it to the exclusion of all others.

It is impossible to give a good definition of tic. The only permissible one would include a description of its most prominent symptom—abnormal musculation. It could not include anything relating to its pathology, for we know so little. Regarding its pathogenesis, we know that its development depends much upon the presence of a degenerate psychoneuropathic organism. Therefore, this is my definition:

Evolutional tic is a psychoneurosis, in which a subconscious idea tends to arise spontaneously and force recognition by externalizing itself in expressed thought (*tic de pensée*), or in the more or less automatic repetition of some stereotyped movements which are identical with volitional acts—coördinate tic.

The muscular phenomena to which the name tic has long been applied may vary in a degree from irritating twitchings of so small a muscle as the levator labii superioris alæque nasi, as once seen in a personal observation, to the most complex coördinated muscular movements associated with obsessional and compulsory ideas.

The involutional variety of tic is a convulsive or spasmodic muscular manifestation in some part of the body, usually the face, due to a pathological or involutional degeneration of the blood-vessels—arteriocapillary fibrosis. This symptom is a muscular manifestation of well-known pathological conditions of either the central or peripheral nervous system, usually expending itself upon frontoorbicularis or facial musculature. It is an affection with an organic basis, and entirely separate and apart from the form of disease to which I wish to direct your attention. I mention it for the purpose only of completing the classification. In order to place its character clearly before you, I will briefly relate two striking cases recently observed:

Mrs. P., seen in consultation with Dr. Frank Stovering at St. John's Hospital, May, 1901. Patient was sixty-two years of age, born in Ireland, and is a large woman with degenerated arteries, gray hair, and a double arcus senilis.

*Read before the Clinical and Pathological Section of the Cleveland Academy of Medicine, March 4, 1904.

Her family history is practically negative and her previous personal history good. Her husband is a healthy man and they have several grown, healthy children. Two years before my first visit she began to have a peculiar sort of "sniffing" as she called it, which consisted in a rapid, noisy nasal inspiration and expiration. Along about this time she states that she lost all her teeth and neglected to get artificial ones, and hence had considerable trouble by food getting into the buccal space, which compelled her to use very forcibly her tongue to remove it. She shortly found herself, long after eating, going through the movements, and at the same time making loud smacking noises, of which she seemed unconscious until her attention was called to them by her family. All effort on her part to control them failed. These movements were gradually added to by a peculiar pursing up of the mouth, rolling the chin about as the tongue was rapidly swept from right to left between the front teeth on the lower jaw and the lip, through both lower buccal spaces, thence to the left upper buccal space, rapidly and transversely across between the upper front teeth and upper lip to the upper right buccal space, and then again down to the right lower buccal space, to be repeated from three to ten times. At the same time the face was engaged in the necessary muscular contortions which one finds necessary in order to voluntarily produce this series of acts. All of this time loud smacking, gustatory noises were made. Always preceding the tic, which involved the tongue more markedly than anything else, the peculiar nasal respiration described, was repeated several times. An interval of rest followed when the whole surprising and disgusting series of actions, accompanied by the noises, were reinacted. If she was alone and quiet the movements were not frequent or violent, but as soon as some stranger entered, her tic entered upon a perfect debauch of sound and movement.

She was slightly melancholic and a little peculiar in some of her ideas. This tic was looked upon as an involutional tic and due to degenerative changes in the brain.

I again visited her in June, 1902, in consultation with the late Dr. John Perrier, and found her in an unconscious condition. I learned that her tic had continued since my first visit and had extended to the arms and shoulder, with rotation of the head by involvement of the neck muscles, and also a rapid, double lateral nystagmus; that her mental condition had deteriorated, and for some months preceding my visit she had complained of headache and giddiness. I felt that my former idea of the case was corroborated. The right side was paralyzed, and although she was totally unconscious some manifestations of the tic were still present. Unfortunately no post-mortem was allowed.

The second case is better shown than I can describe in the case of this gentleman who has kindly consented to come here this evening. He was first seen in consultation with Dr. J. D. Jones, September 26, 1900.

Patient is now sixty-eight years of age and gives a good personal and family history. To his knowledge there has never been any nervous affection or insanity in any member of his family.

His present difficulty began in January, 1900, when he first noticed that in making clerical entries his eyes would suddenly close. He visited an oculist, who told him that it was caused by the glasses he was wearing. He was re-refracted but secured no relief. Just previous to the appearance of his tic he had had considerable worry but no loss of sleep. He soon found himself unable to get about in the store, since his eyes would spasmodically close and he would run into objects and persons.

You will observe that he is suffering from a double facial tic, which is a very unusual form of the disease. He has a slight senile tremor of the hands and considerable evidence of arterial degeneration. Excitement or presence of strangers causes his movements to be markedly augmented both in force and frequency. They always cease during sleep. Nothing has given him any permanent relief. He thought at one time that hypnosis might relieve him, but the second sitting and all others following were without effect. His is undoubtedly an involutional tic due to central disturbances from senile degeneration of the arteries of the brain.

The first of these two cases, of many types of degenerative tic, is related to show that we may have from cerebral involution, tics which are markedly like those of the psychomotor tics observed in the evolutional period of the degenerate. Commonly the facial tic of advancing years is unilateral and more commonly, connected with the eye muscles, producing that peculiar wink which is observed in many old people, and is almost a certain precursor of grave cerebral lesion.

The following case is an illustration of this common variety:

Mrs. B., sixty-eight years of age, suddenly began to have an affection of the left eye, which consisted in its spasmodic closure, the perfect imitation of a vigorous voluntary wink. The wink was repeated several times, when a pause would ensue. If she was quiet and alone it would occur infrequently, but any excitement, especially the presence of strangers, would cause the blepharospasm to become frequent and violent. It was never present during sleep. Her arteries were degenerated and left heart hypertrophied. Four years later she died of cerebral hemorrhage. No autopsy.

You will observe in this simple case of orbicularis tic that it is the personification of the volitional act of winking, and that any excitement increased the frequency and violence of the movement.

Evolutional tic is practically always an affection of the formative period of the superior and inferior type of the degenerate. The period of growth and evolution of the victim most likely to develop tic is between the years of seven and fifteen.

It is rarely the result of direct heredity, but is rather one of the vicarious manifestations of an inherited polymorphous neuropsychopathic diathesis, commonly called degenerative. The degenerate is to his degeneracy born. But disease in early life may predispose both to its development and add to its degree. Two types are commonly recognized, the inferior and the superior.

The inferior degenerate possesses an intellect below the normal. Usually he has many of the physical stigmata of degeneracy—is club-footed, web-fingered, possesses supernumerary fingers or toes, or a cleft palate, or other less marked physical evidences of degeneracy, such as over-long index-fingers or arms, abnormal heads, misshapen ears, or other deformed features. He often belongs to the dependent class, and not infrequently the low type of criminal. Their range is from the idiot to the idiot savant.

The superior degenerate often possesses great genius; their ranks muster many decadent poets, artists, authors, and esthetes; all are abnormal, yet many possess wonderful talent to command not only notoriety but fame itself. Dryden's knowledge of the inability of these decadent people to

maintain long a normal mental equilibrium must have been full when he wrote, "Great wits are sure to madness near allied, and thin partitions do their bounds divide."

The movement of evolutional tic is a muscular spasmodic or compelled movement, identical with a movement of volitional intent. Indeed it is the muscular externalization of an obsessional idea, which is more or less subconscious.

The movements are muscular and purposive in contradistinction to the fibrillary purposeless movements of chorea. I mean by this that in the execution of the movements of tic the muscles or groups of muscles are contracted identically as if consciously willed, whereas in chorea the muscular contractions are fibrillary. The contraction of the whole muscle or group necessary for the execution of a coördinate movement does not take place, in chorea, and therefore it is irregular, incoördinate, and purposeless. I have dwelt upon this distinction to considerable extent in order that no misunderstanding of the difference can be assumed. No one with these facts in his possession and a discerning mind can observe these cases and not be shocked by such an abominable name as "choreic tic."

The movements of tic are present only in the waking state and are repeated in a stereotyped manner. They may be voluntarily repressed for a time by exertion of an energetic will, but this repression produces an inner unrest which will not be appeased until the movements are repeated. Indeed some internal and imperative demand seems to force the unhappy victim to do his stunt. I know of no disease which affords such an argument for demonomania as tic. I know of no movements so clearly obsessional as those of psychomotor tic; no thought more compelled and obsessional than that of *tic de pensée*.

It would be the utterance of but a half truth if I failed to make it plain to you that I do not hold that all tics are invariably the stigmata of degeneration. They are not. Not infrequently certain diseases in early life may induce changes in the unstable cortex and subcortical stations of the brain, interfering with the proper psychomotor apparatus of expression, and thus tend to an elaboration of the normal automatism of repeated movement

Acute specific fevers, rachitis, rheumatism, and chorea, all of which diseases present much nutritional depravity, seem to be peculiarly active in furnishing a nidus for the development of the disease tic. The permanence, severity, and type will much depend upon the vicious strength of the inherited degenerative tendencies behind the evolution of the individual's nervous and psychical growth, which we commonly call character. We must also reckon with the amount and nature of the resistance offered by a conscious or a subconscious action of the will. The simple motor tics not infrequently seen in the young, who present no unusual evidences of degeneracy, and whose ancestors have manifested no possession of neuropsychopathic development, by physical, mental, or psychical stigmata, are explainable upon these grounds only. In this class we can also consider the tics which are truly imitative, originally arising in the voluntary imitation of the muscular twitchings of others. Indeed it appears that some unstable nervous systems find comfort in the repetition of imitated movements until, at last, they become uncontrollable.

The imitative tics are rarely progressive, almost never develop the highly coördinated types marked by grotesque execution of obsessional ideas. On this basis prognosis can be confidently based.

Each one of the two varieties of evolutional tic may be divided into (1) motor tic, manifested in two forms, (*a*) localized and (*b*) generalized tic; (2) psychomotor tic, which may be divided into (*a*) a form of tic which is a motor response to a compulsory idea or obsession, and (*b*) "a tic caused by coördinate movements associated with intellectual and emotional externalization, orderly or disorderly." Pursuing this subject of classification to its logical end, the motor tics may be further subdivided according to their topographical situations. Such classification is convenient, since it facilitates description of cases and conditions.

Before proceeding to the topographical classification it is well to remember that any muscle, group of muscles, or the whole musculature of the body may become the seat of the muscular twitchings of tic. Granting the truth of this statement, it is obvious that the classification of the various motor tics would be almost interminable. The disease, however, more frequently attacks certain muscular groups, which allows us recognition of at least eight well-known forms. The arrangement is intended also to present their order of frequency: First, fronto-orbicular tic. Second, Nasal and naso-orbicular tic. Third, Facial tic. Of these three forms they are usually unilateral, but occasionally they are bilateral. Fourth, Nuchal tic, more commonly known as spasmodic torticollis. Fifth, Respiratory tic, or tic of the diaphragm. Sixth, Bowing tic, or tic salaam. Seventh, Stringhalt tic. Eighth, Lingual tic.

The following case is an illustration of a simple localized motor tic with no discoverable psychic stigmata.

Case IV.—Helen S., aged seventeen years, Hungarian Jewess, was referred to me by Dr. M. Rosenwasser, February 24, 1903.

The patient is a strong looking girl and has been in this country six years, and has never had any severe illness. She is the eldest of six healthy children. Her mother is living at forty-three and healthy. The father is also forty-three, a Jewish Rabbi, and appears to be a healthy man. No history of nervous or psychic affections in the family. Notwithstanding this seemingly favorable history, it is observed that the father has stigmata of degeneration, and it is believed that he is an excitable, irrascible man. The patient herself presents deformity of the palate, a peculiar shaped head, and a marked Darwinian tubercle of each ear. She says that she is extremely excitable and that she is very passionate, becoming angry with little or no cause. She is clearly a type of superior degenerate.

About nine months before coming to my office she began to have a peculiar movement of the right ear, which also seemed to involve a part of the right forehead. This movement consisted of elevating the ear about a quarter of an inch straight upward, and immediately afterward a movement began which drew it back a like distance, when it would slowly fall to its usual elevation. This movement seemed to be principally due to the contraction of the auricularis superior and posterior, and possibly some of the fibers of the temporal muscle were involved. There was a marked enlargement of the turbinate bone of the right nose, and in addition the Eustachian tube on that side is closed. The patient was referred to Dr. Lenker for special treatment.

Case V.—The following case is related as an instance of motor tic more disseminated and widespread than I have ever witnessed in a patient who presents no marked psychic aberrations. While the patient is not absolutely free from psychic symp-

toms, yet it is possible to explain all that she has because of a sensitive nervous system.

Miss B., aged twenty years, was normally born of parents usually regarded as healthy, but examination into the history reveals that the mother is not only a neuropath, but has decided psychopathic tendencies. The father is rather an irritable man, without, however, possessing the amount of mental balance to make him the success to which his talents actually entitle him. I would therefore class both father and mother as superior degenerates. The daughter, and the only child, is remarkably free from degenerative stigmata apart from her tic. She was bright and apt in school, and never suffered from any severe ill health until the present illness.

Three years ago, and shortly after she had returned from an extended visit to eastern relatives, it was noticed that she had a habit of making peculiar jerking movements with the hands and shoulders, very much like the gesture understood by the term shrug. While eating at the table she also sat with the elbows held far from her sides. She seemed to find these movements more or less necessary while eating, for which she was reproved. The position of the elbows was noticed preceding her visit. Her mother observed when she returned that while eating she held the elbows tightly against the trunk and in such an awkward manner that she was again smartly reproved. This peculiar position was soon supplemented by her sitting on the extreme edge of the chair and bending forward toward the table. She was reproved smartly and repeatedly, especially by the father, for the peculiar movements and ridiculous postures. She had always been unduly sensitive, and, like her mother, blushed at the least thing. The reproofs seemed merely to aggravate her condition until shortly she found herself unable to sit at the table with her father because of the violence of the motions of hands, arms, and shoulders. Shortly they increased until she was unable to eat in the presence of her mother, and finally became so pronounced as absolutely to prevent her sitting at the table, and for over one year and a half all of her food has been taken while standing in a room apart from anyone. She soon became so sensitive about her terrible condition that she could not be coaxed to go out of the house, in which she has remained for over one year. These tic-like contractions extended to the neck, drawing the head backward and the body sharply to the right side, indeed so marked was this lateral deviation that she appeared to have a curvature of the spine. These conditions were in full force when I saw her.

To physical examination she seemed a healthy girl. There were no changes in the reflexes, nothing whatever to indicate any profound disturbance of the nervous system otherwise than manifested by her tic. The heart, lungs, and abdomen were normal, and there was apparently nothing to indicate that she was suffering from any obsessional ideas, or any of the marked psychic manifestations of tic. I believed then, as I do now, that her peculiarities in eating were the result of fear of reproof. At all times her tic is greatly increased by the presence of strangers. It ceases during sleep, but at times is so extremely severe that it is almost impossible for her to maintain a standing posture, especially if embarrassed. She is growing slowly better, but of late has entertained exaggerated ideas as to the way her family should live, and has made some suggestions for improvement, which, knowing her family's circumstances as she does, she ought to realize as impossible.

It is to be noted that each of these cases are incoördinate in movement. The difference between an incoördinate and a coördinated tic can be illustrated in the following case:

Case VI.—A male, white, aged twenty years, first developed a movement of the head and neck as if his collar was ill-fitting or uncomfortable. Now this was a simple tic with little coördination of movement, but when a few months later he accompanied the neck movement with an extension of both arms and a quick grasp of his fingers as if to pull down his cuffs, we had a perfect example of a complex coördinated tic and an excellent illustration of the merging of one variety into another.

Case VII.—The following case is one of the most remarkable of its kind that I have ever had the opportunity of studying. It illustrates an acquired tic of profound psychopathic type, with a great degree of coordinate movement, and also affords an excellent example of the tendency of the tic disease to repeat itself under proper stimulus.

Mrs. A. G. was referred to me by Dr. Gregg of Wellington, Ohio, July 18, 1902. She was born in the United States thirty-four years ago, is married, but is living apart from her husband. She has two healthy children, one six and the other two years of age. She has never had any miscarriages and has never lost any children. As a child she was rather delicate. She was attacked with whooping-cough at six, which was followed by a difficulty quite similar to that from which she now suffers. The affection persisted until after puberty, when it gradually disappeared. The father and mother are both living and healthy. She had one brother, who died at sixteen of some kidney difficulty. The father, who accompanied her to my office, appears to be a healthy man and free from marks of degeneracy. I could not learn anything to cause me to believe that the mother was neurotic or a psychopath. Her grandparents lived to a ripe old age. One maternal uncle suffered from epilepsy, which is the only history of nervous disease obtainable in her family history. Four or five months preceding the birth of her last child she began to present a tic of the diaphragm. At this time she was having trouble with her husband and which caused her to worry very much. She now states that she does not worry, but that her tic has grown from bad to worse until she is now in a deplorable condition.

The patient is a tall, strong woman, light brown hair and blue eyes. Her sight is good and all other special senses appear normal. There are no signs of any disease diathesis, nor of presenile degeneration. Pulse is 120 to the minute, but she confesses to the fact that she is very much more agitated than usual. There are no stigmata of hysteria, and outside of a small head her stigmata of degeneration are few and not marked. Her knee-jerks are normal and equal, but the wrist-jerks are plus, and she has a slight jaw-jerk. The most striking thing is her respiratory tic.

She breathes rather superficially for a number of respirations, then she takes a very deep inspiration accompanied by a sound, during which a-h-h-h-h-h is prolonged, the h being carried over in the expiration and gradually exchanged into an a, which is carried to the end of the expiration—thus, a-h-h-h-a-a. The inspiration is labored and rather slow, and after taking several such she places her hands on the sides and says in a very satisfied tone, "There, I feel rested now." In watching these movements, when the chest is bared, it is noticed that the inspiration is very deep and prolonged almost to violence. The shoulders are lifted upward and the subclavicular spaces are deepened to a remarkable degree. Between these marked respiratory spasms

she produces a peculiar sound, a belching sound, which is evidently due to swallowing air and then throwing it up through the œsophagus with a great deal of force. Believing that she was aërophagic—an air swallower—I placed my finger below the pomum adami, when the slightest pressure caused her to make an effort to vomit, and she stated that she could not breath, although she did not appear to be cyanosed.

She is markedly dermographic. One could draw a map of Africa on her skin without trouble. In addition to the diaphragmatic tic there appears to be a tic like spasm of the abdominal muscles. During the whole of the examination she continued working with the right hand, pinning and unpinning a pin on her dress over the left knee. Her fingers are sore and calloused by pricking them while engaged in this act, and the dress is in shreds. On the left forefinger is a ring made of many strands of common cotton thread. This ring is continuously being rolled from the forefinger to the thumb and back again with almost inconceivable dexterity and rapidity. On her little finger is a similar ring, which is operated in a like manner but less frequently. On account of her respiratory spasm she has great difficulty in eating, but less trouble in drinking. She is able to eat much better when alone. She is distinctly melancholic, and although she very successfully conceals every subjective evidence of her psychosis, observation convinces me that she also suffers from counting mania.

She cannot explain why she does these peculiar things, but states that she has no rest unless she repeats them. If she is asked a question she invariably takes one or two of the very deep inspirations immediately followed by the swallowing of air and the belching sound, before she answers. During the concentration of her muscular energies in producing the diaphragm tic, the coördinate movement in reference to the pins and strings are inhibited, but are again immediately resumed.

Case VIII.—Marcus S., aged thirteen years, born in United States, of Hebrew parentage. He was always a delicate child, nervous and fretful. I have observed his growth from infancy, and it has been characterized by many nervous symptoms. Mother is a large healthy woman of tuberculous parentage. The father is a superior degenerate, extremely excitable, is rheumatic, and has a neuropsychopathic ancestry.

Marcus suffered a slight chorea at eight, after which he had a tic of the face, which persisted for nearly a year and consisted of a peculiar sniffling and gustatory noise, evidently produced by the tongue. Two years ago he again came under my observation because of nervous twitchings and a peculiar movement which consisted of drawing the knee upward until he could put his hand in at the top of his stocking, in which he would insert his forefinger and run it around between the leg and tocking, repeating this peculiar obsessional movement many times a day in spite of rewards, threats, and punishment. A prolonged trip in the country, sumbul, arsenic, and iron relieved him. In March, 1903, he was again brought to me because of a peculiar complex, coördinated tic, and although he stoutly maintained that he could control this tic, nevertheless he repeated the movements at least four times in my presence during his first visit to my office. The movement consists in placing the right forefinger on the upper lid of the right eye so as to evert the lid, and then applying the next finger to the lower lid until the lower lid is pulled down and the eye pulled open. The ball is turned upward and inward at the same time and with a sudden twitch the forefinger is brought into the external canthus of the eye, much as one would in attempting to remove a foreign object, the movement is complete and the imperious demand of a subconscious idea satisfied. You will observe how these acts appear volitional and like habit development. They are not. They are compelled.

The boy is a superior degenerate and bright in school, but is unruly at home and promises to be a great trial to his parents. His saving grace up to the present time is an inordinate love for all forms of out-door sports; it has already overcome much and is his only hope. He also has nasal obstruction and hay-fever, for which he was sent to Dr. Leuker.

Case IX.—In Dr. Tooth's clinic in London, I once observed a child presenting a very complex coördinate tic. The movements of which were executed as follows:

The child would suddenly balance itself on the left foot, and when it appeared satisfied with its equipoise the right toe was accurately applied to the Achilles tendon of the left heel, and slowly moved upward and downward. At the same time the chin was thrust forward and the back of the right hand vigorously rubbed the whole length of the forehead and nose. This movement had been repeated so many times during each day that the heel of the shoe was worn through and there was not only a callus upon the forehead and nose, but also upon the back of the hand.

The following case of tic with coprolalia aptly illustrates an interesting phase of this little-studied disease:

Case X.—Isaac L., aged thirteen years, was born in the United States of Jewish parentage. He is the third child of a family of seven; all of them are more or less neurotic. The mother states that the father is healthy; she herself is a degenerate and suffers from both hysteria and neurasthenia. A maternal uncle became insane and committed suicide.

Isaac is a well-developed boy, was always backward in school, but has never suffered any severe illness. At the age of eleven he had a winking tic, which was looked upon as a habit spasm. It was noticed, however, that at that time he had peculiar movements of the head in which the chin was retracted and lowered while the occiput was drawn far backward. His mother said that he had always been a willful child and given to profane and obscene language. He came under my care at the out-patient's department of the Cleveland General Hospital six years ago. Examination determines that he is a degenerate of inferior type. His ears are misshapen, features irregularly formed, arms over-long, and he has some lateral deviation of the spine which brings the left shoulder lower than the right. Muscular relaxation allows the scapula to protrude, which accentuates a kyphosis that seems to extend from the fifth cervical to the sixth lumbar. Across the shoulders, and also across the loins is quite a marked growth of light brown hair. During the whole examination he kept up an inspiratory tic accompanied by a peculiar movement of the head similar to that before described. Nasal respiration is free and the tonsils not enlarged. The reflexes are apparently diminished in strength. Shortly after he came under my care he seemed to grow worse and the movement of the head was altered in character, the chin being turned over the right shoulder. He was taken into the Cleveland General Hospital, where it was discovered that he had a marked coprolalia, and to it was due much

of the profanity and obscenity of which his mother complained. The head would be turned over the right shoulder, two or three sniffling sounds accompanied by gutteral noises made and immediately afterward, without any reason or cause, he would fairly explode cuss words or some obscene filthy expression, usually consisting of but one or two words. He was prompt to tell you that he was unable to control this, and, in fact, unless some one remarked it to him, he seemed unaware that he had said anything out of the ordinary.

The following case was referred to me by Dr. Alfred Maschke, and serves to illustrate a type that cannot be separated by clearly defined lines from other degenerative diseases of the evolutional period of life, such as the abortive type of dementia præcox, evolutional neurasthenia with obsessions, and hysteria with its disordered emotions and multitudinous compulsions. The marked catatonic posturing; the echolalia or word echoing; the echokinesis or mimicking movements; imperative conceptions, such as counting the spoons of sugar (arithmomania); the *delerie du toucher*, or mania for touching things; the phobias, such as fear of water, and fear of changing clothing, render the case both interesting and confusing.

Case XI.—Etta L., Jewess, aged eighteen years, the eldest of three children. She had a natural birth and never experienced any violent illness.

Her mother suffered from lactational melancholia and once attempted to throw her children out of a window, and is a markedly nervous, excitable woman. The father is a quiet man, but possesses an unusually large number of physical degenerate stigmata. The mother had one brother who was a victim of neurasthenia, which was marked by obsessional ideas and delusions.

Etta was said to be bright in school and was well until two years ago, when she began to be tortured by a feeling as if she had a tight cap on her head, and a sensation that the child behind her in school was pulling her braid of hair. Shortly after this she began to have hysterical and neurasthenic symptoms, and was troubled with globus hystericus. She next developed a mania for feeling the pulse, next that of looking in the mirror and making facial contortions and stereotyped gestures. She neglected her personal appearance, would neither wash nor drink because the sight and touch of water "upset" her; she manifested fear of crowds, fear of food; soon after this she developed a marked tic of the diaphragm, and shortly began to echo-like repeat the last part of sentences addressed to her—echolalia. She has an arithmomania, counting each spoonful taken while eating; counted the spoonsful of sugar put into her coffee, and when she sat down to the table would rapidly touch each plate, dish, fork, knife and spoon within her reach. She developed a great many stereotyped actions, which were repeated over and over until she was stopped by repeated reprimand. Many of her posturings were suggestively catatonic. When I first saw her, an aunt summoned me cautiously to a door where, by peering through some draperies, I could see the girl sitting alone, with her hands in her lap. The aunt passed through the room and spoke to her and then went out, leaving the girl supposedly alone. The moment the aunt left the room the girl stretched her arms high in the air; then bringing her fists down she beat her breasts with great rapidity; and then stretching her arms out in front of her she rapidly rotated them, allowing the fingers to hang loosely; all the while the head was rapidly rotated from side to side. This she continued for a period of perhaps a minute, during which time she emitted a sound very much like that of a grieved puppy. She was undersized, elflike in appearance, possessing many physical, mental, and psychic stigmata of degeneracy. She had all sorts of obsessions and compulsions. She was hysterical; was ill-tempered, and her intellect was not of high order. She was a marked type of inferior degenerate. No organic disease could be found, and outside of the polymorphic manifestations of hysteria, dementia præcox, catatonia, and tic, no actual disease of the nervous structures existed. Perhaps you think she had enough; I am sure of it.

Treatment was not attempted in her case, because the coöperation of the family could not be secured.

I hope you have not been wearied by the unavoidable prolixity of my relation of the details of these interesting cases. In all of the cases of psychomotor tic you may perceive the presence of the dominant idea. Such compulsions have been noted in those not subject to any marked departure from the normal. The oft-quoted example of Samuel Johnson's compulsion, which was manifested by his touching every post he passed, is but an illustration of a rather common dominant idea, that to perform some formulated or stereotyped act or to repeat either in thought or words some fixed formula is necessary in order to satisfy an inner whim of the subconscious brain.

I recall numerous instances of arithmomania. One, a prominent jurist of this city consulted me in reference to this dominant idea which had tyrannized over him so remorselessly as to cause alarm. He assures me that he counts the windows in the cars; the windows in houses on the street; the steps up to the Court House and City Hall; the number of men at the trial table; the witnesses; the jury in the box, and the shining heads of the brass nails of the court-room chairs.

I also recall a boy of nine years, a bright degenerate son of an alcoholic father, who invariably smelled of each article of food taken into his hand. Threats, rewards, and punishment by the proud mother had little effect. When last I saw him, a well-grown lad of fifteen, he told me that he could control the dominating idea only by putting his whole mental forces on the alert. If he relaxed his vigilance he was certain to be humiliated by finding himself smelling of the first article of food which his fingers touched. He must especially exert the will to keep himself from smelling of a hot biscuit or roll as he breaks it apart.

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SOME PHASES OF CHRONIC LARYNGITIS.*

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In writing of this particular form of disease of the larynx, Lennox Browne said it was by far the most frequent form with which the specialist has to deal. The word physician might appropriately be substituted for specialist because some variety of chronic inflammation of the larynx falls to the care of every practitioner. It is not until symptoms become grave or annoying, usually, that the aid of a specialist is sought.

From the very fact of its prevalence less interest naturally would be aroused in the mind of the observer than would occur in the event of there being an element of rarity or obscurity attached to it. By just so much, however, the subject ought to be one of concern and should demand the respect which is due to any disease process the near or more remote conditions of which might be fraught with greater danger than it is customary to ascribe to

*Read before the Medical Society of the State of New York.

ordinary chronic catarrhal inflammation of the mucous membrane in another spot.

From the extreme of a congestion and hypertrophy excessive and aggravated, as seen in that type represented in the chronic alcoholic with hoarseness, dysphonia, and coarse, raucous cough, to that in which there is barely a trace of congestion along the border of the vocal cords and the interarytenoidal space, the intermediary might be crowded with a multiplicity of forms much too numerous to be described within the limits of this paper. Some certain symptoms are, however, likely to be met with in almost every variety which would go far to make the clinical picture homogeneous and would limit the area of treatment essentially to narrow bounds.

It is assumed that at this day every physician is competent to use the laryngeal mirror and to differentiate the commoner diversities of involvement of the larynx, and that the hour has passed when the attempt to relieve or cure a purely local affair by expectorant mixtures taken into the stomach is the ordinary routine practice.

It seems worthy of reiteration that this local manifestation, apparently of trivial importance when compared to other disease, is, on the contrary, a matter of more serious consideration not only with the view to prolong life but also to assist its victim, if otherwise sound, to a state provocative of greater comfort and usefulness.

Bearing these facts in mind, it might conduce to the value of a discussion if the salient points in selected cases were enumerated, leaving out speculative theories and setting forth what was estimated to be marked characteristics of these few types. It would also be a means of exchanging ideas in reference to the most suitable plan of alleviation.

With no further preliminary, the first example to be cited, with some of its conspicuous details, was that of a young woman of twenty years whose complaint was that she had been hoarse and coughing for twelve weeks. The family history was perfect so far as tuberculosis was a known factor in causing the death of any of its members. The patient's health had been good, with the exception of this attack, since early childhood, when she had the various exanthemata. During the twelve weeks of her illness she had lost flesh and courage, laboring under the belief that she had consumption. A teasing cough with little expectoration gave her no relief either day or night. Upon inspection the pharynx was pale; the larynx also partook of the same anæmic appearance. The lower, or cartilaginous portion of the vocal cords was congested and thickened. The interarytenoidal space was swollen and abraded, exciting suspicion at once that there might be tuberculous infection, but the sputum was devoid of the presence of bacilli. It was regarded as a suspicious case and one to be carefully watched. Except for a rather mild bronchitis, the lungs were healthy. For three weeks this patient received local treatment to the larynx with a subsidence of the cough when it was deemed advisable that a change of scene would hasten recovery. For three months she remained away from the city in a quiet rural neighborhood at an altitude of twelve hundred feet above the sea level, following explicit directions as to treatment, which was that of inhalants. Upon her return to the city all of the vexing symptoms had disappeared and the patient shortly passed from notice. Six months later she had no recurrence of the throat trouble and had been constantly occupied at her former vocation.

Another type of the various forms which have come under observation was as follows: A merchant of forty-five years, robust and of healthy parentage, who was active and athletic in his mode of life, He had, however, been given to indulging in dietary excess, using likewise liquors and tobacco freely. This man had an irritating cough and a husky voice, the result of recurrent attacks of laryngitis extending over a period of years. At the time he was first seen he had just returned from a trip abroad, where he had taken a course of waters at one of the well-known Spas, receiving the assurance that there would be no return of his throat trouble for at least five years. The pharynx and all parts of the larynx were of a purplish red appearance and extremely sensitive, so much so, that the merest touch with a probe was sufficient to bring on a spasm of the glottis. The vocal cords were deeply congested and thickened, their excursion being considerably restricted, due to faulty action of the abductor muscles. This patient having suffered so much and for so long was ready to adopt a plan of treatment enforced by a strict regimen. He became amost abstemious in his habits, and after a few lapses was convinced that if he wished to escape distress he must follow the rules which were chosen for his guidance. Assuming that it was a gouty diathesis that must be kept in mind, and the condition of the larynx a local manifestation, general treatment was pursued with the blandest measures to the larynx in the form of steaming. The patient was kept under control quite willingly with a gratifying result. The deep congestion gradually disappeared and the voice tone resumed very nearly its normal sound.

A third variety was that in a man of spare build, fifty-seven years of age, of exemplary habits and healthy ancestry. His adult life had been spent in active professional duties, during which time he had scarcely absented himself a day from his office. His anæmic appearance suggested that this might be one of tuberculosis. Repeated examinations had failed, however, to discover any bacilli and medication, for specific infection had no appreciable effect. The lungs were in no way involved, the disease being entirely supraglottic. For many years there had been chronic nasopharyngitis with much gastric disturbance. Upon inspection the pharynx and palate were of a fiery red color, angry looking, as was also the whole of the larynx, all portions of which were in a state of hypertrophy. The vocal cords could scarcely be recognized on account of the tumefaction of the ventricular bands. The interarytenoidal space was filled by a projecting mass, while the epiglottis looked like true œdema. It was firm, hard, and of even contour. There was dysphonia with moderate cough, not disturbing the patient at night after once falling asleep, and free expectoration. The rhinitis and pharyngitis responded to treatment within a few weeks, so that he was sent to the country for a more complete rest. He reported once each week for treatment. After trying many different remedies the spraying of pure alcohol into the larynx gave this patient the most comfort, so that he expressed a preference for this medication to anything else. He was not permitted to use his voice, but made known his wants by means of writing or signs. Eight weeks' absence in the hills brought him back to the city in an improved state, and he was able to use his voice somewhat. He returned to business with such renewed zest that he suffered a relapse with considerably more swelling of the epiglottis than at first. The amount of pain now present gave evidence to the fact that the deeper structure of this cartilage was affected. Cessation from business and from the

attempt to use the voice ameliorated the symptoms, but he was again directed to remove from the city, this time to a warmer climate to escape the rigors of a Northern winter. Then there was impressed upon the mind of this patient the necessity of a close adherence to such conduct as would prevent any repetition of former painful experience.

The last to be mentioned is the case of a woman, twenty-eight years of age, who was under observation a year, being treated for nasopharyngitis and laryngeal inflammation of the catarrhal type. One parent had died of what was presumably tuberculosis of the lungs. This patient was very susceptible to atmospheric changes, taking cold easily, always confined to the upper air-passages however. Rarely was there much bronchial affection. The usual remedies were applied to the membranes of the nose and throat with improvement. There had been a recurring laryngitis for several years, mostly relieved by expectorant cough mixtures, but which had never been fully recovered from. The larynx on first sight was rather paler than ordinarily. The posterior portion of both cords for a third of the distance was reddened along the edges. The arytenoids were slightly enlarged with a superficial ulceration at the interarytenoidal space. This ulceration entirely healed under treatment, while the patient's general condition steadily improved to such an extent that she was competent to undertake and to accomplish more than she had done for some years previously.

Indiscretion on her part by exposing herself to prolonged cold and wetting brought on a severe attack of laryngitis with bronchitis. This attack resisted every effort for its betterment. The cough was almost constant, to be relieved only by pretty large doses of morphine. The severity of this last onset was confined to the posterior commissure, one of the cough spots of Stoerk. This place was constantly bathed in mucopus, which was with difficulty cleaned away. The case progressed rapidly despite all treatment. There was consolidation of the left apex, with all the symptoms of tuberculosis, which was verified on finding the tubercle bacilli in the sputum. Examinations previous to this last invasion had failed to discover them. With a long catarrhal history, and the fact that a parent had died of phthisis, would lead one to judge that, given the proper opportunity, such a patient as this was would eventually succumb to the tuberculous infection.

Although with a paucity of detail, these few cases which have been quoted may well be adequate to emphasize the necessity of well-directed treatment and recognition in every case which comes under notice. These patients ought not to be put off cursorily, for, without doubt, a large proportion of them eventually yield to tuberculosis where proper attention at the beginning might avert such a calamity.

It is precisely in these cases that one ought to insist upon stringent rules with the object of securing a return to a normal state of health. Even in the simple catarrhal inflammations there should be an insistence upon rest to the injured part, and frequently a sojourn, for a time at least, to another section of the country from that in which the patient may be living. There may be occasions when a change of occupation would be deemed imperative, especially when it is considered how potential for future evil these fancied slighter ailments are.

There may be as much thoughtlessness and failure to look ahead in the troubles incident to the nose and throat, as, for instance, often happens in the care of the ears. When it becomes established that there is serious complication, it is too late to do more than to attempt to obstruct further progressive movement. Unfortunately, too often this becomes a hopeless task beyond human capability to cope with.

It is as well the duty of the physician to prevent disease as it is to cure, and to instruct those who have his confidence in the wisdom of safeguarding their health religiously. The French have a proverb that at forty every man is either a doctor or a fool. It is a laudable ambition to endeavor to lessen the number of fools in the world.

My object shall have been attained if in these limited words the impression shall be given that chronic catarrhal inflammation of the larynx, by no means incurable, deserves the most careful and painstaking management.

19 West One Hundred and Twentieth Street.

THE RECENT PROGRESS IN GENITO-URINARY SURGERY.*

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My remarks will be limited to but some of the advances in the surgical field of genitourinary diseases, for it is by no means possible at any one moment, with the great wealth of literature at our disposal, to grasp all.

Beginning with the earliest period of life, we can report progress and a distinct gain in the operation for the relief and cure of the distressing condition of ectopia vesicæ. Maydl's operation offers this, by transplanting the ureters, embracing an elliptical portion of the bladder, into the sigmoid flexure, without risk of an ascending infection. This operation, though, is adapted at present to those who have survived the tender years.

A more commonly encountered affliction, readily relieved by the knife, is that of hypospadias. The plastic, jointly described by von Hacker and Beck, offers the patient the distinct gain of urinating more cleanly, for procreation, as is well known, is not influenced by the hypospadias. It is the consensus of opinion that this tunnelling operation is most effective and the cures are lasting.

For undescended testicle in the earliest years, as heretofore, the gentlest of massage and traction efforts are in place. Operation under ordinary circumstances should be postponed until the age of puberty. At this time, if there are indications such as pain, neuralgia or swelling, an artificial gubernaculum should be formed out of the tunica vaginalis, to aid in anchoring the testicle.

In this connection it is opportune to allude to a condition of increasing occurrence, viz., torsion of the spermatic cord. It simulates strangulated hernia, and demands castration. Exceptionally, the twist may be unraveled.

Castration has seen no modification of late, save that it is the better practice for most of the conditions to castrate very high, following up the structures to the internal ring. It happens occasionally in congenital hernia, while dissecting the sac, that the vas deferens is divided. If it be sutured end to end, there need be no doubt as to the thorough restoration of the lumen of the vas, and consequently no danger of the testicle undergoing atrophy.

The vas deferens has also been successfully implanted into the head of the epididymis, where the latter was resected for localized tuberculosis, with all the evidence of regeneration of the tubules.

*Read before the Eastern Medical Society of New York, March 11, 1904.

This procedure is warranted, if we can feel certain that the vas deferens is itself not invaded by disease ascending from the epididymis. In such instances, following castration as high as possible, the vas deferens should be drawn upon, when it will be found to tear at the site of disease. Opposed to this crude procedure, it has been suggested by von Büngner, to inject into the vas deferens solutions of iodoform, so as to treat the disease existing beyond. Such injections are rendered easy because of the thickening of the vas, and may also be made into the vas deferens at the stump of castration.

With this consideration of the surgery of the vas deferens we have covered all that appertains to tuberculosis of the epididymis, save to refer to the difficulty of diagnosticating and differentiating this disease in its incipiency. For this purpose the use of tuberculin at times is efficient.

Epididymitis of gonorrhœal origin has also been relieved by surgical means. In the acute stage, where the tension is great, some of the fluid in the tunica vaginalis may be abstracted by aseptic puncture.

The older methods of operating hydrocele have been replaced by the simple and efficient method of eversion of the sac. A small percentage of failures is reported following its use. Its advantages are the rapidity and readiness with which it can be applied, it being possible to do the operation under cocaine and to allow the patient to be about within a couple of days thereafter.

This principle of eversion of the sac has also been applied to congenital hernia, thereby obviating the necessity of great dissection to make an artificial tunica vaginalis.

Persistent and diligent use of the endoscope has taught us at least this—that in the urethra there are periurethral and paraurethral passages, amenable to the knife, thus once for all curtailing an attack of hitherto persistent chronic gonorrhœa. While most of us are satisfied with gradual and progressive dilatation of the urethra with sounds, or, failing in this, to resort to urethrotomy, followed by sounds, there is a small percentage of instances in which nothing short of resection and anastomosis, as planned by Koenig, will accomplish a satisfactory result.

The seminal vesicles have been attacked by the knife via the perineum for tuberculosis. It is an operation, though, of great difficulty, justified if cystoscopy shows the bladder to be intact. Without enumerating the conditions that call for the formation of a permanent suprapubic vesical fistula, we are fortunately in the possession of a very efficient method of preventing leakage of the fistula by applying the principle of Witzel used in gastrotomy. Through such a fistula it has been possible to practise cystoscopy, to learn of further progress of the disease in the bladder. When the cystoscope cannot be introduced per *vias naturales*, it has fortunately been suggested to us by Fenwick to pass the same through a large cannula employed in a preliminary suprapubic puncture.

In consequence of a more accurate knowledge of intravesical conditions incident to cystoscopy, the practice of litholapaxy and lithotrity has, and rightly so, again come in for due consideration, and it bids fair to rival the modern dictum of suprapubic cystotomy at all times. Except in such instances in which the cystoscope also shows an enlarged prostate to exist, there suprapubic cystotomy with simultaneous prostatectomy is in place.

Prostatectomy, by the perineal or suprapubic route, is still *sub judice*—seemingly a revival, as it were, of the old controversy of suprapubic *vs.* perineal section for stone.

For the galvanocautery incision of the prostate, it is the sober opinion of a growing number of surgeons, that it, too, must be accorded a place amongst the useful operations for hypertrophied prostate, and to those to whom this operation on a closed bladder does not seem surgical, Chetwood's perineal galvanocauterization is in place.

Operations on the kidneys, with the increasing applications of the cystoscope, have been greatly multiplied. Ureteral catheterization is largely responsible for this. The separate collection of the urines, free from any contamination of either side, or from the bladder, for purposes of pathological bacterial investigation, can only be accomplished by ureteral catheterization. Such examinations, however, do not in any way give us the desired information of the renal sufficiency of the kidney to be left behind, for no matter how much diseased, it is the freezing point of the urine that speaks for the propriety of a nephrectomy. This freezing point of the urine is to be studied alongside of that of the blood. Furthermore, when the freezing point of the blood itself is below the limits, it may be superfluous to catheterize the ureters at all. At this stage, a sufficient amount of information as to which is the more diseased kidney may be obtained with one of the new urine separators of Harris, Cathelin, and Luys. The dread of infecting one presumably healthy kidney when bilateral catheterization is performed is exaggerated. The tetralogy of cryoscopy, ureteral catheterization, cystoscopy, and urine separation gives us the most perfect and accurate information of the kidney function, and bids fair to still further widen our possibilities in kidney surgery.

Subarachnoid injections of cocaine for the relief and cure of functional vesical disturbances and impotence have come to us as the latest innovation.

The *x*-ray, too, has made its conquests in the recognition of vesical, renal, and ureteral calculi. These are all familiar to you. We now know that all calculi may be skiagraphed, the phosphatic with greater difficulty, to be sure; yet on the authority of Albers Shönberg, by aid of a diaphragm of lead, to shut out some of the rays of greater penetration, aided by compression of the intervening tissues, we can successfully photograph all calculi. Another refinement of skiagraphy (Wittek) for detecting renal calculi, consists in inflating the stomach and colon and even the bladder with air. These are thus rendered more refractory to the rays, and the calculus then shows by more marked contrast, being less refractory to the rays.

There is much doubt prevailing as to what constitutes a movable kidney in the pathological sense, consequently the method of nephropexy is subject to constant change. The removal of kidneys of not too large a size, without causing much disturbance of the overlying soft parts—we have hernia particularly in mind—has been rendered possible by the blunt division of the muscles as suggested by Morris. Hydronephrosis is often caused by movable kidney, and the mere anchoring of the kidney has been deemed sufficient, instead of its removal or extensive plastic work on the ureter.

The exploratory nephrotomy for hæmaturia, and the cure of this condition often incident to operation, has led to operative measures of capsule resection of the kidney for the cure of chronic nephritis. This is entirely too recent a procedure to permit of anything more than passing mention.

Tuberculosis of the kidney forms by far the largest contingent for operative interference. It has been

responsible for the great development of cystoscopy. We have learned by its aid to recognize tuberculosis of the kidney in its earliest form. At this stage there seems to be slight evidence to the effect that hygienic measures of themselves may be curative of incipient renal tuberculosis.

If not the acme of renal and vesical surgery, at least the greatest progress has been attained within the last two decades by the use of the cystoscope, and we wish (*obiter dicta*) these remarks to be a fitting tribute to the genius of Max Nitze, whose twenty-fifth year of the discovery of the cystoscope is at this hour being celebrated throughout the world.

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Lymphosarcoma of the Mesentery.—G. Candido describes a rare case of lymphosarcoma of the mesentery, with autopsy. Primitive tumors of the mesentery all belong to the connective-tissue type, while epithelial tumors result from an infection extending from the intestine. Primitive tumors include fibrolipoma and sarcoma. Sarcoma of the mesentery is quite rare. The patient was twenty-six years of age. For two months before he was seen he had complained of pain in the dorso-lumbar region extending to the sacrum, but the size of the tumor indicated a much longer duration for the growth. The pain was due to the pressure of the tumor on the solar plexus, the center of vegetative life. Compression of the stomach, intestine, abdominal sympathetic, and vagus produced loss of appetite, stercoraceous vomiting, and obstinate constipation. The urine was scanty, contained albumin, hyaline and granular casts, leucocytes and epithelial cells. There was a tumor in the abdomen which was immovable, painful, did not move with the movements of the diaphragm, and which occupied the left hypochondrium and extended up to the ensiform cartilage. The surface was hard and nodular. An exploratory incision showed that the tumor involved the mesentery close to the vertebral column, and was adherent to the stomach and duodenum. The veins, arteries, and nerves of the mesentery were compressed by it. The autopsy showed a tumor the size of the fetal head in the epigastric and mesogastric regions, adherent to the duodenum, aorta, pancreas, and vena cava. There were other smaller tumors in the mesentery corresponding to the lymphatic glands of the mesentery. The microscopical examination showed it to be a lymphosarcoma, with loose reticular connective tissue, small round cells, and a few fusiform cells. Scattered through the tumor were spots of necrosis.—*Annali di Medicina Navale.*

The Powers and Limitations of Therapeutics.—Wm. E. Quine emphasizes the fact that the subject of therapeutics is being neglected in our medical colleges. In systemic affections one of the most valuable remedies is water. Given copiously by mouth, by colonic flushings, and subcutaneously in the form of salt solution in urgent cases, water makes a decidedly favorable impression on many threatening symptoms, apparently by washing out the toxins which have been causing them. Water employed efficiently internally in systemic infections and intoxications lowers temperature, subdues delirium, promotes sleep, lessens circulatory and respiratory derangements, and conserves the strength of the patient. Apparently water accomplishes these results by acting on the cause. As to morbid anatomy, the writer states that it may be questioned whether the medicinal therapeutist, with few exceptions, has any important influence on morbid anatomy when the medicines have to act upon it through the medium of the circulation. Iodine in actinomycosis, mercury and iodine in syphilis, arsenic in squamous diseases of the skin, iodo-thyroidein in myxœdema and in cretinism, and the medicines used successfully in the treatment of inflammatory affections of mucous membranes are among the most important exceptions. But when medicines are brought to bear directly upon morbid anatomy they often affect it profoundly and determine the restoration or cure of the patient. The judicious treatment of "symptoms" is of mighty importance, and as genuinely life-saving or curative as any of the processes of surgery. No claim is made that medicines can interrupt the succession of events which constitutes the natural history of a self-limited infectious disease. But such a disease may be "cured" by medicinal and hygienic agencies in the sense of being helped by those agencies to a favorable termination which would not otherwise occur. But when an advancing process of morbid anatomy which is beyond the reach of known therapeutic influences goes so far that not enough normal anatomy is left to maintain function, even with the assistance of medicinal and hygienic remedies, the time and conditions are at hand which point to the limitations of therapeutic power.—*The Medical Standard.*

Polycythæmia of Congenital Heart Disease.—Ira S. Wile desires to urge in this affection the claims of an actual increased production of red blood-corpuscles due to the effort to bring about the oxygen equilibration of the body and proper cell nutrition. The most important congenital cardiac conditions found in congenital cardiac malformations are a patulous foramen ovale, an incomplete interventricular septum, a stenosed pulmonary orifice, and a persistent ductus arteriosus to functionate as a natural safety-valve. The usual symptoms are cyanosis, dyspnœa, and clubbed fingers. Polycythæmia may also exist without any derangement of the heart. Stengel believed not in an absolute polycythæmia to furnish greater oxidizing surface, but in a relative increase of corpuscles due to stagnation and inspissation of the blood. As to polycythæmia and corpuscular longevity, with the rate of corpuscular production constant and the length of corpuscular life increased, polycythæmia naturally follows. According to Arcangeli, with deficient amount of blood going to the lungs in cases of pulmonary stenosis, there is insufficient oxidation. This lack of oxygen stimulates the hæmatopoietic tissues to productive activity with cyanosis and polycythæmia as a result. The greater the polycythæmia, the worse the prognosis. It has been observed that in chronic heart disease, with continued slight inadequacy of circulation, there is often polycythæmia. In congenital heart disease the polycythæmia is said to be due to a disturbed distribution of the corpuscles. There are three methods of increasing oxygen available to the body cells: (1) To increase the power of the cell to carry oxygen is impossible, because of the limitation of this ability to the single iron atom of the hæmoglobin. If the total amount of hæmoglobin per corpuscle were increased, the weight and bulk of the blood per cubic millimeter would be greatly increased even if the number of corpuscles were to remain stationary. With pulmonary stenosis only a portion could be aerated out of each mass, leaving the congested venous heart; oxygen equilibrium could not be maintained. (2) Attempts at more rapid aeration by increased heart action show themselves on exertion, but the increased demands upon the myocardium soon bring about its weakening and power of compensation is lost. (3) To increase the number of red corpuscles without greatly altering the actual quantitative mass of blood propelled through the lungs does not offer any difficulties. It offers the solution to the problem of suboxidation and cell starvation without too great a strain upon the heart itself. The writer believes that in the polycythæmia of congenital heart disease we have an excellent example of "compensatory hypertrophy." The number of red corpuscles is increased in order to secure the necessary amount of oxygen for the proper nutrition and development of the various cells of the body. The polycythæmia of congenital heart disease is to be regarded as an actual and compensatory increase in the number of red blood-corpuscles.—*Archives of Pediatrics.*

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FLIES AS DISSEMINATORS OF TYPHOID FEVER.

CONSIDERING the amount we now know as to the rôle of the mosquito in the transmission of disease, it is surprising how comparatively little we know concerning the similar activity of the much more omnipresent fly. Yet there can, *a priori*, be little doubt that that insect must distribute very many things that we know not of, as it is everywhere and into everything. These considerations lend special interest to the paper by E. E. Austen in the *Journal of the Royal Army Medical Corps* for June, which is in the nature of a review of our present knowledge of the subject. Of insects which directly or indirectly affect the welfare of man and the domestic animals, the vast majority belong to the order *Diptera*. Apart from the vast army of bloodsucking forms (midges, mosquitos, buffalo gnats, horse flies, and tsetse flies), other forms in the larval state affect man, horses, and cattle, as subcutaneous or intestinal parasites. Other forms (of which the house fly is a notable instance) eat of and pollute man's food and drink. In an order so closely associated with man, it is not surprising that many species should carry microorganisms to him, either directly into his blood at the moment of puncture, or, in the case of the non-sanguineous forms, merely mechanically. The action of flies is of the latter character. In intestinal diseases due to micro-organisms, for example cholera (in which disease the evidence as to diffusion by flies is regarded by Nuttall as "absolutely convincing") and typhoid fever, the danger lies in the overwhelming attraction for these insects of fecal matter. The commission which investigated the typhoid epidemic in our camps in the Spanish war, found the water supply good and not accountable for the outbreak, which in its opinion, the commission's opinion, was due to the agency of the flies which swarmed in all the camps and devoted their attentions impartially and alternately between the open, undisinfected latrines and the hard tack and "sow belly" eaten by the troops. Dr. M. A. Veeder reports having seen fecal matter in shallow, open trenches, with the merest apology for disinfection, and only lightly covered with earth at intervals of a day or two. The matters, fresh from the bowels, were covered with flies, while only a short distance away was an eating and cooking tent. To say that the flies were busy traveling back and forth was putting it mildly. This state of things was reproduced in many a British camp during the Boer war, of which the author gives several instances. Drs. H. H. Tooth and J. E. C. Calverley also note the interesting fact that it is almost possible to diagnose the typhoid-fever patients in a tent among a number of men apparently equally ill, by the partiality of flies for them, and they found that when such a patient put out his tongue flies would settle on it. At Bloemfontein flies were a perfect pest, everywhere and on everything, and it was impossible not to regard them as important disseminators of typhoid-fever, all the more as in South Africa the disease practically ceases when the cold and often frosty nights put the flies out of commission, though the days after 10 A.M. are as hot as an English summer (often 80°; rarely below 70°). Munson ("Military Hygiene," 1901) says: "Among troops in camps during warm weather the use of food contaminated with typhoid bacilli, brought from the latrines by means of flies, is a factor of the greatest importance in spreading the disease. Numerous observers have demonstrated the presence of the specific bacillus in the excrement of flies made to feed on infected material, and colonies of typhoid bacilli have been shown to develop in the tracks of flies which had been allowed to settle on typhoid discharges, and then made to walk over a suitable solid culture medium. Vaughan states that during 1898, in some of the large military camps, where lime had recently been sprinkled over the contents of the latrines, flies with their feet whitened with lime were seen walking over the food. He also noted that officers whose mess-tents were protected by means of screens suffered proportionally less from typhoid fever than did those whose tents were not so protected." . . . "The typhoid epidemics of 1898 gradually decreased with the approach of cold weather and the disabling of the fly as a carrier of the infection."

So much for the field observations. On the experimental side, Celli, in 1888, fed flies with pure cultures of the *Bacillus typhi abdominalis*, and examined their intestinal contents and dejections, microscopically and culturally. Inoculations of animals proved the bacilli which passed through the flies to be virulent. Also from their experiments, Lieut-Col. R. H. Firth and Major Horrocks conclude that ordinary house flies can convey infective matter from typhoid excreta or other polluted material to objects on which they may rest, walk, or feed. Such infective matter appears to be attached not only to their heads, but also to their legs, wings, and bodies. It has not, they consider, been proved that the typhoid bacillus passes through the digestive tract of the fly.

There is yet another possible mode in which flies infesting a latrine may be dangerous, even though they never leave the spot. An old idea of some Anglo-Indian surgeons was that dysentery could be caught by using the same latrine as a dysentery patient. There may be something in this. Experiments on animals have shown that the disease can be inoculated per rectum. Austen adds that this suggests the equal possibility of infection *in situ* by typhoid bacilli via flies infesting latrines used by incipient or ambulant enteric patients. In his opinion, many cases of intestinal myiasis at home (due to the larvæ of flies of the genus *Homalomyia*) are probably traceable to

oviposition by the parent flies on the anus during the use of some country privy, where the flies are common.

The author concludes by asking, what is the practical outcome? Most authors who have hitherto touched upon the matter have contented themselves with insisting upon the necessity of promptly burying all refuse, horse droppings, offal, etc., in which flies might breed, the regular disinfection of latrines, and the covering of their contents with earth. All such precautions, well enough in their way, seem, however, to Austen a little beside the mark. What is wanted is some simple but effective means, adapted to service conditions, and capable of preventing flies from gaining access to the contents of latrines at all, for however short a time, for the mischief may be done in a very short time. Smith maintains that the orthodox latrine-trench system, thoroughly carried out, is the best system known, but it is only by constant, wearying supervision that any approach to efficiency can be maintained, which at best amounts only to half-hourly covering up and liming. Austen then says that theoretically a spray apparatus, distributing lime or sulphate of iron solution, might work, but would probably be liable to get out of order and would inevitably fail, sooner or later, for want of water if for no other reason. He thinks that the best chance is offered by a system of light metal covers for the latrines, provided with apertures at regular intervals, closed by spring flaps and moved by the feet, together with the discharge at intervals into the trench of some such fluid as crude kerosene, which would probably render the latrine contents less attractive to flies.

TUBERCULOSIS IN BIRDS.

The *Journal of Medical Research* contains an article by V. A. Moore on this subject, in which the actually reported and positively diagnosed cases are very few. Pernot reported six outbreaks occurring in Oregon in 1899. The bacilli were present in "countless numbers" in the fæces, in the advanced stages of the disease. Besides reports by authors of other less unequivocal cases, Moore and Ward reported the disease in California in 1903; tubercle bacteria were found in the tissues and pure cultures obtained.

From his own studies, and those of former writers, we find that tuberculosis varies in its manifestations quite as much in the feathered tribes as it does in man and the higher of the brute creation. From the descriptions it appears that the lesions in fowls usually manifest themselves especially in the liver, spleen, and intestines; also in the mesentery, skin, and joints, although other organs are sometimes involved. The dependent or secondary changes were marked emaciation, often resulting in the complete atrophy of certain muscles, especially in the pectoral region; and anæmia, the number of red corpuscles in advanced cases falling to 1,100,000. There was a slight increase in the leucocytes, especially in the polynuclear forms. The hæmoglobin ran from 35 to 70 per cent. (by Gower's test). The temperature ranged from 102.7° to 108.5° F. In the case in which the temperature was only 102.7° F., the disease was found post-mortem to be very advanced, so that the low temperature may be considered as a terminal subnormal.

From the anatomical side, the essential difference between the structure of tubercles in fowls and in higher mammals is the distinctness of the zone between the epithelioid and giant cell band and the reactionary zone. This difference, however, is not strikingly different from the structure of tubercles in certain of the smaller mammals, especially the carnivora. There is a larger number of giant cells than I have observed in mammals, and there seems to be a stronger tendency for the lesions to spread by continuity.

In cover-glass preparations from tubercles in the liver, spleen, and kidneys, tubercle bacteria are readily found, usually in very large numbers. They resemble quite closely those of the human and bovine varieties in their size and general morphology as they are found in the tissues of the fowl. They often appear in dense masses. Chains made up of a number of short elements are rarely present.

The feeding and inoculation experiments so far made have taken two natural directions, namely that of endeavoring to infect other animals with the avian microorganism, and, conversely, to infect fowls with the human and bovine bacillus. As regards the infection of other animals by the avian form, all observers are agreed that it will produce generalized tuberculosis in other fowls, and in finding nearly constant fatal results following upon the inoculation of rabbits. With regard to guinea-pigs, so uniformly susceptible to the human tubercle bacillus, the evidence is, however, conflicting, a number of investigators producing local lesions only. But Garino inoculated ten guinea-pigs subcutaneously, and twenty-five intraabdominally; the latter emaciated and died in from twenty-eight to forty days, while the former developed local lesions only, which eventually healed with recovery of the animal. Cadiot made the interesting observation that guinea-pigs inoculated with tubercle bacilli derived from parrots developed tuberculosis as though inoculated with the human form of the bacillus. Both he and Fröhner mention the frequency of tuberculosis in parrots and suggest its probable origin from human attendants.

The same conflict of experience obtains with reference to the infection of fowls by the tubercle bacillus of other animals, Nocard, Johne and others reporting positive results, while Ribbert, Strauss and Wir Wortz, Sibley, and Moore failed to obtain results after prolonged trials.

The observations already made suggest that the infection takes place through the digestive tract, and that the virus is eliminated from the diseased birds with the excreta. The method of its dissemination, therefore, after it has been once introduced into a flock is not hard to suggest. It is more difficult to explain how the disease was introduced, but the introduction of tuberculous fowls, however, seems at the present time to be the most likely source.

The differential diagnosis has been referred to as being somewhat difficult in living fowls. The tuberculin test, reported to be of value, failed in my hands as a reliable indicator. Tuberculin made from the avian organism has since been tried by Dr. Ward, also with negative results. In the light of

these facts, the question of how to eliminate a few score of diseased birds from infected flocks containing from a few hundred to several thousand fowls each is not an easy one to answer.

The Treatment of Nephritis by Decapsulation of the Kidney.

While there can be no doubt as to the validity of the evidence that marked improvement, both in the urinary symptoms and in the general condition, has followed the operation of decapsulation of the kidney for the relief of chronic nephritis, there has been considerable difference of opinion as to the manner in which such a result is brought about. It is contended by the advocates of the operation that in sequence of the removal of the capsule of the kidney, with the attendant manipulation and irritation, an increased supply of blood is sent to the kidney, through the formation of new vessels as a result of the reparative proliferative process. That this explanation is not the correct one has been shown by histological studies of kidneys whose capsules had been removed both clinically in man as a therapeutic procedure and also experimentally in animals. Some interesting observations in this connection have recently been recorded by Dr. I. Walker Hall and Dr. G. Herxheimer (*British Medical Journal*, April 9, 1904). These investigators found that when in rabbits the capsule was removed from healthy kidneys it re-formed early, being represented in from ten to twenty-one days by a fibrous covering thicker than the original. No marked formation of new blood-channels was found, however, between the kidney and the surrounding tissues to which it was adherent. When decapsulation of the kidney was practised after the development artificially of an acute degenerative nephritis, it was found that when distinct adhesions formed small arteries and veins were present in the tissues immediately surrounding the kidney, but these were always separated from the cortex by the thick, newly formed capsule. Neither was there any evidence that the capillaries passing from the capsule into the cortex were more numerous than those that are present normally. Changes of a comparable character were observed further in two human kidneys, one of which had been incised for the removal of a calculus, and of the other the posterior portion of the capsule had been removed in order that the organ might become adherent and fixed to adjacent structures.

The histological conditions, therefore, fail to explain the occasional success of the operation of decapsulation of the kidneys for chronic nephritis; on the contrary it would seem as though the necessary traumatism and the subsequent changes would rather tend to aggravate the inflammation of the kidney. That the augmented discharge of urine and the increased elimination of urea and the disappearance of albumin and tube-casts after the operation are not due to mere relief of congestion is shown by the fact that intense hyperæmia was found after the capsule had re-formed. If the improvement be due to an influence exerted on the sympathetic ganglia entire denudation of the renal cortex would scarcely seem to be necessary, and it might with advantage be replaced by puncture or longitudinal and transverse incision of the kidney.

An Experiment in Medical Latin.

The question of a universal, or rather an international, language is one that is constantly recurring in one form or another and yet makes little or no progress toward a satisfactory conclusion. Every little while a new language is devised to meet the requirements of international correspondence. Many of these are ingeniously contrived, and almost every one, from Volapük down to the latest invention of an Italian who has thought out a grammarless Latin, would answer the purpose admirably if it only had life. They have the form, but not the essence, and resemble living speech about as much as does Peewit, the artificial face, resemble the speaking human countenance instinct with soul. Many real languages have also been presented to the suffrages of the world for adoption as the medium of international exchange. The Medical Record has done its part, and several years ago suggested the adoption of Modern Greek as the official language of medicine; many and cogent reasons were offered why this proposal should be accepted, but the returns to date show that our arguments made but one convert. We fear the world must wait a little longer until English becomes, without urging but naturally and through the irresistible force of destiny, the true lingua franca.

In the meanwhile what may be called a universal registration language is a necessity; every science, whether medicine or botany or linguistics, must have some universal medium for recording the essence of things in simple style and compact form. In medicine Latin always has and probably always will answer this purpose in a more or less satisfactory way. The language has been so employed in records of diagnosis and of pathological findings, especially in European universities, and there is no reason why its use in medicine should not be still further extended.

An interesting experiment in this line has been made in "Studies from the Department of Neurology" of Cornell University, recently published under the direction of Dr. C. L. Dana, in which each article is preceded by an abstract in Latin. The following is one of these epitomes, and we think hardly anyone, acquainted with the ordinary language of medicine and with anatomical nomenclature, could fail to grasp the sense of it even if unable to give a literal translation:

Apoplexia Iuvenilis, cum Autopsia. Auctore J. R. Hunt. Descriptio casus gravis, fatalis hæmorrhagiæ cerebri viri iuvenis viginti et unius annorum. Impetus erat subitaneus, coma profundum, cum hemiplegia sinistra. Oculorum iugata ad dextrum deviatio. Mors intra sex dies. Autopsia exhibebat copiosam hæmorrhagiam in recta hemisphæra cerebri in capsula interna et in ganglio basali. Arteriæ erant incrassatæ et atheromaticæ velut senum. Aderat hypertrophe cordis, myocarditis, atque nephritis parenchymatosa. Quod in hoc casu plurimum interest, extraordinaria degeneratio vascularia est in viro tam iuveni.

Such an abstract would surely be understood by an educated physician, whether he were French, German, Russian, or Japanese, and he could tell after reading it whether or not it would be worth his while to have the article translated for more careful study. We understand that a similar plan has been adopted in the volume of transactions of one of the London societies, and others might well follow this lead.

Substitution of a Piece of Ivory for the Whole Diaphysis of the Radius.—Karl Vogel describes the case of a child in whom the diaphysis of the radius was destroyed but the periosteum remained. A piece of ivory was substituted, and at the end of a year this showed a new subperiosteal growth of the epiphysis as well as of the diaphysis.—*Deutsche medizinische Wochenschrift.*

News of the Week.

Death of a Noted Sanitarian.—Sir John Simon, K.C.B., former president of the Royal College of Surgeons and of the Royal Society, died in London July 23. He was born in London in 1816, educated at Greenwich, and later at King's College in medicine and surgery. He devoted his best efforts to sanitary reform. He drained the city of London, abolished cesspools, and pointed out the true moral of the cholera visitations of 1845 and 1855. For twenty-one years he held the post of central medical officer, and during that time presented a series of invaluable reports to the Privy Council. One of the most important of them was the defence of vaccination. Sir John was the author of many books on miscellaneous subjects. He was a member of many medical and scientific associations. British and European universities honored him with degrees, and Queen Victoria made him a K.C.B. on the occasion of her first jubilee in 1887.

Discouraging to Promoters of Cleanliness.—After having expended over $80,000 in constructing a public bath in William H. Seward Park for the benefit of the people of the lower East Side, the Park Department has been compelled to close it because defects found in the construction of the baths after they were put in operation render them insanitary and practically useless. The baths opened on July 1, and four days later they closed their doors to the people. Since then they have not been used at all. Through ignorance and carelessness or malicious mischief, the people who have used the baths have damaged much of the mechanism. The baths are divided into a number of compartments, in each of which is a shower controlled by cocks operated by the bather. In many cases these cocks have been wrenched off, and the pipes to which they are connected have been pulled out of place, and in some instances cut. Moreover, when the baths were built, it is said, insufficient provision was made for the carrying off of the water that was used. Small drains were installed, which, when there were many bathers, soon became choked, and the water overflowed into the basement and the engine room, where it threatened to put out the fires that supplied the warm water for the baths. To remedy this defect all the present drains will have to be removed, which will necessitate the tearing out of a good part of the interior of the building.

Suits against Delinquent Milk-Dealers.—Suits against 314 delinquent Chicago milk-dealers were successfully prosecuted during the past week. The highest penalties, $50 and costs, were inflicted on two classes of offenders—those selling the low grade milk after warming, and those found guilty of using preservatives.

Serum Treatment of Leprosy.—Dr. E. R. Rost, I.M.S., is reported to have prepared a specific remedy for leprosy, similar in its mode of elaboration to tuberculin, which he calls leprolin. At the present time over one hundred cases of leprosy are now being treated in Burma by injections of leprolin, and the treatment is also being tried in other places in India. Dr. Rost claims that four of the one hundred patients treated in Rangoon have been cured, and in the great majority of those still under treatment the improvement is marked. Rich cultures of the lepra bacillus, for the preparation of leprolin, are obtained from bouillon deprived of its sodium chloride and other salts.

A Cancer Hospital for Philadelphia.—At a meeting of physicians and philanthropists held in Philadelphia on July 21 plans were formulated for the founding of a cancer hospital of national scope. The proposed institution is to be known by the dreadful name of the "American Oncologic Hospital," and application will shortly be made for a charter of incorporation. A temporary organization has been formed and a site for a building is being looked for. The hospital is to be devoted exclusively to the treatment of new growths and to scientific investigation into the causes underlying the recent increase in the prevalence of cancer. Every means that promises success in treatment will be employed, including especially electricity, the *x*-ray, and radium.

A Mild War on Patent Medicines.—The recent showing by the editor of *The Ladies' Home Journal*. of the enormous proportion of alcohol contained in many of the popular tonics, nerve restorers, and other well advertised patent medicines, has at last roused the temperance people to action, or at least to words. At the annual meeting of the National Temperance Society, held at Ocean Grove, N. J., last week, resolutions were adopted calling upon the Board of Managers of the society to memorialize Congress not to issue any patent or proprietary rights to any one for any remedy, medicine, "cure," or other compound containing alcohol, opium, or other narcotic drug, and to make it obligatory that all proprietary or patent medicines shall be put up in bottle or package with a label on which are printed the ingredients of the preparation. Another petition to Congress was decided upon memorializing that body to appoint a licensed chemist in each state to analyze all proprietary preparations, so that the sale of medicines which contain spirits may be prohibited.

The Mule in the Army Medical Department.—The *Tribune* says that army medical officers will make important tests in medical supplies transportation in course of the joint manœuvres of the army and militia in September at Manassas, Va. They contemplate the employment of the army mule as a means of getting to the firing line the supplies for the first dressing station. Hitherto these supplies have been carried in ambulances, but of course that vehicle cannot break into columns of troops, and there are places in a rough country where troops are apt to be operating that the ambulances cannot go. In the Santiago campaign there was great difficulty in transporting these supplies, and about the only means of getting them to the front was on the backs of the hospital corps men. This, of course, was unsatisfactory, and operated as a hardship to the hospital stewards. It is believed that the army mule can go wherever troops are stationed, and this facility will add to the efficiency of the medical department in the field.

The American Association of Obstetricians and Gynecologists will hold its seventeenth annual meeting at the Hotel Monticello, St. Louis, Tuesday, Wednesday, Thursday, and Friday, September 13, 14, 15, and 16, 1904, under the following administration: *President*, Walter Blackburn Dorsett of St. Louis.; *Vice-Presidents*, Aaron B. Miller of Syracuse and William D. Haggard of Nashville; *Secretary*, William Warren Potter of Buffalo; *Treasurer*, Xavier O. Werder of Pittsburg; *Executive Council*, Edwin Ricketts, Walter B. Chase, A. Van der Veer, Lewis S. McMurtry, L. H. Dunning, and Rufus B. Hall. The preliminary program contains the titles of twenty-five papers, including the president's address.

The Rocky Mountain Interstate Medical Association will hold its sixth annual meeting at Denver, on September 6 and 7, under the presidency of Dr. H. D. Niles of Salt Lake. The corresponding sec-

retary is Dr. George A. Moleen of Denver. The territory represented by the membership in its society includes the States of Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming.

The Mississippi Valley Medical Association will hold its annual meeting in Cincinnati on October 11, 12, and 13, at the Grand Hotel, under the presidency of Dr. Hugh T. Patrick of Chicago. The secretary of the association is Dr. Henry Enos Tuley, 111 W. Kentucky Street, Louisville, Ky. The executive committee is composed of Drs. B. M. Ricketts, chairman, H. J. Whitacre, and M. L. Heidingsfeld, of Cincinnati.

Typhoid Fever in the Mediterranean Station.—Six officers and two sailors on the *Kearsarge*, of the Mediterranean squadron, were recently taken ill with typhoid fever nearly simultaneously while at Triste. The cases were light, and Rear-Admiral Barber reports that all the patients are now doing well. The disease has been traced to some ice obtained for the ward-room mess at the Piræus, the ice-machine on the vessel having broken down.

Army Dental Surgeons.—At the annual meeting of the New Jersey Dental Association, held last week at Asbury Park, a resolution was adopted calling for the creation by Congress of a commissioned corps of dental surgeons, who shall hold rank corresponding to the rules governing the medical department of the regular army.

Death of a Noted Russian Writer and Physician.—Antoin Chechoff died at Badenweiler, Germany, on July 15. He was a physician, but his reputation throughout Russia was as a literary man. He was one of the nine Russian academicians and was considered the Du Maupassant of Russia, ranking higher as an artist of the pen than Gorky. His death was a result of consumption. Only a few weeks ago M. Chechoff volunteered to go to the front in the Far East as an army surgeon, but his illness made it impossible for the military authorities to accept his services.

The State Medical Society of Wisconsin.—At the annual meeting of this society, held in Milwaukee the latter part of June, the following officers were elected: *President*, C. W. Oviatt of Oskosh; *Vice-Presidents*, J. A. L. Bradfield of La Crosse, Gilbert E. Seaman of Milwaukee, and A. B. Rosenberry of Wausau; *Secretary*, Chas. E. Sheldon of Madison; *Treasurer*, S. S. Hall of Ripon. The next annual meeting will be held at La Crosse in June, 1905.

Dinner to Dr. Earles.—A dinner was given in honor of Dr. W. H. Earles of Milwaukee, Wis., on July 16. Dr. Wm. A. Evans of Chicago acted as toastmaster. Toasts were responded to by Rev. P. Fitzgerald, Mr. J. Emil Bench, Mr. John L. O'Connor, Dr. M. H. Fisk, Dr. Truman W. Brophy, Prof. R. W. Sommer, Dr. G. Kletsch, Hon. David S. Rose, Mayor of Milwaukee, Dr. John B. Murphy of Chicago.

The Fourth Austrian Balneological Congress will meet at Abbazia, October 12–16, 1904, under the presidency of Professor Winternitz of Vienna.

A New Genitourinary Journal.—The announcement is made that the first number of *The American Journal of Urology* will appear in October. It will be the official organ of the American Urological Association. The editor will be Dr. Henry G. Spooner of New York City. The journal will be published by the Grafton Press.

One of the Tri-State Medical Societies.—At the annual meeting, in St. Louis in the middle of June, of the Tri-State Medical Association of Missouri, Illinois, and Iowa, the following officers were elected: *President*, Francis Reder of St. Louis; *Vice-Presidents*, Daniel O'Doherty of Cherokee, Iowa, and J. T. White of Freeport, Ill.; *Secretary*, E. O. Sisson of Keokuk; *Treasurer*, Emory Lanphear of St. Louis. The next meeting will be held at Keokuk in April, 1905.

Dr. Wm. Litterer has been elected professor of histology, pathology, and bacteriology in the medical department of Vanderbilt University, Nashville, to succeed Dr. Louis Leroy, resigned.

The Sioux Valley Medical Association.—At the annual meeting of this society, held June 22 and 23 at Sioux Falls, S. D., the following officers were elected: *President*, M. Sullivan of Adrain, Minn.; *Vice-Presidents*, A. E. Cook of Randolph, Neb., and R. E Woodworth of Sioux Falls, S. D.; *Secretary*, M. E. Silver of Sioux City, Iowa; *Treasurer*, S. A. Brown of Sioux Falls, S. D.

Rest Cure for City Consumptives.—Health Commissioner Darlington is planning to give New York a "rest cure" for consumptives on North Brother Island. In the *City Record* he advertised for bids on the contract for the building required.

Low June Mortality for Chicago.—It is announced by the Chicago Board of Health Bulletin that during the month of June there were 1,745 deaths at all ages reported—an annual rate of 11.01 per 1,000 of the population, and 24 per cent. less than the average June rate of the previous decade, which was 14.52. Of this total there were 430 under five years of age, or less than one-fourth (24.6 per cent.). Ten years ago (1894) there were 2,033 deaths at all ages in the month of June, of which number 959 were under five years of age—a proportion of nearly double (47.1 per cent.) that of June, 1904.

Dr. Burtis Burr Breese of the Tennessee University has been appointed professor of psychology at the University of Cincinnati, at a salary of $2,500 a year. He was recommended by the new president, Dr. Chas. W. Dabney.

Christian Scientists and Osteopaths.—City Solicitor Scott of Cincinnati has rendered an opinion on the question as to whether the signature of a Christian Scientist or an osteopathist to a death certificate was to be regarded as equivalent to that of a recognized physician. He informed the Health Department that, inasmuch as Christian Scientists and osteopathists are not recognized by the courts and statutes as legal practitioners, and inasmuch as they profess no knowledge of medicine, their opinion as to the cause of death can be of little value to the officials. Their signatures, therefore, signify no more than those of other laymen. In such cases the coroner must be called to determine the cause of death.

Increase of Phthisis in Indiana.—The State Board of Health has just issued a bulletin showing an alarming increase in consumption in Indiana. During the month of June the deaths from this disease numbered 365, an increase of 57 over the preceding month. The board says something must be done, and it will use these and other statistics to press the demand for legislation looking to the control of the disease.

Typhoid Fever on the Increase in Cincinnati.—Sixty new cases of typhoid fever were reported to the Health Department of Cincinnati last week, and in one ward of the City Hospital, containing fifty patients, there are twenty-four with typhoid fever.

A New Emergency Hospital Needed.—Dr. S. G. Cook, president of the board of police surgeons, has written to Police Commissioner McAdoo suggesting the establisement of a new emergency hospital in the vicinity of the Oak street police station. For many years there has been need of better hospital service east of Broadway and below Canal street.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ROYAL CEREMONY AT ST. BARTHOLOMEW'S HOSPITAL—BERIBERI AND POLITICS—CAVENDISH LECTURE BY PROFESSOR MIKULICZ—RADECKI-FORTUNE FOR CHARITIES—DR. BARTON AND HIS AIR-SHIP ACCIDENT

LONDON, July 8, 1904.

THE King and Queen, with the Prince and Princess of Wales, went into the city on Wednesday, and His Majesty laid the foundation stone of the new wing to St. Bartholomew's Hospital. The Prince pointed out in the address he presented to the King that the demands on the work of the hospital have far outgrown its accommodation. The new building is the first instalment of what is to be undertaken. Its site is part of the land purchased from Christ's Hospital, and is to contain out-patients' and casualty departments, as well as the special departments and accommodation for resident medical officers and other necessary rooms. His Majesty was president of the hospital for thirty-four years, and on his accession handed on the office to his son. Sir Trevor Lawrence, the treasurer, had the pleasure of receiving the intimation that the King would give £1,000 to the building fund. A check for this amount was received yesterday, and another for £500 from the Prince of Wales. For the ceremony of the day a spacious pavilion holding three thousand persons had been erected, and three thousand filled it. Among the brilliant assembly the medical staff of the hospital and other representatives of the profession had places. The King, having laid the stone in the workmanlike manner in which his long practice makes him expert, a quaint ceremony of olden time was then performed. This was the investing and "charging" the Queen as a governor of the hospital. The ancient form may interest readers. Sir T. Lawrence inquired whether it was Her Majesty's pleasure to "receive her charge as governor" as the first lady elected a governor and the first donor to the building fund. The Queen bowed assent. "Then," said Sir Trevor "I will ask the clerk to read the charge in accordance with ancient custom." Then the clerk recited the following ritual:

"Your Majesty, having been elected and chosen a governor of St. Bartholomew's Hospital, it is your duty and charge to acquit yourself in that office with all faithfulness and sincerity; endeavoring that the affairs and business of the said hospital may be well ordered and managed, and promoting the weal and advantage of the poor wounded, sick, maimed, diseased persons harbored in the said hospital. To this end Your Majesty is now admitted a governor of St. Bartholomew's Hospital." The Queen again bowed assent and Sir Trevor handed her a miniature governor's staff enclosed in a case, observing that though less than the ordinary size it was no less effective as an emblem of authority.

In the House of Commons, among other attempts to make political capital, a good deal of nonsense has been talked about beriberi, of which cases have appeared in South Africa With the intention of worrying the government, question after question has been put, and it was necessary to telegraph to Lord Milner, who replied by the same, that three deaths had occurred on board a vessel at sea and five after landing at Durban. The ship was sent back to China with the remaining cases. The medical officers did not regard the disease as seriously threatening the colony. On Tuesday the subject was followed up by Dr. Hutchinson, but entirely as a party move. Another member talked of it as a loathsome, dangerous disease, and wanted to know what penalties were inflicted on the vessel. He was told that the Natal government had replied to the question that it was the custom of the colony to inflict punishment after—but not before—the law had been broken, and there was no breach in this case. Another member said Sir P. Manson, in October, 1897, had said beriberi was common in the port of London among Lascars from the East, and he wanted to know the number of cases treated in the Seamen's Hospital annually. The government procured him the information, viz., an average of twenty-four per year in the decade ending 1900. To this reply was added that the Medical Officer of the Port did not regard it as infectious in the ordinary sense and considered no special precautions necessary. The newspapers have taken up the matter, but solely for the purpose, on the one hand, of embarrassing the government and on the other hand of defending it. So of the discussion nothing of medical value can be expected.

The Cavendish Lecture this year was delivered on the 24th ult., by Prof. J von Mikulicz-Radecki of the University of Breslau. He devoted it to an account of "experiments on the immunization against infection of operation wounds, especially of the peritoneum." He dealt chiefly with the efforts to increase the resistance of the body to bacterial invasions. At the present time this is the only way of diminishing the danger of peritonitis, and one way of effecting this is by producing an artificial hyperleucocytosis. Referring to the work of Loewy, Richter, and Jakob, he said their experiments proved that animals had been made immune to pneumococci and mouse-septicæmia.

Then Hahn showed that during the stage of hyperleucocytosis the blood of dogs and men possessed a higher bactericidal value than normal blood. Hahn used nuclein in his experiments on dogs, and tuberculin in those on men. More recently Hofbauer obtained favorable results in puerperal septicæmia by administering nuclein by the mouth. The slight results obtained by artificial hyperleucocytosis, *e.g.* in pneumonia, the professor attributed to the organism being overpowered before the remedy was used. The natural defences had been used up and a further increase could not be expected. But the experiments suggest the possibility of successful prevention by this method. Salieri had already shown that the natural resistance of guinea-pigs could be increased by normal saline solution, and he tried the plan on cases of laparotomy. Before then, Issaeff had obtained increased resistance to cholera by nucleic acid. The lecturer then stated results at Breslau. By injecting into the peritoneum or under the skin nucleic acid and some other substances great increase of the white cells was obtained. By careful management the resistance of the peritoneum could be raised to forty times the normal. It was found that by this preventive method the resistance could be so raised that a quantity of intestinal contents could be placed in the animal's peritoneal cavity without causing damage. This opens a new field for the surgeon in preventing post-operative peritonitis. In man fifty-eight cases have been treated and no serious symptoms noticed—only a local reaction for a day and a slight rise in temperature. The results have satisfied the lecturer, and he gave as full details respecting them as could be given in a lecture. Decinormal saline solution increases leucocytosis, and Professor Mikulicz stated that he had also used more and more, during the last two years, free irrigation of the peritoneal cavity with warm saline solution in all laparotomies in which the peritoneum runs some risk of infection.

Lord Goschen distributed the prizes at Guy's Hospital on Wednesday, and said that thirty-four years ago he had a great deal to do with hospitals for the poor and was interested in the great advances made since in medical science. He asked the students what dreams they were dreaming—practice, fame, bed-side, or laboratory work? and told them the nation wanted men of research to open the mysterious winterland of the explored provinces of medical science. But all students could not be specialists, and so hospitals must send out the army of general practitioners. He would be sorry to see the family doctor disappear. Whatever famous dentist came to town he preferred to go to the one to whom every tooth in his head was an intimate friend. In their serious work he commended to them gentleness, sympathy, and honesty.

Mr. George Handyside of Newcastle has bequeathed £20,000 to the Newcastle Infirmary, and other legacies to charities, making a total of £92,000. His estate is valued at £147,860.

Dr. Barton, who, for the last year or more, has been engaged in constructing an air-ship, met with an accident on July 4 through an explosion of the gas preparing for the balloon. Several wounds about his face and head laid him aside, but it is hoped he will be about again in another week.

POST-GRADUATE MEDICAL STUDY IN PARIS AND IN BERLIN.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Having spent considerable time in Paris and in Berlin, I can give an estimate of the comparative merits of the two cities as centers for post-graduate medical study.

As far as I saw, very few Americans go to Paris for post-graduate medical study; they usually flock to Berlin or to Vienna. Any medical man, however, going abroad who possesses a little knowledge of French, misses a great deal by not stopping in Paris. But when it is a question of choosing either the one or the other, I must say at the outset that Berlin should be given the preference for reasons soon to be stated. I do not speak of Vienna, not having had personal experience with that city. In order to make the subject intelligible I think it will be of interest to say a few words in regard to medical matters in general in the two mentioned cities. I do not say France and Germany, because Paris and Berlin are practically the two cities in these two countries which come into consideration in this respect.

The hospitals in Paris are numerous; some of them, as is well known, are of historic fame, both from a medical

standpoint and in many other regards, and most of them are government institutions. The hospitals supported by private charitable organizations, though some of them are big institutions, are not very popular among the French people, nor are they looked upon with much respect by the medical profession. Very few famous men, especially of the university staff, are connected with private hospitals in Paris. The government hospitals can be freely visited by any medical man during the time of *service*—that is, when the hospital physicians are making the rounds of the patients, which is always in the morning between nine and eleven o'clock.

In this connection I may make some remarks concerning the hospital arrangements in Paris. The medical men attached to the hospitals consist of externes, internes, and chiefs. The term of service of the externe is three years, and he lives outside; the interne is the resident physician or surgeon, and his term is four years; the chief has a life position. There are small salaries attached to each of these positions. All appointments, including that of chief, are made after competitive examinations, and only a Frenchman, native or naturalized, can be appointed.

Each chief of a hospital has under him only about two wards—a male and a female ward. Occasionally one may have a whole pavilion consisting of four wards; but this is an exception. Each chief has an externe and interne, and a staff of nurses, and he is responsible for his two wards. There is no such a title as a consultant to a hospital, as each chief is supposed to know his business and is supposed to visit daily his wards, except on holidays and when on vacation.

Thus it will be seen that in every hospital there are as many chiefs as there are male and female wards; this consequently gives an opportunity to many physicians to be connected with the hospitals. Most of the hospitals have well-equipped laboratories where good scientific work is being done. The chief professors of the university deliver clinical lectures twice a week at the amphitheaters of the hospitals. Some of them never lecture at the college buildings at all, but do all their teaching in their respective hospitals. The professors themselves usually have only two wards in the hospitals to which they are attached.

As I said above, one can freely visit the hospitals of Paris and see all the work that is being done there.

Courses during the vacations are given to physicians in the several laboratories of the university and the hospitals under the auspices of the respective professors. These courses must be paid for, but if any physician, French or foreign, wishes to do some original work in any of the laboratories of Paris he has little difficulty in getting in. From this brief description it will be seen that Paris is a large field for post-graduate study. How it compares with Berlin will be seen from the following lines: I must not omit a brief mention of the Dupuytreu museum. It contains an immense collection of pathological specimens in all the fields of medicine. I do not think there is anything like it anywhere else. A visit to this museum alone, which is connected with the medical college buildings, will repay a medical man for his trouble in going to Paris.

Things are different in Germany, and by this I mean Berlin. Here the hospitals are not open to the general profession. One must have special permission to visit a hospital even once, and an outside physician cannot approach the bedside of a patient in a hospital unless he takes a course from a man connected with the institution. In Berlin, as in Paris, physicians connected with hospitals have usually only a few wards under them, and I am not aware of a single instance of a physician being connected with more than one hospital.

I do not think it is out of place to say that it would be a good thing for the medical profession in the United States if the same thing obtained here. A man like Dieulafoy in Paris, or Senator in Berlin, is connected with only one hospital, and yet they know something about medicine. The same is true with regard to the best European surgeons. It seems then that such a system is not detrimental to scientific medicine, but on the contrary seems to be favorable to it. Furthermore, some famous men in Europe are not connected with any medical college or hospital at all. Thus, Doyen, the Famous french surgeon, operates at his own private clinic. The same is done with respect to a number of famous men in Berlin. Some of the professors of the Berlin University are not connected with any hospital, but have their private polyclinics and clinics, and at the former they deliver lectures to students of the university. And this leads me to speak of post-graduate medical study in Berlin.

In Paris there are very few private polyclinics and none of the eminent medical men has any, whereas in Berlin the private polyclinic is as much in vogue as the dispensary is in New York. The hospitals in Berlin are few in comparison to those of Paris, and public dispensaries are also comparatively few; the polyclinic owned by one or two men, therefore, takes the place of the dispensary, and the private clinic supplies the needs of hospitals.

Some of the most eminent medical men in Germany have private polyclinics where they treat patients and give instructions to physicians, either in the shape of systematized courses or simply clinical demonstrations on patients as they come along. Usually both are given. In Paris, on the other hand, the eminent men have no private polyclinics, and the courses given to physicians are under the auspices of the university and take place during the vacation, though some courses are also given by non-university men, privately. In Berlin courses are being given in every field of medicine right along except during the summer vacations, when the best men are out of town. Of course the courses can be taken by any one who pays for them. Very few practical courses in Berlin are free. Only theoretical lectures are public. But practical instruction must be paid for. It is called in Germany "privatissime."

I shall now venture to say a few words concerning French and German medicine of the present day. To give a detailed description of the subject would require volumes and an abler pen than mine. I will refer merely to some fields of the vast science of medicine in which I took particular interest—namely, laboratory work as bearing upon medicine and gastointestinal diseases—and will at the same time make a few remarks about the methods of instruction in Paris and in Berlin.

In both cities instruction is given in laboratory technique, but it is in a different way. As I have said above, most of the courses in Paris are under the auspices of the university, and under the supervision of the respective professors of the university. I must say that for the general practitioner the courses given in Paris are more suitable and convenient than those of Berlin. The courses in laboratory technique usually consist of twenty to twenty-five lessons, two hours each, and they cover all the points that a general practitioner has to deal with. Thus the courses given in the several hospitals during the vacation time include uranalysis, examination of blood, elementary bacteriology, and in some cases also physical diagnosis.

A general practitioner who wishes to refresh his memory, and to see the new methods employed, can do so at a small expense and with little loss of time. This, of course, will not make of him a specialist in any of the subjects taught, but he can see what is being done in medicine, and he can gain enough elementary knowledge to help him in his daily practice.

This is not so in Berlin. One cannot get there a course covering many fields. Thus, one must go to one place for a course in uranalysis, to another for a course in examination of the blood, etc. Specialties exist in Germany to a greater extent than they do in France. "We do not make any specialties in France," is what the leading French physicians say.

In gastrointestinal diseases there is a difference in the methods of practice and instruction in the two cities. In Paris there are a number of very good men who take much interest in these diseases; but they do not make of it a specialty; but consider it as a part of internal medicine and are internists. Thus Hayem, Mathieu, and Robin, who have done so much work in gastrointestinal diseases, practise internal medicine. Not so in Germany. There some men are known as devoting themselves exclusively to gastrointestinal diseases, and they treat and teach nothing else.

The teaching in these diseases is done in Germany on a greater scale by far than in Paris. Clinics and courses are given in the latter city in these diseases in a desultory manner; but in Berlin there are men who instruct in these diseases right along, except when they are on their vacation.

Now, if we judge by the vast number of students from all over the world that flock to Berlin, we must say that so far Germany has the best of it, and the German methods seem to commend themselves better and to attract more students than the French methods. If France, one may unhesitatingly assert, was without a rival in medicine in the first half of the last century, within the last two decades Germany seems on the whole to be outrunning her. Germany's success in science seems to me to lie in the simplicity of the methods and in their practicability.

The notion is usually entertained that the German scientists are deep, whereas the French are light and superficial in their science. One has only to remember the legions of famous French scientists who have revolutionized the world to see the absurdity of such a notion. A scientist is deep and thorough, no matter to what nation he belongs; otherwise he is not a scientist. But there maybe a difference in the methods.

Let us take for illustration a new science in which

France and Germany have gained equal laurels, but in which I have no doubt Germany will soon outstrip France, unless the latter looks out for itself—namely, bacteriology. It is hard to say who has done more for this science, Pasteur or Koch, and it is equally hard to say where more is being done for it now, in France or in Germany. One has only to remember the great work done in the famous Pasteur Institute in Paris to know that France is doing a great deal in it. Yet the German methods will commend themselves sooner than the French ones. First, the laboratory outfit. One can fit up a laboratory according to Koch's methods, which are prevailing in Germany, at a comparatively little cost. The apparatus used in the Hygienische Institut, 34 Kloster Street, Berlin, where Koch and his followers have made the most glorious discoveries, are simple and inexpensive. A simple *dampftopf* or steam sterilizer takes the place of the costly autoclave used in all the laboratories of Paris. There is no question that the autoclave is more scientific than the dampftopf; but since one can do as good work with a simple inexpensive instrument, why employ complicated machinery? The same concerning Koch's dry heat sterilizer and the *four Pasteur*, the former used in Berlin, the latter in Paris.

Another point. In Paris, in the Institut Pasteur especially, they plume themselves on the fact that they know how to make by themselves glass pipettes, and other little things for laboratory use, whereas in Germany, up to very recently, it had not been done. The reason for it is that the German bacteriologist does not need it. When a French bacteriologist wishes to get a certain amount of a virulent culture in bouillon, or another fluid medium, he aspirates it with a pipette. Not to speak of the danger, it is certainly most unpleasant to aspirate virulent cultures with the mouth through a pipette, as the French usually do, and as the French textbooks usually teach. The German uses for this the loop of a platinum wire needle. He takes so many loops or *Osen* instead of taking so many drops from a pipette, as the Frenchman does. The German uses a pipette only for innocuous fluids like water, milk, etc., so he can buy a pipette ready made, and it will last him a long time. But there is no question that so many drops from a filiform pipette are more determined in quality than so many drops from a loop of a platinum wire needle. But the latter method is simpler, safer, and is practically as good.

Let us glance at gastrointestinal diseases. In all the hospitals of Paris where these diseases are specially treated the method of Hayem and Winter for determining the hydrochloric acid in the gastric contents is employed. This method, as everyone who is familiar with this subject knows, is rather complicated, requires a great deal of time, and is not of easy application. I will say nothing of the merits of this method, but will only remark that in Paris they think that this is the only method for determining the hydrochloric acid in the gastric contents, and they teach it and practise it; whereas in Berlin they think it is too complicated, unpractical, and valueless, and not a single eminent gastrointestinal specialist uses it. The German method is certainly more easy of application than the French one.

I could multiply examples, but from the above it will be seen that the French methods are not superficial, but rather too complicated, whereas, on the contrary, the German methods are simple, practical, and of easy application, and that is why they commend themselves better to the world. And there is no doubt that better results can be obtained with simple than with complicated methods.

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A SUGGESTION FOR INCREASING THE VALUE OF THE CYSTOSCOPE IN CASES OF HÆMATURIA.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Since the introduction of cystoscopy some years ago, specialists have often deplored the ineffectiveness of the cystoscope in those cases when severe hemorrhage from some portion of the upper genitourinary tract renders ocular inspection of the bladder difficult and unsatisfactory. It is true that Nitze, Casper, and others have endeavored to correct this shortcoming by suitable attachments to their respective instruments, whereby it is possible to have a stream of water play constantly over the little prism at the distal end of the cystoscope, and thus, in a measure, keep the lens clear of clotted blood. Notwithstanding these ingenious arrangements, the continual escape of blood into the bladder rapidly discolors the fluid contained therein, and thus obscures the field of vision. Several cases of hæmaturia recently under my care, and in which cystoscopy proved of little value, prompted me to seek for some means whereby cystoscopy under such circumstances could be made just as effective as it is in more favorable instances. Different solutions were injected into the blood-discolored uterus, with the hope that in this way the dark red color would be rendered transparent. These experiments proved negative. Experiments on the line of neutralizing the red color by means of different colored lenses were then made. Glasses of different hues were interposed between the eye and the ocular end of the cystoscope. While in one instance the colored fluid was rendered lighter, the density of the color was not changed. It was then thought to replace the ordinary prism with one of a certain color, but this too failed to secure the desired object.

Believing that failures often lead to success, I may be pardoned for suggesting this line of experimentation, in the hope that it may prove successful in other hands. The idea is so obvious that it may possibly have occurred to some one before me, in which case I shall cheerfully yield priority. Some chemist or physicist may possibly suggest some plea whereby the problem can be solved.

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Progress of Medical Science.

The Boston Medical and Surgical Journal, July 21, 1904.

A Method for Obtaining Sputa for Bacteriological Examination in Infants and Young Children.—C. W. Townsend declares that the diagnosis of many cases is often difficult in children under five or six years of age, because although they cough up sputa into the mouth, they swallow instead of spitting it out. Especially is this true of cases of delayed resolution in bronchopneumonia, many of these having an evening rise of temperature, so that the tuberculin test cannot be used. Holt has recommended the passage of a stomach tube, and the examination of the mucus that adheres to it. The writer has found a metho which has recently been described by Findlay, and used for some time in the French hospitals, very simple and very satisfactory. It consists in sweeping the finger covered with gauze over the glottis and epiglottis. This causes reflex coughing, and the expelled mucus is caught in the meshes of the gauze.

Interstitial Colitis, Simulating Cancer of the Rectum.—J. W. Elliott in describing this case notes that the patient had had constipation and dyspepsia for the last twelve years, but for the last few months she had had a subacute difficulty, constipation and diarrhœa alternating. She came for advice for what she thought was a tumor of the rectum. There was a hard mass there that felt like a cancer. Pus and blood were coming constantly, and the writer had no doubt that it was cancer. He intended to resect the rectum and part of the sigmoid flexure, but when the abdomen was opened up, the whole gut, from the anus up to the splenic flexure, was one solid tube of large caliber, and so fixed that it could hardly be moved. Resecting was out of the question, so he simply made an artificial anus on the other side. The mass had such a strange appearance that the writer doubted if it could be cancer. It was scraped and examined, and the report came back negative—simple inflammatory tissue. The whole descending colon down to the rectum was chronically inflamed—interstitial colitis. The patient is now very much better. There has been no sloughing, and the pain is all gone. The writer believes that this is the proper treatment for such a condition—sidetrack the fæces and wash through.

Journal of the American Medical Association, July 23, 1904.

Period of Incubation of Tetanus.—Albert Woldert reports a case in which an amputation was performed about the lower third of the thigh for gangrene following a lacerated and contused wound about four inches below the knee-joint, with fracture of the leg at this point. One week after the injury marked symptoms of tetanus appeared.

Acrodermatitis Controlled by the X-ray.—Douglas W. Montgomery says that cases constituting the group "the continued acrodermatitides" are characterized by their location on the extremities of the members, more particularly in the fingers and toes, by their incessant recurrence in the affected locality, by their not extending for a long time to any other region of the body, and by their obstinate resistance to treatment. Three forms of this malady are described—a vesicular form, a pustular form, and a form in which there are both vesicles and pustules. The case reported falls under the vesicular group, and the patient received nine exposures with the most satisfactory results, the attack being quickly subsided.

The Character of Chromatophores.—Leo Loeb says that different views are still held regarding the origin of the cell masses characteristic of pigmented moles and in regard to the origin of the melanotic tumors of the skin, a

number of pathologists believing in the epithelial origin of nævi and of melanotic tumors, others assuming a mesodermal origin. Loeb says the pigment originates in the epidermis, and the production of malanin is a peculiarity of certain epithelial cells which preserve this function if they are transplanted to a place where formerly non-pigmented cells were present. The melanin in the chromatophores is probably derived from the proteid substances of the cell, and is very likely not directly produced from a derivative of the hæmoglobin for the following reasons: (1) The sulphur content of the melanin is very large. (2) From the melanin decomposition products can be obtained similar to the ones obtained from the melanoidins, which themselves can be produced with the aid of acids from proteid substances. (3) Tyrosin, a radical, present in cell proteids, can, with the aid of an oxidative ferment tyrosinase, be transformed into substances similar to the melanin of sepia, and similar, probably, to the melanins of vertebrates. It is, therefore, not unlikely that the production of the pigment of the chromatophores is due to a fermentation causing oxidative and condensation processes in certain decomposition products of cell proteids.

Medical News, July 23, 1904.

Personal Experience in the Treatment of Typhoid Fever.—Carter S. Cole, from his large experience in the treatment of this disease, concludes that: Fever is a necessary part of the disease, and varies according to the week in which it occurs. We cannot change the type, although we may control the fever. The use of coal-tar products for the reduction of temperature is seldom if ever desirable, but the use of water externally and internally is a necessary part of the treatment of the disease. Nutrition must be liquid, and must be adapted to the individual case. Lastly, medication plays a very small part in the management of the disease, and is only used to meet special indications.

A New Brace for the Shoulder-joint.—Leonard W. Ely describes a simple brace which can be made by any brace-maker. It consists of a belt of canvas three or four inches wide, which encircles the chest just below the axillæ, and laces in front. A similar belt encircles the arm. These two belts are joined by two flat, arching metal rods, in front and behind, on whose inner ends are riveted metal plates to prevent twisting of the thorax girdle. Finally the thorax band is provided with a pair of suspenders to prevent sagging. The writer devised this apparatus for a case of tuberculous shoulder-joint disease. It permits motion and use of the forearm, and restricts motion of the shoulder in every direction, except rotation—the least harmful of all motions of the joint.

A Visit to Gheel.—Smith Ely Jelliffe describes in a most interesting manner his visit to this picturesque retreat. The colony consists of a poor rural community, small farms, occupied by low one-story dwellings, tiny villages with the town of Gheel at their center, and meadow lands traversed now by tram cars, much like the American trolley. The colony is a retreat for the insane, but no patients are admitted to it who must be continually kept under restraint, nor who could offend public decency, and none who have homicidal, suicidal, or incendiary tendencies. All who are able to work are paid a small sum each week by their nurses or hosts. The work varies according to the patient. According to their value as workers, or to the care they require as patients, the sum paid to their nurses, for their board by the State, varies. Paupers who are able to work and who are quiet and orderly belong to the first class. In this class are a good many idiots and dements. Those who are noisy or semi-depraved are placed in the second class. Patients of the third class, wholly depraved or epileptic, bring the largest revenue to their nurses. Patients whose friends have means can be lodged at a still higher rate in the homes of the well-to-do. For, through the long establishment of the custom, the permission to have patients is largely sought as a favor by nearly all the householders of Gheel. From a medical point of view, the colony is divided into four sections, each of which is cared for by a physician, who has two section guards to help him. These physicians must devote themselves exclusively to the care of the insane, and are formally forbidden to practise, except in matters of expert medicolegal work. Four men and eight deputies attend systematically to over 2,000 patients, and no paid attendants are employed. The system is arranged far more economically than our own institutions. The personal interest and oversight of the medical director was apparent at once. The bare walls were spotless, as were the windows and plain furniture and bedding. Thrift and good management were everywhere in evidence. In the tours of inspection the physician goes into the patient's bedroom, rips open the bed, looks at the sheets and blankets, and examines the garments hanging on the wall. The report is entered on a card. The guardians are obliged to feed their patients as well as their payments will permit, as a sort of check is kept upon them by means of the bathhouse weighing system. The writer concludes by saying that if in this country we could find here and there a simple kindly farming community discouraged by the stern laws of supply and demand, and imbue the inhabitants with a combined spirit of philanthropy and commercialism, we might gradually with great tact find homes for many thousands of our insane, in the course of the next fifty years.

New York Medical Journal, July 23, 1904.

The Radiant Light Bath in the Treatment of Neuroses.—T. D. Crothers summarizes his conclusions as follows: (1) The radiant light penetrating to the deeper tissues of the body is turned into heat or transformed into nerve energy more positively than is heat from hot air. (2) The clinical effects of the bath prove its power as an eliminating agent and a corrector of neurotic, nutrient, and capillary disturbance. (3) In neurotic diseases its action in conjunction with other measures is far superior to any of these means when used alone. (4) The evidence so far points unmistakably to the possibilities that when used in connection with other electrotherapeutic measures it may come into general use and constitute a real advance in the progress of neurological therapeutics.

The Treatment of Crushing Injuries Involving one Articular Surface of an Interphalangeal Joint.—John H. Sheldon advises the following method of treatment: Thorough mechanical cleansing with sterile water; resection of the destroyed articular end of the phalanx, followed by shaping the end of the bone to fit the apposed articular surface; closure of the new-formed joint by the suturing of ligaments, tendons, and fascia with catgut; application of splints and a moist aseptic dressing. The reasons for advising this method and the objects to be oblained were these: (1) In most of the cases the skin and subcutaneous tissues are so injured and infiltrated with foreign material that complete disinfection is impossible. (2) The bones and deeper structures are usually not so badly injured as are the soft parts, and they can be rendered practically sterile. (3) If the deep structures are clean and the upper ones likely to suppurate, a barrier should be placed between them. This method of treatment prevents extensive suppuration in the skin from affecting the bones, provided efficient primary drainage is secured, which is done by not suturing the skin, and by the application of a moist dressing. Five cases are reported.

A Unique Case of Chorea.—James T. Wrightson records the following case: The patient was a woman, twenty-one years old, who, when six years old, had a very slight attack of chorea, which was controlled by small doses of arsenic. She was married in June, 1903, and in August did not menstruate. In September there were irregular facial contractions, which gradually increased in severity and distribution, involving finally the muscles of the extremities and those of phonation and deglutition. There was absolutely no sleep or rest; her tongue was bitten and thickened almost occluding her mouth. Nourishment was much impaired. Muscular activity was so violent as to endanger her life and she had to be bandaged like a papoose. This clinical picture lasted from September 20 to October 20. Arsenic, bromides, morphine, etc., were given, but it was not until sodium salicylate was resorted to in large and repeated doses, fifteen grains every three hours, that any decided change was noticed. At the end of two weeks she was able to carry food to her mouth. Then her left pleural cavity began to fill, and within one week there was an exudate of three pints, which was evacuated. An uneventful recovery then occurred. Her pregnancy has continued, and is now at the fifth month.

American Medicine, July 23, 1904.

Loss of One-quarter of Brain Substance with Consciousness and Ability to Talk Retained until Death.—Henry S. Wieder reports the case of a white man, thirty years of age, who fell twenty feet, landing upon his head. There was an H-shaped fracture of the vault of the skull, going down into the base, nose, and right eye, and brain tissue was scattered all over his scalp. As the opening into the cranial cavity was so large, and there was no possibility of pressure upon the brain beneath, no operation was necessary. The wound was dressed and the nose tightly packed with gauze, but still there was free bleeding from nose and mouth. Later the pulse became weak, the temperature rose, and death occurred the same day. But the patient remained conscious and talked till about an hour before death. The writer sums up the interesting points: In spite of the severity of the injury, the height of the fall, and the evident injury to a large portion of brain-tissue, the patient did not lose consciousness. He retained his mental faculties and reasoning powers, although a

large portion of the cortex of the right hemisphere of the brain quite far forward and including the frontal lobe was removed, in addition to a considerable quantity lost at the time of the accident. This was proved by the fact that he at first refused to give his address, but later did so, on being told the seriousness of his injury, and that he answered questions until very shortly before he died. The localization of the speech center is well shown to have been on the left side of his brain, as demonstrated by the fact that his speech was not impaired beyond the physical disability due to paralysis of the facial muscles. The evident absence of pain or sensation in the cerebral matter, although a well-known fact, was very forcibly illustrated in this case, for rarely in the human being does the surgeon have an opportunity to find a subject conscious while he is removing brain tissue.

Metabolic Changes Caused by External Hemorrhage.—William J. Gies carried out his experiments on dogs. The food consisted of prepared hashed meat, cracker meal, lard, bone ash, and water. This mixture was given daily in uniform quantities of constant composition, and at regular intervals. Each dog was brought into nitrogenous equilibrium at the beginning of each experiment, and after remaining in this condition a week or more, was subjected to repeated hemorrhages at intervals of one to three weeks. The quantities of blood withdrawn were usually 3 per cent. to 3.5 per cent. of body-weight. The writer draws certain general conclusions from many concordant results: In well-nourished animals, in weight and nitrogen equilibrium, and fed continuously on a diet of constant composition, there was a temporarily increased output of nitrogenous and sulphur-containing products in the urine, and a variable effect on the elimination of phosphorized substances, although mainly a decreased excretion of the latter. Proteid catabolism was somewhat stimulated therefore. Total solids in the urine were increased with the nitrogen and sulphur catabolism. These effects were relatively slight after one bleeding of moderate amount, but became more marked and lasted longer with repeated losses of blood. The increased elimination of the catabolic products above mentioned occurred only in the urine. The amount, consistence, and composition of the fæces were apparently unaffected by the hemorrhage. Digestion did not appear to be materially disturbed at any time, even after several severe hemorrhages at short intervals. There was little or no effect on intestinal putrefaction. Body-weight steadily declined after each bleeding. When the animal was allowed to eat freely, however, hemorrhages were followed by gradually increased weight. Moderate loss of blood markedly increased the appetite and caused thirst, even when the animal was receiving an excess of food. Excessive losses of blood had temporarily an opposite effect. Hemorrhage caused an immediate stoppage of the formation of urine, and subsequent retardation of flow, lasting a few hours, and finally a decided stimulation. On returning the blood (defibrinated), urine immediately began to form, and flowed under specially stimulating influences. Hemorrhage inhibited the hypersecretion of saliva during the periods of ether anæsthesia connected with the surgical procedures. The urine was always decidedly acid in reaction before hemorrhage; slightly amphoteric occasionally. After hemorrhage, it was strongly amphoteric for several days. The only abnormality noted in the urine was a transient glycosuria, apparently due to the anæsthetic. After successive hemorrhages, the percentage of proteid and nitrogenous products in the blood gradually fell; that of phosphorized and sulphur-containing substances, and the ash, remained practically stationary. Specific gravity fell and water content rose in each successive sample of blood, even when they were taken at wide intervals. Each of the metabolism experiments gave results indicating a relatively slight and only temporary increase in nitrogenous elimination after hemorrhage. Loss of blood, if considerable, at once affects the higher nerve centers by diminishing the supply of material available for their nutrition. Such changes disturb various important chemical and physical functions. The blood-making organs are stimulated to exceptional activity. Sugar and other substances are present in the blood above the normal proportions for a while. It is not improbable that during the first few hours after a hemorrhage there may be subnormal metabolism, followed by a greatly stimulated metabolism.

Lancet, July 16, 1904.

Vincent's Angina.—H. W. Bruce says that this is a form of pseudodiphtheria which is associated with, and is probably due to, certain characteristic microorganisms. The form of pseudodiphtheria illustrated by the ten cases on which the paper is based was first described by Vincent in 1898. The disease is not infrequent, but its frequency is masked by the fact that it is often confounded with diphtheria. The pathological processes in the two diseases are quite different; when a considerable amount of destruction of tissue has taken place in Vincent's angina, the distinction is made readily enough. But when the necrosis is quite superficial, the resemblance to diphtheria is very close. A positive diagnosis then is only possible by bacteriological examination. The bacillus which Vincent has called the "fusiform bacillus" is very long. Its center is a little thickened and its ends somewhat pointed. They are usually distributed uniformly through the field although they may be present in such numbers as to form almost solid masses. Shorter forms are sometimes seen occasionally curved and comma-shaped. It does not yield the Neisser staining reaction, and it is decolorized by the Gram method. Its motility is doubtful. So far all attempts to cultivate it have failed. With this bacillus is frequently found associated a spirillum which is only faintly stained by the ordinary reagents, decolorized by the Gram method, is motile and, like the bacillus, has never been cultivated. At the commencement of the disease either the bacillus or the bacillus and spirillum are found almost pure in the pseudomembrane, but later they become mixed with numerous other microorganism which inhabit the mouth.

Diet in Chronic Heart Disease.—Theodore Schott says the principal and fundamental rules may be conveniently summed up in the two clauses: (1) patients must avoid everything which excites the action of the heart; and (2) everything must be avoided which embarrasses the action of the heart. Under (1) he places strong coffee or strong tea and strong alcoholic liquors. The best beverages are by far ordinary water or milk; next in order comes tea or coffee, both with copious additions of milk. If patients need fatty material, cream should be given either plain or added to milk. Cocoa deprived of its fat is strongly recommended. With regard to the second rule given, patients should avoid that which would cause any considerable gastric distension and should eat nothing which is difficult of digestion or tends to produce flatulency. Too hearty eating or the ingestion of substances which produce flatulence may be harmful in three ways: (1) The diaphragm is pressed up against the lungs so that respiration is impeded and there is shortness of breath and dyspnœa. (2) The distended stomach also presses the diaphragm directly against the heart, displacing it in the direction of its base in such a way that its action can only be carried on with a greatly increased effort. (3) In like manner the intraabdominal pressure is augmented and the abdominal vessels are compressed. For this reason effervescing beverages disagree with these patients. They should never eat until there is a feeling of repletion; small amounts of food should be taken at shorter intervals than three times a day. It is impossible to urge too strongly that sufferers from heart disease always require a mixed diet. His experience led him to regard tobacco with especial disfavor. Exercise after eating is to be recommended, but it is quite essential that the individual characteristics of the patients should be studied and the treatment modified in correspondence with the symptoms.

Note on the Value of Kader's Operation of Gastrostomy.—J. Crawford Renton recently performed this operation four times and wished to record his satisfaction with it, both as regards rapidity and ease in carrying out the details and its efficiency as a means of feeding the patient and insuring no escape of fluid from the stomach, even when coughing. The usual incision for gastrostomy is made when four retaining loops of silk are passed through the peritoneum and placed equidistantly round the opening, pressure forceps being applied to each. This prevents the peritoneum sinking down when the stomach is withdrawn. Three inches of stomach, as near the cardiac end as possible, are drawn out; the peritoneum and aponeurosis are carefully stitched to the stomach, using a Reverdin's curved needle; the stomach is then opened and a No. 12 soft catheter is introduced and fixed in position by a fine suture which passes through the whole thickness of the stomach wall and is tied tightly round the catheter. The stomach is now invaginated by pressing upon the firmly secured tube and a purse-string suture is introduced a quarter of an inch below the opening into the stomach. This is drawn up and tightened round the tube; a second purse-string suture is introduced half an inch below the first, the stomach being further invaginated and the stitches tightened around the tube; a third purse-string is introduced half an inch below the second if necessary and tied round the tube. In this way a valve is formed inside the stomach so that the tube can be easily passed in, and when removed the valve comes together and completely closes the opening. The skin incision is united with silkworm gut. After the wound is healed the patient soon learns to feed himself. Having first chewed the food he passes it into the tube which is inserted into the stomach.

British Medical Journal, July 9, 1904.

Air in the Heart.—P. O. Malabre reports the case of a woman aged sixty who was found dead in an open field. There was no external sign of violence. The pericardium was bulging, especially over the right ventricle. The right side of the heart was distended with air or gas which hissed out when an incision was made, leaving nothing but dark frothy blood in the right cavities. In the left ventricle was only a small post-mortem clot. Nothing abnormal was seen in the air passages or large vessels at the root of the neck. The writer thinks that the air was the cause of death, but found it impossible to trace the source of the air.

Traumatism and Hernia.—William Sheen concludes that, granting the existence of a preformed sac, oblique inguinal hernia may occur suddenly as the result of a single trauma, such trauma being usually an abdominal "strain." It is doubtful whether the preformed sac is congenital or acquired. For the trauma to be the cause of the hernia, certain conditions must be fulfilled. These conditions are tabulated as follows: The trauma must be of a certain character, either a sudden general muscular contraction compressing the abdominal contents, as in lifting too heavy a weight or in resisting a blow, or possibly a general abdominal squeezing, as in a buffer injury. A localized blow on one part of the abdomen (as by the end of a stick) cannot cause a hernia. The hernia must be quite small at first. The hernia must appear immediately after the accident. The development of the hernia must be accompanied by acute pain and tenderness at the site of the hernia and by the formation of a small, tender lump there. The symptoms must be so acute as to compel the patient at once to leave his work and seek medical aid. A few more points are mentioned by the writer. If the case is one of hernia into the tunica vaginalis, the hernia may reach the scrotum as the immediate result of the traumatism. The existence of a double hernia is against traumatism. Operation may at times afford additional information of medicolegal value. When a hernia exists previous to the trauma, the trauma may determine such a change in the hernia as to unfit the man for his work. It must be recognized that the association of hernia with trauma is exceptional. No exact rules can be laid down, and every case must be judged separately.

The Surgical Anatomy of the Normal and Enlarged Prostate—and the Operation of Suprapubic Prostatectomy.—J. W. Thomson Walker presents this paper. He first describes the normal prostate. The pelvic fascia provides a complete sheath for the prostate, which envelops it except at its basal attachment to the bladder and at its extreme apex. The base of the prostate lies beneath the bladder base. The outer longitudinal layer of bladder muscle is attached to the posterior border of the prostatic base and many fibers become incorporated with the true capsule of the gland. A circular layer of striped muscle completely surrounds the apex of the prostate for about a quarter of an inch. The muscle is continuous below with the constrictor urethræ. The veins of the prostatic plexus course upward in the anterior layer of the sheath on the base of the prostate and then backward around the junction of the prostate and bladder, forming a Y with a vertical stem and horizontal arms. The capsule of the prostate corresponds to the capsule of other glands. Two bands of prostatic tissue unite the lateral lobes behind the urethra, one above the ejaculatory ducts and the other below them. The connection between the prostate and the urethra at the level of the verumontanum and above this eminence is intimate because of the presence of the prostatic ducts, but below this level the two structures merely come into relation with one another. The seminal vesicles lie along the upper border of the posterior aspect of the prostate and take a transverse direction, not a vertical one as is described. Some of the changes in the enlarged organ are as follows: The sheath of the enlarged prostate is a densely woven envelope of considerable thickness. Another striking change takes place in the relations of the enlarging prostate and its sheath. The upper part of the posterior surface already lies in a corner between the bladder. muscle and the lower border of the seminal vesiclsr. As the enlargement proceeds, this wedge insinutaes itself between the bladder wall and the vesicles so that these structures become more and more separated. Finally the vesicles are pushed back till they lie behind the upper part of the gland instead of above it. Often nodules of the enlarged prostate intrude themselves within the bladder cavity and are only covered by bladder mucous membrane. The middle lobe of the prostate is formed by the protusion of a nodule between the two bands of muscle which pass into the trigone from the uret rs and unite on the posterior wall of the prostatic urethra. The urethral mucous membrane is dragged up into the bladder, which probably explains the frequency of micturition. The writer then gives some observations on the operation of prostatectomy, and remarks that it is not to be supposed that in every case the operation is faultless. In a few cases a shred of prostatic tissue is left behind. But small bits of prostate left behind are accidents of the operation, and not proofs of its incompleteness.

Deutsche medizinische Wochenschrift, June 30, 1904.

The Production of Specific Substances from Typhoid Bacilli.—L. Brieger and M. Meyer submit the following conclusions based on the results of their practical experiments: If living typhoid bacilli, twenty-four hours old, are suspended in sterile water for six to twenty-four hours, those substances which are able to generate specific agglutinins and bacteriolysins, are found to have been transmitted in great part to the fluid and are also present in the filtrate which is free from the germs themselves. The amount is greatly increased when the mixture is thoroughly shaken for a considerable period. The authors believe that filtrates of this character are particularly applicable for the purposes of active immunization, as no toxic action has been observed to follow their injection. On the other hand, filtrates secured by autolysis in the incubator were found to be markedly toxic for rabbits, on account of the large amount of bacterial substance held in solution.

A Specific Precipitin Reaction with Bothriocephalus Latus.—Isaac and von den Velden believe from their observations in a case in which the parasite was present, that the blood serum of the patient contains a specific precipitin for this tape-worm. This means that in all probability albuminoid bodies derived from the tænia entered the circulation and induced the production of a precipitin. The question remains as to the origin of these albuminoids: were they formed as the result of an autolysis of certain of the proglottidæ, or should they be considered as products of the living parasite? Absorption probably occurred through the intestinal mucous membrane, but as this is not possible under normal conditions, it must be assumed that some anatomical or functional injury took place which was brought about by some metabolic process or the suction disks of the animal.

Prognosis and Treatment of Puerperal Pyæmia.—E. Opitz presents an extensive review of this subject. He believes that operative treatment for this condition, as recommended by Trendelenburg, will only be followed by good results in exceptional cases, but it is almost impossible to state these indications in a definite manner. Trendelenburg's procedure consists of the ligation or removal of the diseased veins, with or without total extirpation of the uterus. Opitz claims that the main factor in the treatment consists of prophylaxis. Where a pyæmia is already present better results will be obtained from a course of treatment which includes absolute rest in bed, proper and sufficient nourishment, supplemented by infusions or rectal injections of saline or sugar solutions, than from alcohol medication. A certain amount of good also follows the administration of nuclein, antipyrin, and the intravenous injection of collargol.

Deutsche medizinische Wochenschrift, July 7, 1904.

Simultaneous Primary Tuberculous Infection through Intestine and Lungs.—Ribbert has met with three cases in which there was a double primary infection, and claims that this may readily happen, because when an individual inhales the tubercle bacilli, a certain number adhere to the oral mucous membrane and are later unavoidably swallowed. These cases also show conclusively the production of primary intestinal tuberculosis by the agency of the human bacillus. It seems scarcely logical to assume that the infection of the gut was due to bacilli from cattle, while that of the lungs was brought about by infection with the human bacillus. Such a double infection also gives rise to the thought that inspired bacilli may be swallowed in great number and that only in such cases is the intestine primarily infected. It is also worthy of note, as already suggested by v. Behring, that milk and other infant foods may be contaminated by bacilli of human origin, and that primary intestinal infection may result in this wise. All these suppositions point to the fact that in primary intestinal tuberculosis an infection with the human bacillus should be thought of, rather than with the bacillus from cattle, as was formerly the more prevalent idea.

Technique of Ficker's Method of Typhoid Diagnosis.—Clamann suggests a modification of certain details in this method. In place of the scarifying instrument, he advises the abstraction of the blood directly from a vein in the arm by means of a hypodermic syringe without a needle. The syringe should be of a pattern which permits sterilization by boiling. After the syringe is filled with about one c.c. of blood as it flows from the wound, the opening may be closed with sterile wax or a small rubber cap, and

the instrument transported to the laboratory. When ready to make the test, the syringe is placed over the test-tube containing the diagnostic serum and the piston slightly withdrawn. This liberates the clot at the opening and the serum contained in the barrel finds its way out.

Pulmonary Infusions for the Diagnosis and Treatment of Tuberculosis.—P. Jacob, Bongert, and A. Rosenberg present the results of an extensive study, both experimental and clinical, in this field of research. The technique of the method in man is as follows: Under the guidance of a throat mirror, the laryngeal surface of the epiglottis and the vocal cords are anæsthetized with a few drops of a 20 per cent. cocaine solution. Shortly after, a thin rubber tracheal spray is introduced through the glottis, and through it the trachea is sprayed with several c.c. of a 2½ per cent. b-cocaine solution. This may induce coughing, but this soon ceases. A bougie is then introduced into the trachea, provided with a very flexible stilet. After the latter is removed, the bougie may be carefully pushed down into either the right of the left main bronchus. The tuberculin is then slowly injected through the bougie by means of a syringe. The quantity of fluid was usually about 20 to 30 c.c. of 0.01 to 0.02 of the tuberculin, to 100 of water. The amount of tuberculin is increased as the reaction disappears. After the injection, the patients are put in the horizontal position, as in this way the solution finds its way into the upper sections of the lung, as shown in the animal experiments. The procedure is claimed by the authors to occupy not more than ten minutes and is well borne by the patient after a few sessions. The method was applied in five cases of pulmonary tuberculosis, all of which were in the second stage of the disease and in a poorly nourished condition. The infusions were given in varying numbers: in one thirty-eight were given in four and a half months; another, eighteen in two and a half months The results in all were excellent and the patients were dismissed as clinically cured, being relieved of their symptoms, free from physical signs, and having gained in weight. No unpleasant consequences were noted, and the method seemed to be harmless. The authors believe that the adoption of this method will not only prove of value as a therapeutic procedure, but also furnish a diagnostic aid. For it was found that if an individual is afflicted with pulmonary tuberculosis, the infusion of tuberculin, as here described, will be followed by a reaction, if only one-tenth or one-twelfth of the dose is given which is necessary to obtain a reaction by the method of subcutaneous injection. If the tuberculous processis localized in some other part of the body than the lungs, the reaction after the infusion will only appear after an equal or a larger dose has been injected than would be required for the subcutaneous injection. A more detailed report of these interesting investigations will be published in a special monograph.

Berliner klinische Wochenschrift, July 4, 1904.

Borax in the Treatment of Epilepsy.—J. Hoppe reports on twelve cases of epilepsy in which this drug was given in doses of from 1 to 3 grams daily. The patients all manifested a marked intolerance of the bromides. In seven of these cases the administration was unattended by any results whatever, and in some symptoms of intoxication became evident. Most of the patients presented some defects in their excretory organs, and the drug seems therefore to be contraindicated in such cases. Improvement was noted in five patients, both in the lessened number of attacks and the general health. In a number of recent cases borax was given for a period of six weeks, but the effect was not as good as that following the use of the bromides.

Tuberculosis of the Larynx and Interruption of Pregnancy.—R. Sokolowsky comments on the advisability of interrupting pregnancy where a well-developed tuberculous laryngitis is present, and reports two cases in which even this procedure was insufficient to prevent the extension of the disease and the death of both patients. In one, labor was induced during the eighth, in the other during the sixth month. The operative procedure was well borne and the subjective symptoms were improved for a short time, but death came on in both within a month after delivery. Two similar cases were also reported by Golkesen, and the author claims that these four cases show the necessity for doing an abortion as early as possible, rather than wait, as in this instance, until the later months. Moreover, every woman who is afflicted with tuberculosis of the larynx should be warned against the dangers of becoming pregnant.

Munchener medizinische Wochenschrift, July 5, 1904.

Blood-plates and the Coagulation of the Blood.—K. Bürker submits the results of his experiments undertaken with the idea of determining the rôle these structures play in producing coagulation of the blood. The difficulty attending the isolation of these delicate structures was overcome by a special method devised by the author, which must be studied in the original. The author found that there is a direct relation between the amount of fibrin formed and the number of disintegrated blood-plates, for microscopic preparations showed that where only a few blood-plates were present, the number of fibrin shreds after coagulation were also reduced in number, and *vice versa*. The disintegration of the blood-plates keeps pace with the coagulation when under the influence of varying temperatures. Thus, they may be preserved intact for several hours or days, at a temperature a few degrees above zero (C.), whereas they rapidly break up at the temperature of the body. In a similar manner, coagulation is delayed by cold and accelerated by heat. The author concludes with the statement that coagulation in blood recently taken from the body is closely connected with the typical disintegration of the blood-plates.

Erythrocytosis and Splenomegaly.—Zaudy reported a unique case some time ago in which these two conditions were associated and upon which he now publishes further comments. The patient, a woman of twenty-seven, complained of gastric symptoms, which were at first attributed to gastric ulcer. Examination disclosed a very much enlarged spleen, which was stated to have been present for eight years. Examination showed the blood to be somewhat more dense than ordinarily, the erythrocytes numbered 9,400,000, and the white cells were about in the proportion of 1:570. Otherwise the patient seemed to be in good health and refused to remain under observation. The author now attempts to explain the case by assuming that the gastric fever complained of eight years previously was a mild case of typhoid fever, and that the enlarged spleen failed to recede. Owing to this enlarged organ, or to a perisplenitis, compression of the splenic vein resulted or it became displaced in such a way that congestion of the spleen resulted. This interfered with the normal destruction of the red cells, and resulted in an increased number of the latter in the blood. This is offered as a probable explanation, but is not advanced by the author as infallible. It remains to await the report of similar cases.

Non-operative Treatment of Aural Inflammations.—R. Panse decries the methods employed by the laity in treating ear affections, and claims that they have as little moral right to treat the aural cavity as they have any other wound. Especial harm is done by the dropping of hot oil into the canal and irrigations with various fluids. The oil forms a paste with the ear wax which is most difficult of removal, contains many germs and obstructs free drainage. Irrigations with the ordinary glass syringe are also ineffective, because the fluid rarely reaches the diseased area. The effects of localized heat are much more readily secured by warm external applications. Where it is determined to apply drops, the best form consists of a solution of carbolic acid (less than 5 per cent.) in glycerin, which is hydroscopic. Irrigations also fail to remove any pus from the middle ear, as will be readily seen from the anatomical conformation of the parts, unless a catheter is employed. The author has restricted himself, in using irrigations, to impacted ear wax and foreign bodies. Paracentesis is urged in all cases in which there is a bulging drum membrane, and after cleaning out the canal, a small quantity of iodoform and boric acid powder should be insufflated, and a light gauze packing introduced. In order to avoid softening of the epidermis and consequent secondary infection, it is well to brush the external canal every few days with a ½-per cent. solution of nitrate of silver. The careful applications of the methods outlined will, in the author's opinion, save many cases which would otherwise need operation.

French and Italian Journals.

Orbital Thrombophlebitis Following Furunculosis of the Nose.—Cabanes describes this case. The patient had three boils on the nose. Quickly double exophthalmos developed, with chemosis and inflammatory swelling of the upper eyelids. At the end of forty-eight hours after his entrance to the hospital, the patient died in coma. Autopsy showed an obliterating phlebitis of the right ophthalmic vein of the two cavernous sinuses and of the right sylvian region. The clots in the cavernous sinus and ophthalmic vein were beginning to suppurate. The pus contained the yellow staphylococcus in pure culture.—*La Médecine Moderne*, June 29, 1904.

Appendicitis or Intestinal Occlusion by Invagination.—Delassus concludes that the differential diagnosis between appendicitis and occlusion by intestinal invagination is sometimes very difficult, and in such cases operation should be performed. The symptoms of intestinal occlusion are not always clear, and those which indicate peritoneal reaction may completely mask those to which occlusion gives rise—hence the confusion. It would seem that the ascending form of invagination in causing a more complete suppression of the passage of gas and

fecal matter causes a more rapid development of this affection.—*Journal des Sciences Médicales de Lille*, June 25, 1904.

Negri's Bodies in Etiological Relation to Rabies.—Luigi d'Amato has examined forty-eight cases of rabies in animals, and five control animals that were normal, with reference to the presence of the endocellular corpuscle described by Negri as being present in the tissues of the nervous system, especially in the cornu ammonis. His conclusions are as follows: The corpuscles were found in every case that had rabies, and in none that did not have it; in a case of rabies paralytica they were very rare in the cornu ammonis, encephalon, and cerebellum; the number of corpuscles found has no relation to the severity of the disease; the corpuscles were mostly intracellular, but in a few cases were found outside of the cells; there were many of smaller size in the Gasserian ganglion and the spinal ganglia—*La Riforma Medica*, June 8, 1904.

Instrumental Dilatation of the Neck of the Uterus in Pregnancy and Parturition.—R. de Seigneux presents a modification of the dilator brought out by Bossi, with the use of which he has had excellent results in a series of twelve cases. Bossi was able to produce dilatation with his instrument in fifteen minutes if haste was necessary, or in two hours if there was no haste. But there was danger of laceration of the uterus and the process was exceedingly painful. With the author's modification, which has a pelvic curve such that the dilatation is made in the plane of the axis of the pelvic strait, the pain is slight, no anæsthetic is necessary, there is no danger, and he has always delivered a living child. The instrument has arms of different sizes and shapes, which can be changed as desired. The arms can be introduced separately, as in obstetric forceps, and connected afterward. The instrument is simple, easily sterilized, and fulfils all surgical conditions.—*Archivio di Ostetricia e Ginecologia*, May, 1904.

The Therapeutic Value of Nephrotomy.—Guyon enuerates several cases in which nephrotomy has been performed with great benefit to the patient. One of the patients whose history is given was a girl of sixteen years. She was attacked by a severe cystitis of suspicious origin. There was, indeed, a beginning pulmonary tuberculosis. The urine had no bacilli. Nevertheless, lumbar pain developed and increased in severity The girl had a hectic fever. The left kidney was very painful on pressure and increased in volume. Nephrotomy was done. Miliary abscesses were disseminated throughout the renal cortex. Improvement followed immediately. An abundant flow of urine was effected by the renal incision. The general condition was improved. The patient is now well. As soon as the renal opening is made the urinary functions are redeveloped very quickly. The incised kidney secretes urine and the fever ceases more or less quickly.—*Journal des Praticiens*, July 2, 1904.

The American Journal of the Medical Sciences, July, 1904.

Actinomycosis of the Tonsils.—Jonathan Wright emphasizes the importance of examining microscopically absolutely all tissue removed from the nose and throat in the routine of either hospital or private practice. This case which the writer reports was a boy of twelve years, whose tonsils were removed. He still remains well. Microscopical examination showed the characteristic club-shaped rays of the actinomyces group. The infecting germ had evidently lodged in a tonsillar crypt. In a very large number of cases the tissue changes can be traced directly to a carious tooth cavity. The lower jaw is more often attacked than the upper. Iodide of sodium has a very favorable effect upon the lesions of actinomycosis.

A Case of Meralgia Paræsthetica.—John E. Donley states that meralgia paræsthetica is the name given to a peculiar syndrome appearing most commonly, though not exclusively, in the distribution of the external cutaneous femoral nerve. In a large number of cases there are tingling and numbness, increasing in severity as the leg is used. Some patients complain of heat, others of cold. Sometimes the lightest touch is unbearable. There is marked diminution of sensibility to pain, touch, and pressure. The etiology of the disease is obscure. The pathology is a mooted question. Strychniæ sulphate seems worthy of trial in these cases, as its use has been followed by distinct improvement. Massage, followed by wrapping the limb in hot towels, is advisable. A mild, galvanic current supplements the above after a week. The limb should have complete rest. Counter irritation is harmful in these cases. Resection of the nerve in obstinate cases is advised.

The Influence of Daylight on the Progress of Malaria.—Gunni Busck enumerates the following points: The special effect of quinine in malaria can hardly be explained as a direct outcome of its toxicity with regard to plasmodiæ, although this undoubtedly is very considerable, and if we look for an explanation of this effect we must not leave out of consideration a peculiarity so distinct as the power to make microorganisms sensitive in relation to light. Quinine preparations have decided sensitiveness-arousing qualities. Paramæciæ, which are placed in solutions of quinine of 1:20,000, first die after about five hours when standing in the dark, while they are killed in eight minutes if placed in sunlight, under conditions which generally have no baneful effect upon paramæciæ. According to experiments, light, even after having passed through a layer of animal tissue, can exercise its microbicidal effect upon the sensitive-made organs. The depth at which it will be possible to obtain an effect will, among other things, depend upon the intensity of the light. The tissues of the human body are pellucid, and if only a comparatively small part of the body surface is exposed to light, the blood and the plasmodiæ with it, will, on account of its continuous circulation, all the same be affected by the light. If these views are correct, malarial patients should be treated with sun-baths, or electric-light baths in addition to quinine, as it would seem that daylight can increase the favorable effect of quinine preparations upon malarial patients.

Surgical Scarlatina.—Alice Hamilton presents the following conclusions: There are about 174 cases of surgical scarlatina reported in the literature more or less in detail, and passing mention is made of many more. Operations and wounds of all kinds, as well as inflammatory processes, are supposed to predispose to scarlatinal infection. Surgical scarlatina is said to differ from medical scarlatina in five ways: (1) The large number of adults attacked. (2) The shorter period of incubation. (3) The mild angina or absence of angina. (4) The fact that the eruption begins at the wound or in some other unusual region. (5) The slightly precocious desquamation. Proof of the existence of a special form of scarlatina occurring in connection with wounds rests upon the large number of cases recorded in which an eruption resembling that of scarlet fever followed some injury, and upon the frequency of epidemics of scarlet fever among surgical cases in the days before complete isolation of fever cases was practised. Careful examination of the reported cases confirms the view held by most French writers, that the eruption in question is often due to septic infection, and is not scarlatinal, and that the variations of so-called surgical scarlatina from the typical form of scarlet fever are not due to the unusual mode of infection, but to the difference in the infectious agent. In the cases in which the disease was undoubtedly scarlatina, there is no convincing evidence that the relation between the wound and the scarlet fever was anything more than one of coincidence. The statistics of epidemics of scarlet fever in surgical wards in hospitals lack the necessary comparative statistics as to the same disease in the medical wards. There is, as yet, no convincing proof in the literature that surgical scarlatina is anything more than scarlet fever in the wounded.

The General Management and Therapeutics of Nephritis.—Beverley Robinson declares that it is only rarely that he meets acute nephritis which is typical according to the textbooks. The great number of cases are grafted on a former process, which has existed for some time, and which has probably been caused in the first place by harmful and irregular modes of life, or become developed during the course of some infectious disease. The first thing to do in all cases of nephritis in which there are acute symptoms is to put the patient to bed. The underclothing should be of wool, and the patient should lie next to blankets. Two principles should be kept in view: Physiological rest, so far as possible, to the diseased organ, and relief of function, especially through the action of skin and bowels. Small quantities of food should be given, and solely in liquid form. A milk diet should be insisted upon, but with certain limitations proceeding from common sense and experience. After a day or two, water in abundance may be freely given. When the bowels have been well moved, a hot wet pack properly applied to cause perspiration without danger of chill, should be insisted upon. High rectal irrigations promote diuresis and neutralize toxic substances from the intestinal tract irritating to the kidneys. In threatened uræmia nitroglycerin will often relieve the situation. In a real uræmic seizure, bloodletting will sometimes be the only way of saving life. When the patient begins to sit up, iron is desirable in moderate doses. When there is an excessive degree of œdema, it is desirable to use the lancet. It is relatively easy to point out the dangers of unwise medication, but it is difficult to say what medicinal remedies are useful in ameliorating or curing the disease. Chronic nephritis is so insidious that we know of no really efficient drugs for this condition. In general, nephritic patients are better off without alcoho.

in any form. In the case of much sleeplessness, the writer prefers the bromides to chloral. The effects of subcutaneous injections of saline solutions are not as desirable as those derived from infusions or enemata, according to the writer's belief. It seems desirable to suppress entirely the use of salt in the dietary of those affected with acute or chronic nephritis. Theobromin is of great value as a diuretic to diminish albuminuria, and to benefit the general condition of the patient.

Primary Tuberculosis of the Breast.—Brooke M. Anspach states that mammary tuberculosis is rare. There are no cases of primary tuberculosis of the breast on record in which the diagnosis was made after autopsy. The importance of this affection lies in the possibility of its transmission from the mother to the nursing child. As a secondary lesion, it has no special significance. Tuberculosis of the breast occurs in either a confluent or a disseminated form. The confluent abscess in the presence of mixed infection is the usual variety. An abscess purely the result of the tubercle bacillus, the so-called "cold abscess" is quite rare. The skin remains unbroken and there are no fistulæ. The axillary glands are not involved. The disseminated form is so rare that it is denied by some authors. In suspected cases the mammary secretion should be stained for tubercle bacilli. The disease in itself is favorable. The result depends upon the existence of visceral complications. Although simple evacuation and curettage or extirpation of the diseased nodules alone has sufficed in some cases, the gravity of the disease usually demands amputation of the breast, and the removal of enlarged axillary glands.

Annals of Surgery, July, 1904.

Some Remarks on Tumors of the Chiasm with a Proposal How to Reach the Same by Operation.—Otto G. T. Kiliani reports briefly such a case. He concludes that the only rational way of getting at the chiasm is in the following manner: A Wagner flap is formed on the frontal bones with true omega shape, the base of which lies about half an inch behind the suture coronaria, the indentation of the omega comes to lie exactly in the median line, to avoid, if possible, the opening of the sinus frontalis. The dimensions of the bone flap thus formed are in the median line 5 inches, the lateral diameters being 5½ inches, the width 7 inches, and the base where it is broken off, 3½ inches. The skin incision severs the temporal artery on both sides. The opening of the skull is made with a Sudek's fraise with electric motor, beginning at the base of the flap, the fraise is then led on forward, following closely the line of the omega formed in such a manner that the distance of the horizontal branches from the orbital margin is three-quarters of an inch, then going upward to describe the indentation for the purpose of avoiding the sinus, thus reaching a height of one and a half inches from the root of the nose. The other half of the flap is symmetrical.

Suture of the Brachial Artery.—Gaston Torrance reports the case of a boy, seventeen years old, whose arm was badly crushed about midway between the elbow and shoulder by the wheels of a car. The muscles on the outer side of the arm were badly lacerated, exposing the bone. He was brought to the hospital and the wound was dressed. At the end of a week the arm began to bleed profusely. Upon opening the wound, the artery showed a funnel-shaped ulcer which had perforated, the opening being about the size of the point of a pencil, and at every pulse-beat the whole of the blood was forced out through this opening. There was no sign of a radial pulse and the arm was cold and œdematous and of a dark color. His first suture was introduced with the arm extended, but tore out when tied, and he saw it would be necessary to flex the arm and keep it in that position. He used a small, full-curved intestinal needle with fine silk, introducing it as a purse string, and upon tying it found that it completely controlled the bleeding. Only one suture was used. A portion of muscle was dissected up and grafted over the anterior part of the artery. Five hours after operation the radial pulse was strong. He was kept in bed about two weeks and the arm was kept in splint for two months. A good result was obtained, the patient being able to use his arm.

Pyæmic Glanders in the Human Subject.—J. Clark Stewart reports such a case, which seemed worthy of record from its most fortunate termination and the extreme rarity of laboratory glanders. The points of especial interest were (1) its origin from two cases of most virulent pyæmic glanders in young men owing their infection to contact with diseased horses. Both cases began with symptoms resembling typhoid fever, rapidly passing into those of sepsis. Both died on the seventeenth day with multiple abscesses of the skin and subcutaneous tssue, the skin lesions being so numerous as to excite the suspicion of smallpox. (2) The incubation period was six days, figuring from the only chance of infection, the patient having made the autopsy upon the inoculated guinea-pig when she had an open wound on her finger. (3) The absence of the lesions of the skin and mucous membranes which are so common in most cases of glanders and the limitation of the original foci to the voluntary muscles. The points aimed at in the surgical treatment of the case were, first, delay in hopes that the foci might become encapsulated by inflammatory changes in the surrounding tissues, and that the patient might become, as far as possible, immune by the manufacture of her own mallein. Second, the avoidance of local implantation of bacilli mallei upon wound surfaces when foci were eradicated. Several methods aiming at the prevention of inoculation were suggested, including the actual cautery; but the use of 95 per cent. carbolic acid and alcohol on all cut tissues before exposing them to pus contact proved entirely satisfactory in preventing further local lesions, and allowed the wounds to heal promptly except where the packing and anatomical conditions favored the pesistence of a sinus. A complete but tardy recovery ensued.

The Anatomy and Surgery of the Internal Derangements of the Knee-joint.—Benjamin Tenney considers in detail the anatomy of the knee-joint and gives the chief reasons why the knee is the most frequently deranged of all the joints in the human body. Among these 150 cadaveric joints were found examples of nearly every "internal derangement of the knee-joint" which has yet been described. A classification of internal derangements according to their frequency in his series of cases would be as follows: (1) Tabs from the lubricating apparatus. The infrapatellar pad was the most frequently injured structure, and was noted in one hundred joints. In twenty-two of these one hundred there were seen tough fibrous tabs, pedunculated and attached to the infrapatellar pad; these tabs were without fringes and were never found crushed. Where these form a mechanical obstacle to the perfect working of a joint, they can be removed only by mechanical means and the only treatment is operation. (2) Erosion of articular cartilage. A frequent injury found in these joints was seen on the articular cartilage at the back of the upper surface of the external tibial tuberosity, the damaged area usually measuring a little over a centimeter in diameter, and always rounded. It showed all stages from a shallow cracking or "crazing" of the smooth cartilaginous surface to bare bone with a few tufts of fibrous tissue projecting from the edges and from the small centers inside the bare space. Another pathological condition was a loss of cartilage along the inner border of the patella, and is probably one of the least disabling of all the joint injuries found. (3) Damaged and displaced semilunar cartilages. Some of the most striking injuries were found in connection with these cartilages, and he groups them as follows: Joints with both semilunars damaged, 15; joints with damaged external and normal internal semilunars, 13; joints with damaged internal and normal external semilunars, 14; total, 42. Of these 42 joints, 24 were noticed as showing some of the marks of inflammation or degeneration of articular cartilage. The important thing was the dryness and consequent friction which was always present in some stage of the condition. The first noticeable effect of friction may be expected to show in the appearance of fine fringes or strands at the edges of the semilunars after the cartilaginous layer is worn away. Or one or both of the semilunars may be caught between the moving femur and tibia and split longitudinally somewhere between their free edge and their capsular attachment. Long continued friction must ultimately result in ligamentous damage. (4) Ruptured ligaments. If the femoral condyle overrides and settles down behind its semilunar, and extension occurs while the joint is loaded heavily enough, the cartilage may be torn from its peripheral attachment and folded over into the notch. Otherwise, the dislocation will be reduced with a "snap," which accounts for the name "jerking" or "trigger" knee. One hundred and twenty-eight operations on the semilunar fibrocartilages have been gathered from the reports of forty-seven operators. The internal was injured 113 times, the external but fifteen. The exact diagnosis of semilunar injuries is seldom attempted before opening the joint. The opinion is expressed that removal of the damaged cartilage is preferable to suture. Ligamentous damage of any degree must be followed by swelling. Three methods of treatment for these acutely distended joints are in use: First, Rest followed by massage and movement. Second, Aspiration, repeated, if necessary, to relieve the distension and remove a material which would discourage movement and encourage the formation of adhesions. Third, Incision with drainage. (5) Free and loose bodies. There were but two such among his specimens. Operative removal of these free bodies is the only treatment to be considered to-day.

Book Reviews.

The Mothers' Manual, A Month by Month Guide for Young Mothers. By Emelyn Lincoln Coolidge, M.D., Visiting Physician of the Out-patient Department of the Babies' Hospital, New York; formerly House Physician of the Babies' Hospital, New York; Physician in Charge of the Babies' Clinic of the Society of the Lying-in Hospital of the City of New York. Illustrated. New York: A. S. Barnes & Company, 1904.

The author's wide experience in the care of infants, has well fitted her for the preparation of this book, which forms one of the series of "The Woman's Home Library," edited by Margaret E. Sangster. The manual is full of practical hints for mothers. The first twelve chapters are devoted respectively to the first twelve months of the baby's life. But the child's life is followed still further in the later chapters—up to the seventh year. Just the questions which any mother needs to ask are answered here, for the book is eminently practical, and deals with every-day matters that every mother has constantly to meet. The closing chapters discuss Backward Children and Proprietary Foods.

Histoire de la Coca, la Plante Divine des Incas. Par le Docteur W. Golden Mortimer, Membre de l'Académie de Médecine de New York, Membre de la Société Médicale de l'État de New York, de l'Académie des Sciences, du Muséum Américain d'Histoire Naturelle, Ancien Chirurgien du New York Hôpital de Rhinologie et de Laryngologie, etc. Traduction de la deuxième édition (1902). Par H. B. Gausseron, Professeur agrégé de l'Université de Paris. Paris: A. Moline, 1904.

This volume, which is a translation, presents the results of the most exhaustive and painstaking researches. The author considers the history of coca, its physiology, the chemical composition of the coca leaf, and its alkaloids; the physiological effects of coca—its influence on muscular energy, on the nervous system, on the voice, and on respiration, and its rôle in nutrition. The author finally gives the observations concerning coca of numerous physicians with whom he has corresponded in order to gain their views on this subject.

Modern Ophthalmology. A Practical Treatise on the Anatomy, Physiology, and Diseases of the Eye. By James Moores Ball, M.D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. With 417 Illustrations in the Text and Numerous Figures on 21 Colored Plates. Philadelphia: F. A. Davis Company, 1904.

This is really a very handsome volume; a decided credit to the publishers as well as to the author. The book is one of 820 pages. The text is preceded by a table of contents and lists of illustrations. Many of the illustrations are original. They are excellently drawn and are reproduced in a most satisfactory manner. The illustrations are well chosen and properly placed to elucidate effectively the text.

The work is divided into twenty-five chapters. The first two chapters are occupied by a description of the development and anatomy of the eye. Then follow a chapter on the physiology of vision and another on the examination of the eye. Diseases of the various parts of the eye are next considered. Anomalies of the muscular apparatus are discussed in Chapter XX. "Ocular Manifestations of the Nervous Diseases" have received liberal mention. A chapter is devoted to a consideration of "Preparation for Ophthalmic Operations." The hygiene of the eyes is discussed in Chapter XXIV. A short chapter, the concluding one of the volume, is devoted to a description of methods employed in the microscopical examination of the eye.

In the chapters on diseases of the various parts of the eye the lists of diseases are very complete and the consideration of the various topics sufficiently comprehensive. Full credit is given to the various writers whose theories and methods are mentioned, but there is no bibliography. The omission of this feature does not affect the value of the work to the student and to the general practitioner, but might be felt by the specialist. The various operative procedures sufficient for dealing with the majority of the problems that present in the surgery of the eye are clearly described and are given their proper value. The arrangement of the volume is systematic. Superfluous matter seems to have been rigorously excluded. One of the valuable points of the work is a comparison of the diagnostic points of diseases that resemble each other, arranged in parallel columns.

The author may be congratulated on the excellence of the work that he has produced. It will undoubtedly be appreciated by the student, the general practitioner, and the specialist.

Uric Acid. an Epitome of the Subject. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P. Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Philadelphia: P. Blakiston's Son & Co., 1904

In this little book Dr. Haig summarizes in very readable form his well-known theory of the causal relation of uric acid to most of the ills of human flesh. We say "well-known" theory because every one has heard of it, but that does not mean well understood, and it is to increase the understanding of it that the author has written his book. There is little to be said in review of the work, for it is simply a restatement, in abridged form, of what is contained in his larger treatise on "Uric Acid as a Factor in the Causation of Disease," which was noticed in these columns a few months ago. Those who wish to know exactly what Dr. Haig's theory is and the arguments in support of it can do no better than read this book. Then, if they are converted to the author's views or if they want to go still deeper into the subject, they can turn to the larger work.

A Textbook of Physiology. By Isaac Ott, A.M., M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia With 137 illustrations. Philadelphia: F. A. Davis Company, 1904.

This is not a treatise on physiology, but simply a textbook in which the main facts of the science are stated briefly and without argument. Little space is given up to an account of laboratory experiments, and when these are mentioned their technique is not described at any length. The author is rather careless as a writer, and it would tax a grammarian's ingenuity to parse many of his sentences, but the matter of the book is good, and faults of style are unfortunately so common in scientific works that they seldom excite comment. We are sorry to note however, that Dr. Ott speaks of the so-called physiological salt solution as a normal saline solution. A physiologist should be enough of a chemist to know better than that, and, knowing, he should be too careful in scientific statement to make such a slip. But, in general, the book is to be commended as a guide for the student and a useful textbook to supplement the didactic lectures of the class-room.

Graves' Disease with and without Exophthalmic Goiter. By Dr. Wm. Hanna Thomson. Physician to the Roosevelt Hospital; Consulting Physician to the Manhattan State Hospitals. Formerly Professor of Medicine at the New York University Medical College, etc. New York: Wm. Wood & Company, 1904.

This brochure is made up largely of the clinical histories of forty-two patients with exophthalmic goiter and of twenty-eight patients without goiter, with the author's deductions from his study of these histories. No attempt is made to consider the subject of Graves' disease exhaustively. Under "Symptomatology" the author says that "the distinctively characteristic symptoms of Graves' disease are twenty-eight in number," but he probably does not mean exactly that, as at least twenty-five of these twenty-eight are no more characteristic of Graves' disease than they are of many other diseases. We venture also to question the correctness of labeling a symptom complex Graves' disease in which occurs neither exophthalmos nor enlargement of the thyroid gland. Unquestionably, Graves' disease occasionally occurs without one or the other of these symptoms, but there is no Graves' disease if both are absent. It would be quite as legitimate to describe paralysis agitans and enumerate all the symptoms save tremor and immobilization of the body. Dr. Thomson refers to "paresis" as one of the distinctive symptoms, which we regard as unfortunate nomenclature, as it is used synonymously with myasthenia or amyosthenia. The sensation of giving away of the knees or other joints that occurs in such diseases as neurasthenia and exophthalmic goiter should not, we believe, be spoken of as a "paresis," for in reality it is not a partial paralysis.

Dr. Thomson is of the belief that disease of the thyroid gland has no primary relationship to Graves' disease, and that is the view which it would seem from an examination of the literature is most widely accepted at the present time. The section of the book that we commend as most worthy of careful attention is that devoted to treatment, although we do not agree with the reasoning upon which the author says it is founded, viz., "the dependence of the disease upon what is ingested into the alimentary canal." Proper dieting, the author holds, is the most important feature of the cure, fermented milk and elimination of animal food the *sine quâ non*. The medicinal treatment consists in the administration of gastrointestinal anteputrefactives, mercurials, castor oil, bismuth, subcarbonate, naphthol bismuth salicylates, benzoates, etc. Surgical interference is deprecated, and the matter of surgical treatment is given scant consideration.

Society Reports.

MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Thirty-eighth Annual Meeting, Held at the Hotel Chelsea, Atlantic City, N. J., June 4, 6, and 7, 1904.

THE PRESIDENT, DR. HENRY MITCHELL (ASBURY PARK), IN THE CHAIR.

Progress of Ophthalmology and Otology.—Dr. TALBOT R. CHAMBERS of Jersey City read this paper. He said that although the past year had been marked by scientific research, there was but little to report in the way of methods of treatment and of new operations with the exception of the operation for the removal of the lacrymal canal. Dr. Edward Nettleship, in writing on "Eye Changes in Relation to Renal Disease," said that he felt sure that there was but one sort of renal retinitis, and that the many varieties and changes seen indicated only different stages and degrees of general œdema, exudation, and degeneration. Dr. Elschnig had reported on 209 cases of nephritis and stated that the importance of the retinal changes as regarded the prognosis of life were as follows: Of 74 patients with normal interior of the eye, 3 died within six weeks from nephritis; of 60 patients suffering only from arteriosclerosis, 4 died within six weeks and 6 within six months; of 34 patients without pathognomonic retinal changes, 16 died within six weeks and 17 within six months. The high mortality of those cases with retinochoroiditis albuminurica was especially noted. All 6 patients died within six weeks after recognition. Major Henry Smith gave a report of 8,500 cases of cataract extraction, 6,500 of which were extracted in their capsules. This method of operation practically eliminated iritis and after-cataract and was in every way more desirable. The operation was performed by making an incision at the corneoscleral junction and at once taking out the speculum. The upper lid was then raised with a hook while with the thumb the lower lid was depressed. This controlled the orbicularis, which was in nearly all cases the cause of the loss of the vitreous. Dr. W. E. Gamble had given a statement of our present knowledge of the architecture of the cerebral visual apparatus in the light of the neuron theory and the later clinico-pathologic investigations. Dr. H. J. Woodward had given a *résumé* of the ocular complications of mumps. Here the wide range of eye diseases was both surprising and interesting, embracing abscess of lids, conjunctivitis, keratitis, iritis, transient interference with vision and accommodation, and one case of atrophy of the optic nerve. Dr. Charles A. Oliver, in writing on the treatment of gonococcal conjunctivitis, named as the chief requirements free and sufficient, but gentle, cleansing; early and full atropine dilatation; lowering the vitality of the invading cell form by ice compresses; maintenance of the vitality of the organ where there were trophic disturbances by the application of heat; destruction of the intruding germ by nitrate of silver; local and general issolation with treatment of similar infections of other mucous surfaces. Dr. Arnold Knapp, in a paper on the "Influenza Group of Bacteria in Conjunctivitis, Especially in Trachoma," concluded that: (1) There was an influenzal conjunctivitis without other manifestations of influenza. (2) The Koch-Weeks bacilli were not identical with the influenza organism. (3) The Muller trachoma bacilli were found in 8 out of 120 fresh cases of trachoma which he had examined. (4) This organism could not be differentiated from the true or pseudo-influenza bacilli (5) It seemed probable that its presence in these cases of trachoma was accidental. Dr. M.W. Zimmerman, in writing on "Ocular Headaches and Other Ocular Reflexes," stated that out of 2,000 refraction cases 1,427 presented some form of headache. Dr. Frank Allport had showed the necessity for annual systematic examination of school children's eyes, ears, noses, and throats. Otology was slowly making its way to a similar position with other special branches. Dr. J. A. Spalding, in a paper on "Tinnitus," had adduced the theory that if the perception of the tone of the tinnitus was pleasant to the patient when sympathetically vibrated by musical instruments, the tinnitus was labyrinthine; if unpleasant, harsh, and sensitive, then the tinnitus was due to obstructed condition—foreign bodies, cerumen, tympanic effusions, etc. This opened a new field in the treatment of this obstinate affection. Dr. P. D. Kerrison had concluded that in the operation on the mastoid process the antrum should always be approached from the nearest point upon the mastoid cortex, which in the great majority of bones was the small triangular space just behind the spine of Henle This point furnished a guide to the site of the antrum, and also gave fairly accurate data as to the depth beyond which it is not safe to proceed. The depth of the antrum is always less than the length of the postero-superior wall of the meatus; in the majority of bones it is not over 12 mm. The depth of five-eighths of an inch was regarded as the extreme limit of safety. Dr. E. Stangenberg in 1,000 cases of diphtheria found 24.3 per cent. with ear disease, and the intensity of the diphtheritic process seemed to stand in no constant relation to the occurrence of the ear disease. Dr. C. W. Richardson's paper on "Osteomyelitis of the Temporal and Adjacent Bones of the Skull" was very instructive, and also much that had been written on "Sinus Thrombosis," especially Grunert's contribution to infectious thrombosis of the bulb of the jugular vein and on the question of its operative treatment.

Report on Progress of Rhinology and Laryngology.—Dr. F. C. ARD of Plainfield, N. J., said that a review of the literature of the past year showed abundant evidence of progress in our knowledge of diseases of the nose and throat. Dr. Walter J. Freeman, in a paper on the "Diagnosis of Frontal Sinusitis" called attention to the symptoms of late morning headaches, fulness over the eyes on leaning over, exquisite tenderness at the inner angle of the orbital roof, and most important the discovery of mucopurulent secretion at the peak of the vestibule. Cases of obstinate asthenopia not relieved by glasses should direct attention to the nasal sinuses. The morning is the time favorable for detecting pus from the frontal and ethmoid and the evening from the antrum and sphenoid. Tilley, in a paper on "Suppuration of the Maxillary Antrum," reviewed the causes and symptoms of this infection and recommended transillumination as valuable in confirming suspicions founded on other symptoms. He recommended alveolar drainage in those cases in which the duration was of months instead of years; in cases of long standing radical operation —opening in the anterior wall of the antrum and removal of portion of the inner wall. Luc of Paris gives three methods of reaching the ethmoid cells, and Coakley has described an easy method of entering the sphenoidal sinus for diagnostic purposes and has given the symptoms which should indicate the necessity of such a diagnostic procedure. Dr. Beaman Douglas, after the study of a large number of operations on the cadaver, concluded that intranasal operation on the frontal sinus was attended with considerable danger for reasons which he had explained at length. The submucous injection of paraffine, injected cold into the inferior and middle turbinated bodies, was said to give immediate results in atrophic rhinitis. Moure and Brindel spoke highly of this treatment and reported the results in seventy cases. Dr Harmon Smith reported six cases of death from hemorrhage following tonsillotomy, and after enumerating the causes, suggested as means of control Paquein or galvanocautery, torsion by means of ligature through the tonsillar folds, and twisting by means of artery forceps. He noted three cases of alarming hemorrhage in which he had used the Mickulicz-Stoerk hæmostat successfully. Dr. J. S. Richards had described a new method of removing

septal spurs. An incision is begun above and posterior, carried down to the floor of the nose, then forward and anterior to the spur and carried upward. The mucous membrane was then deflected upward and the spur removed. The flap was then replaced. The therapy of hay-fever has received a new impetus by the discovery of a new serum by Dunbar. Lupus vulgaris of the respiratory mucous membrane has been successfully treated at the Finsen Light Institute, Copenhagen, and scarification was no longer employed. In regard to operative treatment of stenosis of the larynx following intubation and tracheotomy the prognosis in complete laryngectomy seemed improved, owing to the improved surgical procedures employed. Many cases of recovery had been reported during the past year. The literature of laryngeal tuberculosis had given us the earliest signs of this disease, and Lockard had succeeded in relieving the suffering of the most advanced cases by division of the posterior commissure in the median line, by division or removal of the epiglottis, and by tracheotomy. Godskesen had contributed a valuable article on laryngeal tuberculosis during pregnancy.

The Treatment of Angiomata by Boiling Water.—Dr. John A. Wyeth of New York read this paper. He said that arterial angioma or circoid aneurysms and venous angioma or cavernous nævus had given better results than capillary angioma. He reported a number of cases of inoperable cavernous nævi, all of which were successfully treated by coagulation with water at a high temperature. After a few injections coagulation was usually effected and the hardened mass underwent granular metamorphosis and disappeared by absorption. In his experience there had been no escape of coagulum from the region of operation into the general circulation, and he deemed it proper to take every precaution for the prevention of such an occurrence. Only a small quantity of water was required for the injections, about five minims for each puncture. Compression on the side nearest the heart in venous angioma was always advisable until coagulation was effected. If the tumor was on an extremity with room enough between the neoplasm and the trunk the application of a tourniquet was advisable. In using this agent for the consolidation of tumors one must be careful not to produce necrosis of the part by having the water too hot or by applying too much to a part. One was apt, however, to put the water in at too low a temperature. Taking the instrument out of the boiling caldron, filling it, adjusting the needle and applying it meant that the water had cooled considerably. The operator's hands should be protected and all parts of the patient's body except that part which was to be injected. An assistant with a sponge saturated with cold water should always be at hand in case the injected water should regurgitate through the puncture. The capillary variety were liable to break down under the heat and to become infected and suppurate, leaving a scar which, though not so large as the original, would subsequently have to be removed. He carried the needle through the sound integument about one-eighth to one-sixteenth of an inch from the edge of the growth, pushing the point to about the center of the neoplasm and then injecting the water forcibly until the angioma began to swell and turn gray. In the after-treatment a simple dressing of dry gauze was sufficient.

Dr. W. L. Rodman of Philadelphia said that he had used Dr. Wyeth's method in two cases, which unfortunately were of the capillary variety. He had followed Dr. Wyeth's technique as far as possible, but his results were not all that could be desired, owing to the variety of the tumors and to the fact that he had not been able to keep the patients under his care long enough to determine just what results were possible. Where it was feasible he thought excision the best method, but where there were tumors that resisted ordinary methods he thought the injection of boiling water a valuable means for treating them.

Dr. Wm. J. Chandler of South Orange asked Dr. Wyeth if any fatal cases had been reported as the result of the treatment outlined. He said that Dr. Bulkley had had one fatal case.

Dr. John A. Wyeth replied that he had not heard of a fatal case in this country. In London a child had died seemingly of pulmonary infarctions of some kind. The patient had already some pulmonary trouble. Dr. Wyeth agreed with Dr. Rodman that where neoplasms could be thoroughly removed by excision with proper approximation and the employment of aseptic precautions this was the proper method. He used this method with neoplasms larger than one inch in diameter. He had known two children who died in one day in one hospital and at one clinic in New York under chloroform and this had made him cautious. He preferred to operate upon children by this method without a general anæsthetic, but, if an anæsthetic was to be given, ether was preferable.

Progress in Medicine and Therapeutics.—Dr. Philip Marvel of Atlantic City presented this paper, in which he considered the advances in medicine during the past year, and, of these, those along the lines of infectious and parasitic diseases stood out most prominently, as also did investigations of the bodily metabolism. Much had been done and results obtained by the application of the *x*-rays, but of the element radium it was as yet too early to speak, except that it promised to be of great value in the treatment of certain lesions of the skin and in malignant processes. The founding of the Phipps Institute in Philadelphia for the study and treatment of tuberculosis marked a mile-stone in the progress of the study of this infection. Protozoan pathology had attracted much attention during the past year. Real progress had been made during the past year in the application of drugs as remedial agents. Adrenalin, while a comparatively new production, was now thoroughly understood, and the conditions were certainly increasing in which it could be used with benefit. Acetozone possessed marked germicidal activities, was innocuous, was rapidly absorbed, stimulated the urinary secretions, and was thrown off as hippuric acid. Argyrol was said to contain 30 per cent. of metallic silver, and possessed the power of penetrating deeply into the submucosa. Aspirinol had been employed as a substitute for the salicylates, was almost insoluble in water, and had little taste. The reports on the use of cerebrin in epilepsy were apparently most satisfactory. The intravenous injection of collargol in the treatment of septic conditions, as originally introduced by Crede, had proven efficacious in a reported case. The subject of serum therapy had developed so rapidly and into such a complex affair that it was difficult for those in private practice to master its many phases. Antistreptococcus serum, according to laboratory experiments, was applicable only for the germ or germs for which it was prepared; it acted by not neutralizing the toxins but by destroying the germs themselves. Under the exhibition of tetanus antitoxin the mortality has been reduced from 80 per cent. to between 40 per cent. and 50 per cent. Antithyroidin injected subcutaneously has been used with some success in Basedow's disease. The literature on the use of the *x*-ray has been enormous. The best results have been obtained in rodent ulcers and cutaneous epithelioma. In lupus the results have been almost as favorable as in rodent ulcer. Radium emanates three different kinds of rays, one which travels at the rate of 100,000 miles per second and has already been recognized as likely to have a useful place in the treatment of certain diseases, particularly those that lie near the surface of the body.

Report of a Case of Albuminuria.—Dr. Philip Marvel reported the case of a boy fifteen years old, weighing 118 pounds, who had had the following diseases in the following order: Whooping-cough, measles, bronchial pneumonia twice, influenza, enterocolitis of an aggravated type, scarlet fever, typhoid fever, followed four

months thereafter by an attack of influenza complicated by malaria, in which both the Pfeiffer bacillus and the malaria plasmodium were found. In his early years he had been bitten by a dog, following which a condition of general sepsis ensued, and also after vaccination he was quite ill, with high temperature, delirium, etc. He has been subject to severe angina. Culture studies from a few of the attacks show principally streptococci. Frequent examinations of the urine were made after the attack of typhoid and of influenza and malaria, which gave a slight showing of albuminuria after the latter only. In October, 1903, he had a slight attack of what seemed to be simple tonsillitis. One week thereafter a specimen of urine was examined which exhibited slight albuminuria, no casts and no nephritic débris. A specimen was examined every few days thereafter, and each time with increasing evidence of albuminuria, casts, and renal débris, *i.e.* epithelia cylindroids, leucocytes, etc. From this time on, they were never entirely absent. The albuminuria has not changed in the main, though it has changed in the particular in that at times the specimens voided immediately before or after rising showed but mere traces, which was likely to be followed by a volume occupying at least one-half the space in the tube. Estimates made from time to time showed a varying estimate of from one-eighth of a gram to two grams to the litre. The estimate of urea has varied from 5.7 to 16.5 grams per day, and diet had but little or no influence upon the progress of the case. Rest, likewise, seemed to have but little effect. He had rather a liberal ménu, restricting only red meats, pastry, desserts, and raw fruits.

Some Abuses and Uses of Cardiac Stimulants.—Dr. W. Blair Stewart of Atlantic City gave a brief résumé of the too common practice of prescribing cardiac stimulants without carefully considering the cause and condition or when they should be used and when not. If cardiac stimulants were to be administered intelligently and correctly, it was necessary to understand the anatomy and physiology of the heart and circulation; promptly to diagnose and recognize all valvular irregularities and to reason out their effects; to recognize all causes having a direct and indirect effect upon the heart and to recognize acute and chronic processes; and finally to study the physiological action of each drug used. He said we should only use a cardiac stimulant when there was evidence of the heart failing to perform its proper function in keeping up an active circulation; we should stimulate in syncope, in failing compensatory cardiac hypertrophy, in certain valvular defects in which special drugs were indicated, in poor innervation of the heart, in extreme physical tire, in shock, and in many other conditions in which real heart weakness was present. If we subdivided the cardiac stimulants, we could classify them as (*a*) direct cardiac stimulants. (*b*) indirect cardiac stimulants, and (*c*) cardiac regulators. It was his desire to urge upon the profession the necessity of closer discrimination in the use of this class of drugs, a closer study of diagnosis and physiological processes, a systematic study of the physiologic and toxic action of each drug; and an application of a proper remedy in a proper place.

Gastric Ulcer.—Dr. E. F. Fogg of Bridgeton, N J., stated that the cause of round ulcer of the stomach was a matter that still perplexed physicians and pathologists. He said that our explanation at present as to the formation of gastric ulcer was that an interruption to the circulation of the blood through a given part of the stomach mucosa interfered with the nutrition of the tissue of the part and destroyed the power of the part to resist the action of the gastric juice. Just what produced the changes in the vessels of the mucosa that obstructed the flow of blood to the affected area was somewhat doubtful. It was claimed that such injuries as resulted from blows were prone to heal and resulted in ulcer only when there was an excess of hydrochloric acid present. Mechanical injuries, thermal and chemical irritation, might produce lesions in the mucous membrane of the stomach, but it was believed that very rarely, if ever, did such lesions produce typical round ulcer. It was worthy of mention that an injury of a tissue that would result in ulcer in the presence of a digestive fluid, might not result in ulcer in the absence of such a fluid It was probably that actual death of an area was not necessary to permit of its digestion, but that an injury to a part without death, by reducing the vitality of the cells, would allow the digestive fluids to act and thus give rise to ulcers. The most difficult feature of gastric ulcer to account for was its chronicity. It was believed by some that the chronic course was due to the presence of an excess of hydrochloric acid. We knew that a large percentage of the cases of ulcer of the stomach had an excess of hydrochloric acid. While most authorities did not mention specifically ingested food as an irritant that helped to keep up gastric ulcer, and as an agent which excited certain abnormal physiological and chemical conditions which prevented healing, he personally believed it to be a prominent factor in keeping up the chronic condition of the ulcer His reason for choosing this subject was to emphasize the importance of early diagnosis and prompt and vigorous treatment. The disease was very common. There were generally dyspeptic symptoms, such as nausea, vomiting, and eructation of gas, often a constant ache in the region of the stomach, attended with circumscribed tenderness. The ache was often made worse by pressure upon the sensitive area and was often increased by walking or jolting. Hemorrhage was an important symptom, but its absence meant nothing. In those cases in which hyperchlorhydria did not exist, it was supposed by some that an excess of hydrochloric acid was at one time present and after initiating the chronic course of the disease had subsided. Many cases were treated as mere dyspeptics. This was very unfortunate, for in many cases tissue changes took place in and around the ulcer, which rendered healing long and difficult and sometimes impossible. In a patient suffering from abdominal pain or distress or dyspeptic symptoms, one of the first conditions, because it is one of the most serious, that should suggest itself to the mind of the physician was gastric ulcer, and he should endeavor to determine whether or not it was present. The treatment of gastric ulcer was very simple. A regular restriction of the diet was most important. Every patient should be put to bed. Small quantities of liquid food might be given by the mouth, and small quantities of water. It was wise to withhold milk until the patient had improved somewhat. It was probably better to feed all cases from one to two weeks by the bowel, giving only water by the mouth. If vomiting persisted, even water should be withheld for a few days. Medication was of the least importance, though bismuth subnitrate in large doses, in connection with the dietetic treatment had given most satisfactory results. He thought the time was ripe for surgical measures to be more extensively employed in the treatment of gastric ulcer than in the past. The opening of the abdomen could be more commonly practised in unsatisfactory cases if for no other purpose than that of diagnosis. Until our technique was further perfected only those should be operated upon in whom the symptoms persisted notwithstanding the most thoroughly conducted dietetic treatment.

Dr. Joseph Tomlinson of Bridgeton, in discussing Dr. Fogg's paper, alluded to the fact that ulcer of the stomach was a very common disorder, and that many sudden deaths from perforating ulcer went unrecognized. Cancer might also develop in the cicatrix of an old ulcer In 187 consecutive cases observed at the Massachusetts. General Hospital there were only six perforations, while in 500 cases observed in a London Hospital, perforation occurred in 10 per cent. Cancer, gallstones, and even appendiceal trouble might simulate gastric ulcer very

closely in symptomatology. Indeed, in many cases an absolute diagnosis could only be made by means of an exploratory incision. In view of the many dangers attendant upon delay, this method of diagnosis was advocated, and also because of the fact that the great percentage of cases, both of cancer and ulcer, existed near the pylorus, the part of the stomach most accessible, and most easy of inspection. In his own experience, one reliable symptom in early diagnosis was that of abdominal rigidity. This offered almost positive evidence of perforation. In the treatment of ulcer of the stomach, medical measures were in many cases disappointing, best results being obtained by rest and the withholding of food. The contractions and cicatrices resulting from ulcer of the stomach often gave more pronounced symptoms than the ulcer, and here also surgery could find a larger field of action.

Gastro-uterine Disease.—Dr. Joseph M. Rector of Jersey City said that intricate as might appear the underlying conditions which were responsible for the complex mass of symptoms referable to gastro-uterine disease, impossible as might seem the barriers which surmounted the attempt to unravel these pathological difficulties, yet they all became simple when one systematically investigated them. He said that if we examined a woman when her first symptoms with which we are all familiar appeared, we might find a simple lacerated cervix uteri, a prolapse of one or both ovaries, a retrodeviated uterus, with or without adhesions. We might find the entire uterus inflamed or its endometrium alone diseased, a small fibroid might be felt upon the fundus or upon the exterior wall, or a purulent discharge might tell the story of an infection that was the starting-point of disease. The epigastrium was tender over the stomach, constipation and a tympanitic enlargement of the abdomen marked the beginning of gastric or intestinal indigestion. As time passed a worse condition of affairs would ensue. Frequent vomiting, dyspepsia, acid eructations, and cardialgias appeared. Hydrochloric acid of the stomach was decreased, and sulphuretted hydrogen was present in excess in the intestinal tract, resulting in non-assimilation and anæmia. He called attention to the reflex paths which he had described, namely, the pneumogastric and lumbo-sacral nerves, branches of the cerebrospinal system which were in close connection with the sympathetic system—solar and hypogastric plexi. These sympathetic nerves contained vasomotor and secretory functions and, according to Rohrig, acted in a centripetal direction. Thus, it was easily to see how the reciprocity between the uterus and stomach was established. One of the main causes, then, of gastro-uterine disease was the close anatomical relationship existing between these two organs. The reflex nerve paths were the means of transmission; primarily, the disease effected the uterus, then, secondarily, reflex symptoms appeared which simulated gastric disorder. Peripheral irritation was undoubtedly an exciting cause, and that irritation might result in the production of reflex disturbance; and while the reflex neuroses were only symptoms, they were frequently productive of more distress than the organic disease from which they took their origin. When the necessity arose of explaining the correlation of symptoms otherwise than could be satisfactorily accounted for by the distribution of nerves we might describe the same by reason of existing statical factors between the two organs, stomach and uterus. In its normal position, the stomach is held in position by its ligaments and the surrounding organs. The uterus was held in position by its maintaining ligaments, the upper pressure of the levator-ani muscle and the intraabdominal pressure. The normal adjustment of both organs was accomplished by intraabdominal pressure. The equilibrium of these organs was destroyed whenever their volume was altered, the normal balance disturbed, or a change occurred in the adjusting force. The descent of the diaphragm disturbed the intraabdominal pressure and compensation became established by an equal outward expansion of the abdominal wall. If this change was not sufficient, the force exerted its increased action upon the greater curvature of the stomach, and pushed the organ upward until finally it might require the forward displacement of the intestine to meet the necessity of the changed intraabdominal pressure. The direction of the pressure now is from above downward and forward, and the result of this changed direction acting upon the uterus might cause either a procidentia or a retrodeviation. Again a large subinvoluted uterus might by its own weight and bulk fall downward and backward until an independent position of retrodeviation resulted. The reflex gastric symptoms were the result of pressure upon the sympathetic and hypergastric plexi, through the reflex nerve paths which he had described.

Vibratory Massage in General Practice.—Dr. W. G. Schauffler of Lakewood, N. J., read this paper. He said that vibratory massage, or, more properly speaking, "mechanical vibratory stimulation" was a therapeutic factor of such recent date that there had been as yet very little authoritatively written on the subject. He said that it was his purpose in this paper to give an idea of what mechanical vibratory stimulation was; what it could be used for; how to apply it; what we could expect from its use. Pressure exerted on a nerve caused it to vibrate and by an ingenious mechanism, by means of which we could at will increase or diminish the power of the stroke, we could gently stimulate a given nerve, and cause it to vibrate forcibly or even produce inhibition therein. Such a variety of conditions seemed amenable to treatment by means of vibratory massage that to enumerate them would seem like exploiting a quack "cure all." The general theory upon which this treatment was based was that all the functions and organs of the body were controlled by certain nerves and nerve centers, located principally in the spinal cord, and that, in the course of disease, if these centers are reached and treated, restoration to normal action might be expected in most cases. He had picked out six cases at random from between twenty and thirty which he had had under treatment during the past year as giving a fair idea of the variety of conditions suited for vibratory massage, and the average results obtained. Judging from his experience, vibratory massage should have a well-defined place as a most valuable aid to the general practitioner, enabling him successfully to treat a large class of cases, which he has heretofore thought it necessary to turn over to specialists or to send to sanatoria.

Progress in State Medicine and Hygiene.—Dr. Edward E. Wall of Newark, N. J., presented this paper. He first took up the subject of the "Jersey mosquito." The legislative act called the "Duffield bill" defined as a nuisance water in which mosquito larvæ were found, and it gave power to a local board of health to abate such nuisances. Last year thirty acres of the Newark meadows were ditched, the trenches were six inches wide, straight-edged, and eighteen inches deep and fifty feet apart. There was now sufficient means at their disposal to drain and clear the Newark meadows of all breeding spots for mosquitos. Monmouth Beach had been ditched to the extent of 150,000 feet and the Sandy Hook district fairly well cleared. He asked for coöperation from all parts of New Jersey and from New York in clearing Staten Island. He considered that the practicability of the scheme had been sufficiently demonstrated, and it rested with physicians to be active in matters of public welfare. Three arguments could be brought in favor of the mosquito crusade: (1) It would be worth while if it did no more than to add to our peace and comfort. (2) It materially enhanced the value of property. (3) The destruction of the Anopheles meant the destruction of malaria. He next spoke of tuberculosis.

The tubercle serum was produced and 5,000 bottles had been distributed free to Newark patients. So far 300 patients that have been treated seem to be improved. The sepsis serum was capable of far more extended use. In acute septicæmia it could be given every eight hours. We had records of a dozen cases of puerperal and post-operative sepsis in which the use of this serum as often as every two or three hours had produced results when almost every other plan had been unsuccessful. He thought the sepsis serum might be used with good results in septic scarlet fever. He said in regard to contagious diseases that during the last two or three years, New Jersey had passed through a season of smallpox, and that New Jersey was not as well educated on the subject of vaccination as Japan. There has been a marked prevalence during the past year of diphtheria, measles, German measles, and scarlet fever. With the Newark antitoxin the mortality from diphtheria was 7 per cent. as against 35 per cent. and 40 per cent. of former times. Scarlet fever was of grave import. Bacteriology had not hitherto helped us in its etiology, and we had to-day to depend on our old clinical methods. In the year 1903 there were in Newark 779 cases and 71 deaths, and in 1904, 662 cases and 60 deaths. He said that when we considered the wide range of the mortality in scarlet fever, and its multiple complications, it seemed to him that we ought to recognize the fact that the modern house was not a fit place in which to treat contagious diseases—that in large apartment houses it interfered with other families, and that in view of the necessity for a long quarantine, we should educate the public to a recognition of the fact that all these cases should be treated in fever hospitals specially constructed for the disease, where the personal danger to the patient was small and yet the general public would be protected from a great menace.

Acute Catarrhal Conjunctivitis.—Dr. Alfred Cramer of Camden, N. J., said he had been led to prepare this paper for two reasons: (1) because it was a highly contagious disease, and an exact and early diagnosis would, if proper measures were taken, both prevent its spread and minimize the dangers; and (2) because unfortunately many cases received no treatment until the usual home remedies had been tried, which almost invariably aggravated the condition. The disease was commonest in warm and changeable weather, and all ages were liable to the infection. The case books of the Howard Hospital of Philadelphia, covering a period of nine years, showed that there were 64,449 new cases treated in the Eye Dispensary, of which number 335 were diagnosed as acute catarrhal conjunctivitis, a trifle over 5 per cent. There were 175 males and 160 females. The period of incubation was thirty-six to forty-eight hours. The disease was extremely contagious. In typical cases the diagnosis was comparatively easy. With proper treatment the prognosis was favorable. The prophylactic treatment was of greatest importance and consisted of strict quarantine while there was any secretion. The treatment of the disease was simple and satisfactory Cold applications should be made to the lids during the acute stage. The eye should be kept thoroughly cleansed with boric-acid solution. Chloride of zinc, 1 gr. to the ounce, seemed to act like a specific. He strongly urged a bacteriological examination in every doubtful case of conjunctivitis. It had been estimated that 60 per cent. of the blind in the asylums of Philadelphia were blind as the result of one of the forms of conjunctivitis, often the result of carelessness or ignorance, or both.

Calomel an Intestinal Antiseptic.—Dr. Alexander McAlister of Camden, N. J., read this paper, the purpose of which was to consider the utility of antiseptics in their application to the alimentary canal and to compare the effect of calomel with those of the group of remedies commonly classed with intestinal antiseptics. The intestinal antiseptics all interfered more or less with the digestive functions. Some of the remedies were of special value, particularly the sulpho-carbolates, for controlling intestinal fetor; they were effective in minute doses. Calomel, he believed to be our best intestinal antiseptic in pediatric practice Calomel did not interfere with the action of the digestive ferments, but stimulated their functions. In the presence of free alkalies, a small portion of calomel was converted into black oxides, probably the only form in which the medicament was absorbed. Calomel liberated the stagnated bile, increased pancreatic secretions, and stimulated all the intestinal glands. At the present time one-tenth-grain doses were used more frequently than any other by the profession in general. Smaller doses would come into larger use, since the effect was better understood and the drug was applied with more skill than ever before. Whatever the condition, the first object in treatment was to impress the system by reducing abnormal bacterial activity. In gaining this point, the combination of sodium bicarbonate with calomel acted beneficially by facilitating the conversion of the insoluble chloride into soluble compounds.

The Beneficent Agency of Peritoneal Exudates, Adhesions, Aperistalsis, and Meteorism in Peritonitis.—Dr. Horace G. Wetherill of Denver, Col., said that eleven years ago he presented a paper entitled "Salpingitis and Pelvic Adhesions," when two conclusions were reached, as follows: (1) Adhesions about an inflamed tube or ovary are conservative in design and effect, and should not be disturbed till the disease back of them is removed. (2) When the disease is removed, adhesions tend to absorption and usually disappear in time. Both time and experience have served to confirm these earlier conclusions and had led to the fixed belief that certain other inevitable accompaniments of peritonitis, which had been regarded as baneful, were in reality also somewhat beneficent in their agency. Starting with certain accepted and established basic principles of modern medical science, he said it would be conceded: (1) That idiopathic peritonitis is a myth; that the disease is always either directly or indirectly of infective origin; (2) That transudation of serum, the formation of plastic exudates and adhesions, tympanites, peristaltic arrests, and muscular rigidity, were the first reactionary phases of the disease; (3) That the first effect of infective inflammation everywhere in the body was to bring about quiescence, muscular inactivity, and physiological rest in and about the parts involved; (4) That the best treatment of all inflammation was based upon promoting such an arrest of functional activity. (5) The health and life of the patient depended upon the limitation and localization of the infective process period. He asked that it be conceded that peritoneal exudations and adhesions play a very important part in protecting the patient from diffusion of infection during acute stages of the disease; could it then be questioned that our peristalsis also favored the formation of a protecting barrier? Could it be questioned, then, that meteorism, through ballooning the intestines and increasing intraabdominal impression, also served the same beneficent purpose in bringing loop to loop closely about the infecting focus and splinting the abdominal wall and diaphragm so that not even the respiratory movements should disturb the newly established quarantine station? During the pre-operating period opium was our sheet anchor in the treatment of peritonitis; it promoted peristaltic arrests and even tympanites.

Milk as an article of diet should be forbidden in all of those conditions in which peritonitis is threatening, and before and after all intraperitoneal operations. It was an ideal culture medium for the gas-forming bacteria of the intestinal tract, and he believed it to be the worst form of liquid food that could be administered, particularly in typhoid fever, gastric ulcer, appendicitis, and after abdominal operations. Opium he regarded as a valuable remedy in acute stages of peritonitis, as it relieved pain, conserved the energy of the patient, and promoted peristaltic arrest. For the

discomforts and dangers incident to extreme degrees of meteorism and antiperistalsis, he advised rectal and stomach siphons and stimulating rectal enemata. Against simple peristaltic arrest in the small intestines he believed that no remedy was necessary or justifiable.

The Agencies through Which the Infection of Typhoid Fever Is Disseminated.—Dr. W. B. Warner of Red bank, after reviewing what was known about the bacillus of Eberth and the various epidemics that had occurred in recent years, at Lowell, Mass., in 1903 in Ithaca, in Göttingen in 1900, and in his own township in 1903, he said that the methods by which typhoid-fever infection were conveyed from the sick to the well being understood, the problem of prevention was easily solved, at least theoretically, by the thorough policing of watersheds and the employment of trained and salaried dairy and general sanitary inspectors. But practically these matters required moral and financial support from the public, and these requisites the people of the present day gave grudgingly. He said that in many rural districts, and even in some towns of considerable importance where foci of infection frequently existed, the people were not only apathetic, but actually belligerent, and it thus appeared that a necessary preparatory step to an active and efficient sanitary crusade would be the education of the people.

President's Address.—Dr. Henry Mitchell of Asbury Park, N. J., said that the subject which he wished to present related to the application of modern scientific medicine, to the prevention of disease and the promotion of the public health, and, more particularly, to the relation which the State Medical Society and the members of the medical profession had held to the rise, development, and progress of public hygiene in New Jersey. At every step in this great work the members of the society were the instruments through which organized methods for defence against the spread of preventable diseases had been established, and the results, as indicated by the diminished death rates among certain preventable diseases, promised to surpass the expectations of the most enthusiastic pioneer in this field of labor.

Progress in Surgery.—Dr. Frank D. Grey of Jersey City, N. J., read this paper and referred particularly to the researches of Mikulicz, Robson, and Cammidge in pancreatic surgery and the operative conditions of the stomach by Mayo, Murphy, and Moynihan of Leeds. He said that we would soon recognize a department of Fourth of July surgery, because, according to the *Journal of the American Medical Association*, August 29, 1903, 4,449 persons were injured and 446 died, of which 406 were from tetanus caused from blank-cartridge wounds.

Progress in Bacteriology.—Dr. Joseph McFarland of Philadelphia said that comparatively few details had been added to our knowledge during the past year and no new microorganisms had been discovered. He considered the trepanosome, causing African lethargy or the sleeping sickness, and showed that its geographical distribution was the same as a certain species of fly. All trepanosomes look alike. Surra, in the Philippine Islands, was also caused by the fly and was the death of many horses. The parasite was transmitted from animal to animal by suctatorial insects. Very important work had been done by Novy and McNeil of Michigan in that they had succeeded in cultivating the trepanosomes upon ordinary culture media.

Election of Officers.—*President*, Dr. Walter B. Johnson of Paterson; *Vice-Presidents*, Drs. Henry W. Elmer of Bridgeton, Alexander Marcy, Jr., of Riverton, and Edward J. Ill of Jersey City; *Corresponding Secretary*, Dr. E. W. Hedges of Plainfield; *Recording Secretary*, Dr. William J. Chandler of South Orange; *Treasurer*, Dr. Archibald Mercer of Newark.

The next place of meeting will be Asbury Park or vicinity, June 20, 21, 22, 1905.

Cincinnati Academy of Medicine.

At a regular meeting, May 2, Dr. Wm. D. Porter presented a premature child which had been born by spontaneous craniotomy. The mother was a victim of an epithelioma of the cervix uteri, which was very hard and resistant. Dr. Porter was called in consultation and sent the woman to the hospital. A few days later he was hurriedly summoned because of a fleshy mass protruding from the vulva. On his arrival he found that the child had been born. The resistance at the cervix had caused the scalp to tear, and the brain had been protruded by the pressure of the cranial bones. The occiput was pushed up under the parietal bones, and one of these overlapped the other. The fleshy mass which had alarmed the nurse was the protruded brain.

Dr. Robt. Carothers read a paper on "Ununited Fractures." He said in brief: "If after fracture a bone is still ununited after six to eight weeks, the condition is called delayed union, and if the condition has persisted for three to four months it is spoken of as ununited fracture; but cases have been reported in which bony union has occurred after eighteen months without surgical intervention. Stimson gives the frequency of ununited fracture at one in 352 cases, the humerus, tibia and femur being most frequently the site. The patella, olecranon, neck of femur, and ribs are not considered, as bony union is the exception in these cases. The callus which forms may be normal in amount, but instead of becoming ossified it remains soft, or is converted into fibrous tissue. The condition most often results after faulty immobilization. In some cases there is the formation of an actual false joint, and in others no attempt is made at union and the ends of the bone atrophy. Most interesting are the causes and treatment. The causes given by Gurlt and Norris are constitutional and local. The first are syphilis, anæmia, drains on the system, as pregnancy and lactation, wasting diseases, as typhoid and malaria, alcoholism, paralysis, scurvy, gout, rickets, osteomalacia, and old age. These authors do not mention tuberculosis and report many more cases in which union has occurred in the presence of these diseases than cases of non-union attributed to them. The local causes are defective reduction and immobilization, too light bandaging, which interferes with the blood supply, too long application of cold to the part, injury to the main artery of the limb or of the nutrient artery of the bone, defective innervation due to damage to trophic nerves or nerve centers, disease at seat of fracture, as tumors, syphilis, or tuberculosis. When two parallel bones are fractured, and one unites quickly, it may prevent union of the other by interfering with acurate opposition and preventing the irritation of the contracting muscles. One of the most frequent causes is the interposition of soft parts between the fragments. The skiagraph is of value in determining the relation of the fragments, and when, after six to eight weeks, these are in good position one is justified in waiting, but when this method shows the opposition to be poor much valuable time can be saved by operation. Unfortunately the interposition of soft parts does not show in the skiagraph. All possible constitutional causes should be treated and the patient's general health improved by good food, fresh air, and sunshine. Phosphate of lime and thyroid extract have also given good results. Massage and bandages, applied tightly above the fracture for two to three hours on three to four consecutive days, act by increasing the congestion of the part. The local injection of irritants is dangerous. In the case of the lower extremity an ambulatory dressing is often successful. Under anæsthesia the fragments can be rubbed together to set up irritation, or the ends of the bone can be drilled through the skin, or an electrode passed between them. When palliative measures fail operation must be done. The time for operation is very variable,

about four months being the most usual time; but this must be decided for each individual case. Operative work must be aseptic and the incision made in the part where the fewest important structures are found. The bone should be disturbed as little as possible, the ends freshened and brought together, being secured by suture; the best is forty-day chromicized catgut. The bones should be drilled on the slant so as to come out in the medullary cavity, the periosteum being raised and the sutures not drawn too tight. McCurdy brings the long ends of his sutures out through the wound and secures them to a solid splint, thus holding the fragments. When the ends are atrophied they can sometimes be secured by drilling and inserting an ivory plug, but at times the ends must be resected and the gap filled by shortening the bone, or by the use of fresh or decalcified bone or powdered decalcified bone. When the fragments are held apart by a parallel bone the gap can be filled by decalcified bone, or the second bone can be broken. Medullary plugs and ferules are to be avoided unless other methods fail, because they so frequently demand removal."

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

KISSINGEN FUR HERZKRANKE. Von Dr. J. LEUSSEN. Dritte Auflage. 12mo, 70 pages, illustrated. Fr. Weinberger, Bad Kissingen, Germany.

REPORT OF THE COMMISSION TO INVESTIGATE THE CONDITION OF THE ADULT BLIND IN THE STATE OF NEW YORK. 8vo, 73 pages.

WURMFORTSATZENTZUNDUNG UND FRAUENLEIDEN. Von Dr. THEODOR LANDAU. 8vo, 82 pages. August Hirschwald, Berlin.

ARQUITECTURA DEL ESQUELETO. Por Dr. GARCIA HURTADO. 8vo, 52 pages. Illustrated. Idamor Moreno, Madrid.

DE LA ESCOLIOSIS. Por Dr. SATURNINO GARCIA Y HURTADO. 16mo, 104 pages. Illustrated. Idamor Moreno, Madrid.

ESTUDIO DEL PIE PLANO. Por Dr. D. SATURNINO G. HURTADO. 8vo, 16 pages. Illustrated. Enrique Teodoro, Madrid.

COLORADO MEDICAL JOURNAL. SPECIAL TUBERCULOSIS NUMBER. March, 1904. 8vo, 304 pages. Illustrated. The Colorado Medical Journal, Denver, Colo. Price, $1.

URIC ACID: AN EPITOME OF THE SUBJECT. By ALEXANDER HAIG, M.A., M.D. OXON., F.R.C.P. 8vo, 158 pages. Muslin. P. Blakiston's Son & Co., Philadelphia. Price, $1 net.

FIRST REPORT OF THE TENEMENT-HOUSE DEPARTMENT OF THE CITY OF NEW YORK, 1902-1903. Volumes 1 and 2. Vol. 1, 426 pages. Vol. 2, 480 pages. 8vo. Illustrated. Muslin.

DISEASES OF THE NOSE AND THROAT. By Dr. D. BRADEN KYLE. Third revised edition. 8vo, 669 pages. Illustrated. Muslin. W. B. Saunders & Company, Philadelphia. Price, $4 net.

MATERIA MEDICA FOR NURSES. By MISS EMILY A. M. STONEY. Second revised edition. 12mo, 300 pages. Muslin. W. B. Saunders & Company, Philadelphia. Price, $1.50 net.

A TEXTBOOK OF MECHANO-THERAPY (MASSAGE AND MEDICAL GYMNASTICS). By Dr. AXEL V. GRAFTSROM. Second revised edition. 12mo, 200 pages. Illustrated. Muslin. W. B. Saunders & Company, Philadelphia. Price, $1.25 net.

TENEMENT-HOUSE INSPECTION. A practical Textbook for Civil Service Candidates for the Positions of Inspector and Clerk in the Tenement-house Department and a Manual for Tenement-house Owners, Dwellers, and Inspectors, together with full text as well as synopsis and digest of the Tenement-house Act. By Dr. GEO. M. PRICE. 12mo, 168 pages. Muslin. The Chief Publishing Company, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 23, 1904:

	Cases.	Deaths.
Measles	201	7
Diphtheria and croup	275	25
Scarlet fever	88	3
Smallpox	2	...
Varicella	20	1
Tuberculosis	299	168
Typhoid fever	65	13
Cerebrospinal meningitis	...	22

The Japanese Red Cross Nursing Association.—The *Japan Mail* describes the organization and objects of this association as follows: The president of the association is H.I.H. Princess Komatsu, the members are all ladies, and the manager is Marchioness Nabeshima. All the members are trained in the duties of the nurse, and their work is consequently of the greatest assistance to the Red Cross Society. Bandages and many other surgical necessities are sent to the field by the association. Its members visit the wounded men in the hospitals and also work as nurses there. Some of them even go to the front. They also keep in close touch with the regular nurses of the Red Cross, seeing them off when they start for the field, welcoming them when they return, sending presents and comforts to them during the discharge of their arduous functions and seeking otherwise to encourage and assist them. It will thus be seen that the work done by the association is wide and very helpful. Though its operations are, so to speak, subordinate to the larger work of the Red Cross, it usefully supplements the latter, and is also entirely self-supporting.

The Relation of Certain Extracranial and Intracranial Hemorrhages in the Newborn.—J. Howell Evans has sought some common factor which may act whether the molding of the head at birth take place from the superior cephalic planes or from the inferior cephalic planes. Only those hemorrhages connected with the parietal bone are considered here. The parietal bone is generally developed from one center, whence radiating osteogenetic fibers pass toward the borders of the bone. If this bone become developed from two ossific centers, then the radiating osteogenetic fibers pass to the borders of the bone, and at the points furthest from the centers tend to leave gaps. Such a gap exists for a long time in the region of the parietal fontanelle, forming a membranous space, which usually becomes closed about the fourth month of intrauterine life. A trace of it may persist throughout life as the parietal foramen, serving for the transmission of certain vessels. The importance of parietal foramina and their transmitted vessels in the production of these various pathological hemorrhages has scarcely been entertained. Transmitted through the parietal foramen, intraparietal suture, or sagittal fontanelle, are blood-vessels—an artery and a vein—which form one of those important channels of vascular communication between the structures which lie without and those which lie within the skull. In a normal fetal skull these vessels are safe from injury. But with accessory sutures and irregular molding, they are liable to mechanical injury. This injury may lead to rupture of the artery (*a*) on the outer side of skull; (*b*) on the inner side of skull, tearing of the vein; laceration of both vessels; thrombosis of these vessels. Such an injury may occur on both sides, but is more liable to occur in connection with the parietal bone which lies outermost. To these forms of injury all vertical hemorrhages of the reactionary period of the newborn can be traced.—*The British Journal of Children's Diseases.*

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Original Articles.

RECTAL CONSTIPATION IN WOMEN.*

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THE subject of constipation in general, while one of the greatest importance in the human economy, is the least understood and given the least study. It is a question which involves the understanding of diet; of occupation; of chemistry as well as the whole process of assimilation; of the mechanical obstructions and inflammatory conditions of the intestinal canal and adjacent structures, and, moreover, the nervous reflex and psychical influences, which are more easily recognized in this part of the human system than anywhere else. The amount of waste which should be thrown off by the individual in the twenty-four hours, and the disposal of it are vital topics, which a practitioner should thoroughly understand and direct in order to obtain satisfactory results.

The physician who rightly determines and administers the various medicines embraced by the term cathartics is a genius in his materia medica. He must know when the vegetable compounds are best, when to give salines, and whether in the concrete form of powders or held in solution in the many spring waters to which a newly discovered one is added daily, and when not to pass by the oils which held such a prominent position in the olden time.

Leaving all these general questions, I will devote myself to a very small part of the subject and one which is not so generally recognized even as these others, namely, to some forms of rectal constipation in women, which may be understood by a few rectal specialists and gynecologists. All physicians in a general way are cognizant of the prevalence of constipation in women. Scarcely a monograph or textbook on the subject fails to point out the fact. Owing to the greater inactivity of women, their mode of life and manner of occupations, making them much more sedentary than men, few there are who do not suffer from constipation. So general is this that I am always surprised when a patient does not claim to be constipated.

Rectal constipation in women is mostly of mechanical origin. Some years ago Dr. Goodell of Philadelphia called attention to a form of constipation due to nervous disturbances of the rectum. At the time it raised the discussion whether such a condition of purely nervous origin could exist, and it was thought by some that what appeared to be a nervous rectum was not such in reality, but was due to some undiscovered disturbance. A purely rectal neurosis may exist without doubt. The psychical effect of emotions is readily recognized. Defecation may be easily interfered with, if haste is considered or modesty is shocked. One writer has recommended, as a preventive of constipation, that the mind assist the act, but as, in a measure, the movement of the bowels is reflex, I have known women who have been much more successful at stool by occupying their thoughts in other ways, such as reading or looking at pictures.

The mechanical causes which are peculiar to women are those of uterine displacement, prolapsus of that organ and the vaginal walls, especially rectocele and neoplasms, the most frequent of which are the myomata. The forward displacement of the uterus seldom gives rise to much trouble, unless it be a version in which the uterus lies transversely across the pelvis, so that the cervix pointing backward impinges on the rectovaginal wall. In which case it may prove as much of an obstruction as the reflexed body itself. This is not a usual condition, but occasionally I have encountered it. The backward displacements, especially the flexions, are what occasion the greatest rectal interference from that organ. This is especially true when the flexion is in the upper third of the body, and also when the organ is enlarged from a metritis. The intimate relation of the rectum to the uterus, and the ovaries, which lie almost against one another at the left sacroiliac synchondrosis is the cause of the trouble, which may be found on one side or the other. Habitual constipation may press on ovaries and render them sensitive and inflamed. The pressure on the blood-vessels from masses of fæces promote disturbances in the circulation, which in turn may lead to inflammatory conditions and displacements. The rectum, however, is not so often the offender with its contents as one has been led to suppose. But the pressure of a heavy retroflexed uterus will in nine cases out of ten produce hemorrhoids by its interference with the rectal circulation, and will prevent the proper evacuation of the bowels. The accommodation of the rectum to such displacements and the presence of fibroids is a matter of marvel in many instances. I have known of cases of retroflexion, however, which so far obstructed the mass of fæces that the movements have been small and tape-like, such as are seen in true constriction of the rectum itself.

These conditions which have just been described have been fully recognized, but that which has caused me to present this paper, while referred to in a general way, has not been given the attention that it should have, because of its prevalence as a condition of rectal constipation in women, namely, that which comes from the pouching of the rectum, bringing down the rectovaginal wall. Rectocele has often been mentioned among the causes of constipation, but its importance and mechanism have been overlooked. Later writers have advanced the theory that the rectum remains empty except at the time the bowels should move, and that the sigmoid flexure acts as a receptacle for the fæces in the meantime. Judging from the many women that I have examined, I have little doubt that this is the case. Whether the bowels are emptied by a siphoning process, as has been suggested, which arouses the peristaltic action, or by peristaltic action alone, I

*Read before the Section of Gynecology, New York Academy of Medicine, June 2, 1904.

cannot say, but I believe that if the mass is not discharged, that an antiperistaltic action takes place and the mass is drawn back from the rectum. The wedge-shaped perineal body separates the anus from the vulva and acts as a guide to the fæces, directing the mass toward the anus, this portion of the rectal canal making an angle with its apex toward the vagina. As a result of difficult defecation and straining at stool, the fecal mass presses downward upon the apex of the perineal body, and little by little the pouch is formed, pressing the perineal body to one side that is backward, and as year after year passes and the act of defecation becomes more difficult, this pouch descends to the floor of the perineum. The direction of pressure has changed and the emptying of the rectum becomes a matter of great trouble, and even if this is accomplished generally there will remain behind masses which will give rise to further trouble. In confirmation of the ease with which the rectum prolapses from lack of perineal support are the experiments of Lenormalt, who asserts that "The rectum is above all held in its position by its perineal connections, muscular and aponeurotic, much more than by its peritoneum and mesenteric connections."

In order to understand more fully the rectal

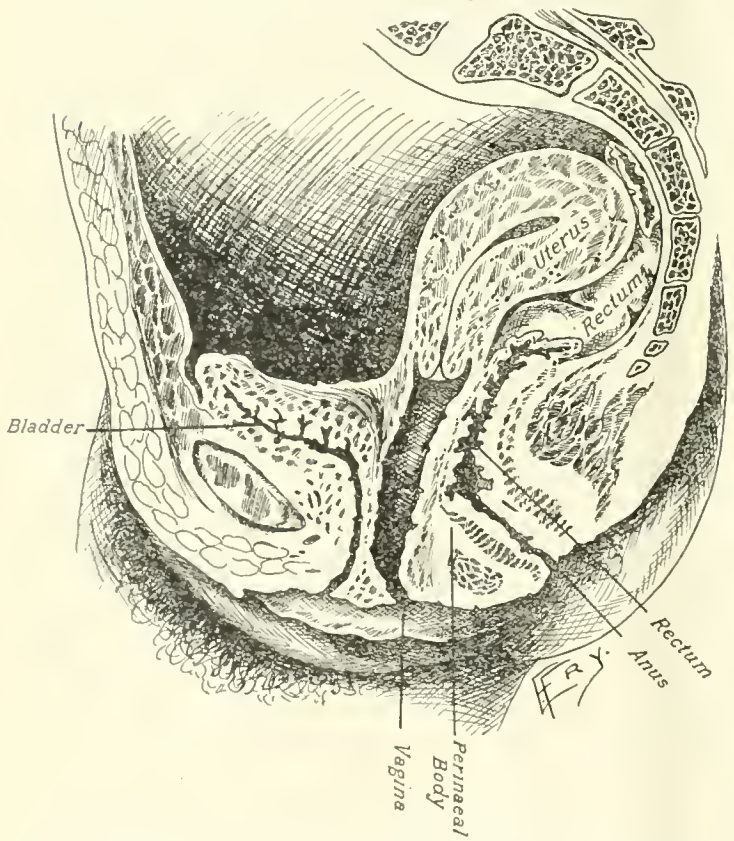

FIG. 1. Section showing the normal relations of the rectum to the vagina and perineal body; it shows also the pressure exerted by a retroflexed uterus on the rectum.*

*In figures 1 and 3 the relation of rectum and vagina, as well as the other organs of the pelvis, are those which are given in the Sellheim's "Topographischer Atlas zur normalen und pathologischen Anatomie des weiblichen Beckens." In making the sections from which the drawings of this altas were taken every precaution was observed to keep the organs and tissues in the same relations as in life. The pelvis was removed from the cadaver, from ten to fourteen hours after death, and placed in large tanks in a 4 to 5 per cent. formaldehyde solution for four to six weeks, afterward hardened in a solution of alcohol of constantly increasing strength, then soaked in alcohol-ether, impregnated with a thin celluloid solution and finally with a thicker celluloid solution. After remaining several days in 70 to 80 per cent. alcohol, the pelvis was ready for section.

constipation of women, the matter of intraabdominal pressure should come under consideration. When writing the monograph on Complete Pro-

FIG. 2. Dissection showing the bulging of the posterior wall of the vagina caused by rectal retention of fæces.

cidentia, as well as since, I was convinced that this subject of intraabdominal pressure is one of great importance in the consideration of uterine disease, and is much more a matter of individual idiosyncrasy, than one would suppose, and its direction will occasion prolapse under circumstances which might not obtain if this same pressure were different. That one must look to this to account for the cases of complete procidentia uteri in the unmarried and in the nullipara. A similar, but reverse condition obtains in these cases of rectocele occasioned by constipation, for it can be readily seen from the nature of the case that the intraabdominal pressure for the rectum would be at right angles to that for the vagina for, as Hart demonstrates, it acts so as to press the anterior and posterior walls together in order to expel the contents. When the rectum is displaced and brought down with the vaginal wall, the pressure is changed to that of the vagina, and instead of the mass being propelled toward the anal orifice, it takes the trend of the vagina and brings down the pouch more and more, and when, owing to the perineal attachments, it can descend no farther it becomes enlarged by the thinning of the walls of the sac. In almost all the sections of the pelvis which are given to illustrate the relation of vagina to the rectum they are wrongly drawn. One would suppose the orifice of the vulva was on the same line as the anus or above it. Such is not the case. The opening of the vagina at the vulva is in most cases fully an inch lower than the anus, and this is where the pouch is formed.

In the emptying of the bowels, unless the sac is pushed up from below, there will remain masses of fæces, the size depending upon the depth and size, of the sac. These masses become sciballous and give rise to trouble. In the first place they may act as foreign bodies and cause rectal catarrh and irritation. But the greatest disturbance is due to the absorption of their toxic properties into the system. It does not take long, as I have often proven by examination, for the fæces to become hard and dry after remaining in the rectum. A

few hours are all that are required, for what was soft and moist in the morning has lost much of its bulk and has become hard by afternoon. It is generally acknowledged by investigators that there has been an absorption through the rectal walls and that the system has taken these poisons back, which once it had eliminated, and has sent them through the circulation again that they poison the blood and wreak their effects upon the bodily structures. There is no doubt that this is the case. Constitutional symptoms, from incomplete elimination of effete matters, are marked. Bouchard distinctly announces that his studies show that fecal matter is toxic. Passing by what he says of fermentation and the effects of acidity in causing gases, diarrhœa, and vomiting, we come to the other phenomena, which have long been recognized as the symptoms accompanying constipation, such as fatigue, depression, headache, buzzing in the ears, deafness, disturbance of the sight, and vertigo. The skin, too, becomes rough and sallow. The subject of autointoxication is in its infancy, but, as investigation proceeds, the facts point more and more conclusively, that in so far as elimination of the effete productions of the body is defective,, by so much is impaired the bodily equilibrium.

In regard to treatment, it will be seen how

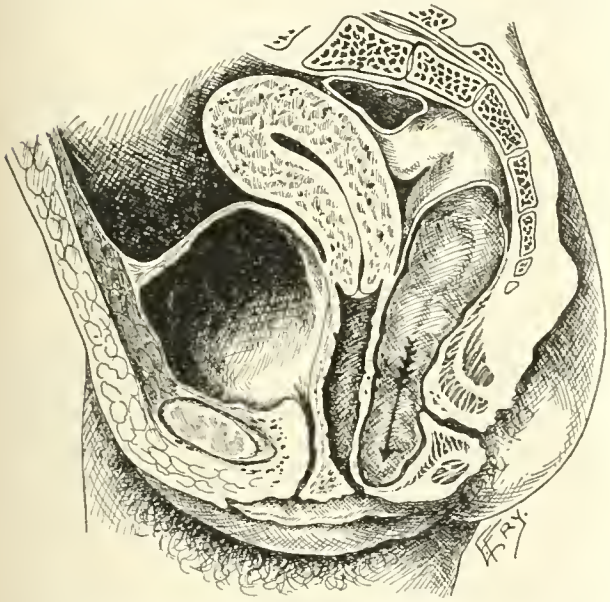

Fig. 3. Section showing the pouching effect of an accumulation of fæces in the rectum, forcing down the rectovaginal wall.

little is the value of the various cathartics in remedying the rectal constipation of women, since the trouble is due in the great majority of cases to mechanical causes. It goes without saying that the displacements should be corrected, but in those cases in which this is not possible, at least immediately, or when there are neoplasms which cannot be operated upon, it is necessary to give laxatives to soften the fæces that they may pass the obstruction more easily, and also, that in passing they may press less upon the ovaries, blood-vessels, and tubes. There exists also atonic states of the rectum, in which a laxative acts favorably, and prevents the straining and difficult defecation which will produce the condition of rectocele that has been described. The preparations of have been found by everyone to be the best and longest borne of the vegetable cathartics. Two parts of cascara, the fluid extract of cascara to one of glycerin, to which is added the spirit of anise, has been found most useful in cases of chronic constipation, given a teaspoonful in water before each meal. This will unload the bowels, after which the amount is reduced to half a teaspoonful or even a few drops, taking it in a third of a glass of water before each meal instead of a larger dose at night. It acts in general constipation to give complete relief. The belladonna, strychnine, and aloin pills are also useful. In cases with a gouty, rheumatic, or neuralgic tendency, some one of the salines or mineral waters are better.

The uselessness of cathartics in those patients who have the pouched rectum, formed by the pulling down of the rectovaginal wall, will be at once patent. In fact, the softer the fæces, the more

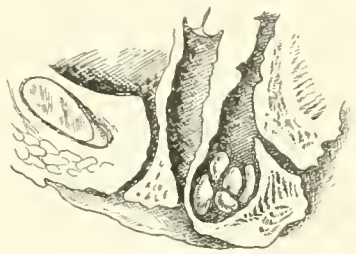

Fig. 4. Section showing retention of fecal masses in the rectal pouch.

easily they become packed. The anal orifice in these cases is liable to become contracted, which forms another obstacle to the passing of the stool. Stretching the rectum by means of rectal plugs or bougies is therefore useful. Such procedures have a tendency to obliterate the sac. Patients should be instructed not to strain at stool until the sphincters are relaxed and the bowel has begun to empty itself. The use of the enema is to be reprehended, that is as usually taken. Women frequently form the habit, and many a case of rectal constipation can date its commencement with the beginning of that practice. The sensibility of the sphincter is

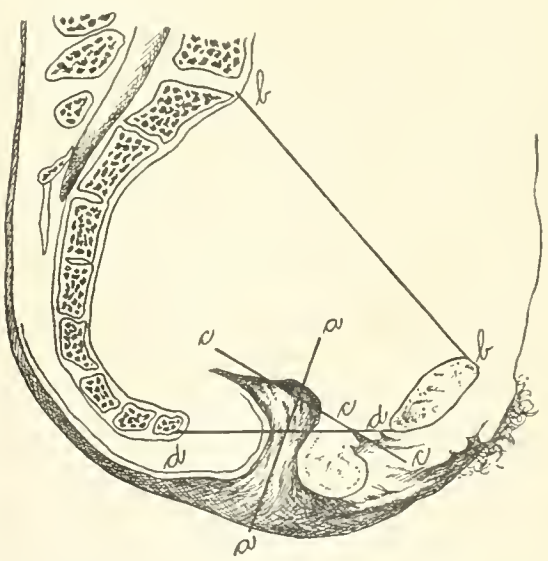

Fig. 5. Diagram showing the direction of intraabdominal pressure (Hart); *a,a*, anal axis; *b,b*, conjugate of the brim; *c,c*, vaginal axis, at right agles to *a,a*,; *d,d*, plane of the horizon.

dulled and it will soon cease to respond, except to artificial stimulation. Suppositories are useful in that they soften the contents of the bowel and relax the sphincters. Glycerin suppositories are good for this purpose, although there are women now and then who are irritated by their application, just as there are those who cannot use glycerin as a topical application in other parts of the body. For such the gluten suppositories may avail. In many cases great benefit has been obtained by the use of olive-oil injections as recommended by Kussmaul and Fleiner, and further advocated by

Dr. Max Einhorn. The patient, upon retiring, injects into the rectum the amount of olive oil which she can easily retain during the night. The amount varies greatly with different individuals and with practice—one can usually begin with half a cupful and after a little can retain two-thirds or even one cupful. The oil is very soothing to the rectum and allays the irritation which has been occasioned by retained fæces. It is especially beneficial to those who are thin. I have seen in such an appreciable gain in weight. The directions are to take the injections nightly for three weeks and then every other night for three weeks, and then less often, gradually discontinuing them as one is able.

REMARKS AND SUMMARY.

1. It is generally recognized that women for various reasons are most subject to constipation, nevertheless rectal constipation, from which a large number suffer, has received, at the hands of the profession, scant consideration.

2. Rectal constipation may be, but is rarely, due to a nervous condition, *i.e.* nervous rectum. While it may occur as the result of inflammatory conditions, such as hemorrhoids, fistulæ, and fissures, which are common to men and women alike, in very many cases it is occasioned because of the peculiar anatomical construction of the parts, and is mechanical in its origin. Anteversions, retrodisplacements, neoplasms, especially fibroids, and periuterine inflammations obstruct the downward passage of the fæces. Conversely owing to the close juxtaposition of the rectum and the genital organs of the woman, a loaded rectum in its turn may occasion ovarian and uterine displacements and disorders.

3. A form of rectal constipation which heretofore has received but little recognition is that which occasions and is the result of the pulling down of the rectovaginal septum, thereby forming a pouch, constantly increasing in size, changing the direction of the intraabdominal rectal pressure to that of the vaginal, which is at right angles to it, and making it difficult for the rectal sphincters to relax so as to void the contents of the bowel. The result is not only to render defecation difficult but incomplete. The retention of fecal matter causes rectal irritation and autointoxication. This condition occurs not only in women who have borne children, but in nullipara and the unmarried, although not so frequently in the latter.

4. In regard to treatment: Cathartics may be useful in those cases in which the obstruction is due to inflamed and displaced organs or neoplasms, which prevent the descent of the contents of the bowel and in which the hardened masses of the fæces press and inflame the genital organs, but would be useless in those cases in which there has been a displacement of the rectovaginal wall. In such cases, glycerin or gluten suppositories, or injections of small amounts of olive oil, glycerin, or soothing fluids, may be employed. The use of daily enemata, as ordinarily practised, is to be reprehended from every point of view. The use of bougies or dilators may prove beneficial. For constipation of purely rectal origin, massage, electricity, and measures designed to improve peristaltic action are of no avail.

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HOTEL SEYMOUR, 50 WEST FORTY-FIFTH STREET.

HYPODERMIC INJECTION OF STRYCHNINE NITRATE IN THE TREATMENT OF PROGRESSIVE MUSCULAR ATROPHY.

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SOON after the publication of the new edition of "Quain's Dictionary of Medicine" in 1895, I was surprised to notice in the article on progressive muscular atrophy, by Sir William Gowers of London, how hopefully he expressed himself regarding the value of strychnine nitrate given hypodermically in the treatment of that disease. My surprise was the greater because he had previously stated in his textbook on "Diseases of the Nervous System" the commonly accepted view that the malady lay without the range of therapeutics.

I do not know to whom belongs the credit of originating this method and first asserting or demonstrating its value, but since it came to my notice I have embraced every opportunity of using it, and while my results have not been so happy as Professor Gowers' statements in the article above referred to might have prepared me to expect—and in the last edition of his textbook above mentioned, he has modified his formerly expressed views somewhat—they have nevertheless been highly satisfactory in some instances, and prompt me to publish the clinical notes given below. Furthermore, I might add, judging from conversation with my confrères and the perusal of current medical literature, this measure of treatment has not received anything like the attention it deserves.

For an adult the dose should be $\frac{1}{25}$ of a grain once daily for six weeks, resumed after an intermission of two weeks, and so on until several courses have been taken. Though many patients can bear a larger dose than this without exhibiting unpleasant symptoms, I have had better results when I did not yield to the impulse sometimes experienced, to administer a larger quantity. Possibly a cer-

tain amount of the drug might act as a tonic and restorative to the degenerating neurons, while more might accelerate the process of decay.

It appears that no other form of strychnine than the nitrate given hypodermatically, and no form whatever, not even the nitrate itself, given by the mouth, can influence the course of the disease favorably. That the nitrate is a comparatively volatile substance, and that it is not exposed to the action of the digestive secretions is somewhat suggestive of a possible specific incidence when given subcutaneously.

Apart from the muscular dystrophies, different authors have separated progressive muscular atrophy into types according to (1) age; (2) distribution of the atrophied muscles; (3) condition of affected muscles as to tonicity, and (4) supposed nature of the pathological process affecting the neurons concerned; consequently in the literature are found such terms as (*a*) juvenile type, (*b*) progressive bulbar paralysis, scapulohumeral type, (*c*) amyotrophic lateral sclerosis (tonic or spastic type), and (*d*) chronic anterior poliomyelitis.

The propriety of such divisions cannot be discussed here. They are certainly not yet founded upon a firmly established pathological basis. Inasmuch, however, as they all present positive evidence of muscular wasting, due to destructive changes in the peripheral motor neurons, no principle of medical nomenclature is violated by, for the present, at least, employing the term progressive muscular atrophy as properly applicable to them all.

Viewed from this general point, there are wide variations in symptoms, but, so far, my rather limited experience with the treatment herein described does not prompt me to attempt to group cases with reference to their curability, though it would not seem unreasonable to expect that future research might furnish data from which such calculations could be made. Again, it would appear that the variable nature of the pathological process going on in the neuron body, as inferred from the progress of the symptoms in different cases, suggest a variation in the dosage. That is to say, in a rapidly progressive case, in which the destructive (degenerative or, perhaps, even inflammatory) process was comparatively active, strychnine given to the extent of causing twitching or hypertonicity in healthy muscles by its effect on their respective nourons would almost certainly add fuel to the flame, albeit just here the practitioner might feel impelled to push his remedy. Moreover, in these rapidly advancing cases my success has been least, and it does not now seem to me improbable that a much smaller dose than I gave would better have been employed, if, indeed, any degree whatsoever of this sort of medication could have been beneficial.

Case I.—Referred to me during the summer of 1896 by Dr. T. M. Hardie, whom he had consulted for hoarseness. Man of twenty-five years, single, salesman in millinery store. Correct habits. nothing significant in personal or family history. Three or four months before began to suffer from hoarseness, which had steadily increased, and for about the same length of time his left arm had grown progressively weaker, especially noticeable when he had occasion to raise a package to a shelf above his head. Had suffered no pain or paræsthesia, and though his appetite had not been as strong as it ought to be, he had regarded his general health as fairly satisfactory. Examination showed no sensory changes; superficial and deep reflexes normal, and nothing in the viscera or elsewhere demanding comment. The left vocal cord was paralyzed (Dr. T. Melville Hardie). The presence of the left sternocleidomastoid could not be demonstrated, either by inspection or palpation—electrical tests were not made; the upper border of the left trapezious was much wasted, as shown by comparing the contour of the two sides of the neck. The patient was taught the use of the hypodermic syringe and sent home (several hundred miles from Chicago). He was directed to inject strychnine nitrate, grains $\frac{1}{30}$ once a day for six weeks, discontinue two weeks, and then resume six weeks more. I heard nothing further from him till March, 1900, when he unexpectedly called to report, saying it was his first visit to Chicago since he had left it to begin treatment. The muscles previously atrophied appeared to be entirely restored. The patient stated that his malady did not progress after the second week, and by the fourth week he had certainly began to improve. At the end of three months he regarded himself as cured, and permanently discontinued treatment. In the meantime there had been some improvement in appetite and general vigor.

Case II.—September, 1896. Gentlewoman of twenty-one years, single, habits correct; nothing of moment in personal or family history. About three months before first noticed weakness of right hand, especially in buttoning clothing (a defect commonly cited when the disease begins in the hands); soon after, some flattening of the thenar eminence. Slight paræsthesia about the radial side of hand occurred early, but patient could not be certain if it preceded or followed the commencement of weakness. The atrophy had steadily advanced and extended to the interosseous spaces and also to the muscles of the forearm. Twitching in the wasting muscles had also been noticed. Three or four weeks before I saw her, the disease had made its appearance in the left hand and followed a similar course to that described in reference to the right. The muscles affected were flaccid and no hypertonicity was apparent anywhere, except that the knee-jerks were much increased, and there was ankle clonus. I may say here, parenthetically, that this condition of the lower extremities has been accounted for in similar cases and supported by anatomical findings, too, by supposing such a lateral extension of the pathological process in the cervical cord as to involve the crossed pyramidal tracts. There was no pain or tenderness, and sensation was not impaired even in the parts where slight paræsthesia existed. The general health was satisfactory, and a careful examination revealed nothing demanding comment beyond the condition of the wasted muscles. In them flickering was frequent and pronounced, and degeneration reaction was easily demonstrated.

Though not living in the city, the family physician was present at the examination, and the same treatment was advised as in Case I. Ultimately, through involvement of respiratory centers in the medulla, and without any material arrest in the march of the symptoms, a fatal result was reached in about two years. But the treatment was not carried out according to directions, as the physician afterward informed me. Improvement not appearing as promptly as he had hoped, he soon began to increase the dose and carried it to such point that for several months he gave her "all she could stand," even $\frac{1}{5}$ of a grain twice a day.

Case III.—June, 1889. Sister of Charity, aged forty-one years; a few months before noticed marked paræsthesia about radial side of hand, involving the thumb and index-finger. Somewhat

later weakness and wasting appeared in the thenar muscles and index-finger, the latter growing small and pointed, as she expressed it. A few weeks before I saw her paræsthesia made its appearance in the left hand, as it had previously done in the right, followed by weakness and wasting. The patient was in good general health, and had been so throughout. In the hand first effected, perceptible wasting had not extended beyond the thenar muscles and those of the index-finger, and in the other only the muscles of the thumb were visibly involved; and these, though distinctly, not greatly so. Degeneration reaction could be demonstrated in the thenar muscles of the right hand; the superficial and deep reflexes were normal. I saw this case repeatedly at intervals varying from a few weeks to two months for over two years, when the patient was assigned to duty in a distant State. There appeared to be an element of hysteria in the sensory symptoms, inasmuch as while the paræsthesia lasted the area involved by it presented variations in the reaction to touch and pin-pricks between distinct reduction and normal. The treatment was carefully carried out. Three six weeks' courses with intervals of two weeks were given at the outset, and afterward three six weeks' courses at irregular intervals, because the patient fancied she felt a slight return of the paræsthesia. One-twenty-fifth of a grain of strychnine nitrate was used throughout. Distinct improvement was noticed after the first few weeks and continued for several months until no atrophy or weakness was discernible in the hand last affected, and the other had grown much stronger, with considerable restitution of the wasted muscles. With the exception of an occasional suggestion of a slight return of the paræsthesia, which may have been hysterical, and due to over-anxiety on the part of the patient, there has been no return of the symptoms.

Case IV.—In October, 1900, there came to my clinic, at the Post-Graduate School, a carriage painter, thirty-four years of age, married and intemperate. He was a well-nourished man, and said his general health had been good, except that during the past seven or eight years he had suffered from several attacks of painters' colic, and during about the same period had also, on several occasions, been afflicted with lead palsy or wrist-drop. He had always made good recoveries from both conditions under treatment, except that for the last two or three years extension in the wrists had not been quite as strong as formerly. About ten months ago the wrists began to grow weaker, more slowly than in previous attacks, and, in addition to this, the thumbs became very weak, especially the right, so he could no longer hold his brush well. Progressive wasting was now noticed, first in the thenar muscles, then in the interossei, and, lastly, in the muscles of the forearms. In the right hand the disease was a month or two in advance of the left from the first, *i.e.* in this present instance, while in previous attacks they had been affected about equally and simultaneously. At no time had there been any pain, paræsthesia, or anæsthesia. Examination showed nothing worthy of comment outside of the wasted muscles. Sensation was perfect, and the reflexes were not materially altered, except, of course, in the atrophied muscles, which were flaccid. The hands were practically useless, and the wasting of their muscles extreme. The metacarpal bone of the thumb was in a plane with that of the fingers. Improvement under treatment as specified in the other cases was prompt and pronounced. It was continued for about ten weeks, inclusive of the usual two weeks' interval, the patient coming daily to the clinic. Toward the end of this time, however, he so frequently presented himself in a drunk and disorderly condition that his further attendance was discouraged, and he was lost sight of, after having regained considerable use of the hands.

While, as previously stated, this method of treatment has, in my hands, fallen short of the expectations I had formed of it, nevertheless it has gone a long way to dissipate the horrible sense of depression, discouragement, or even despair, which the prognostic contemplation of these cases hitherto aroused.

In conclusion, it should be added that the value of hygienic measures, and the judicious use of electricity, massage, and gymnastics, always recognized as of great importance, is rather enhanced than otherwise, when used in conjunction with the strychnine treatment herein advocated.

100 State Street.

THE CLINICAL FEATURES OF THE EPIDEMIC OF DYSENTERY AT TUCKAHOE, N. Y., DURING THE SUMMER OF 1902.*

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The purpose of this paper is to describe some of the clinical features of an epidemic of dysentery which prevailed in Tuckahoe and its environs in the summer of 1902. Life-long residents of the place have told me that about eighteen years ago a similar outbreak of the disease occurred. Since that time dysentery has been neither endemic nor markedly sporadic. During the last five and one-half years I had not seen an unmistakable case of the malady in this place, where summer diarrhœas are very prevalent, until early July brought the first case of the epidemic. This patient was an infant living across the Yonkers line, about a mile and one-half from the center of the village of Tuckahoe. Within a few days new cases appeared in widely separated localities from one end of this section to the other. During July the epidemic increased, reaching its height the last of August, diminishing rapidly during September, with a few new cases observed early in October. During this period I treated 234 cases, of which I have retained complete histories, and I saw others of which I have no record. It is from the histories of these recorded cases that the facts for this paper are obtained.

The origin of the epidemic has not been discovered. So widely scattered were the first cases in families having no relation of any sort, one with another, that only one wide-reaching source of infection could have begun and maintained the outbreak.

The water supply was suspected first. None of the earliest cases occurred in the watershed of the town supply, nor did a careful search reveal a preceding, unrecognized case which could have infected the reservoir or its tributaries. Of the first 20 cases I saw, only 8 used town water exclusively; 5, a few times during the preceding month, had drunk the water, while 7 had used none but well or spring water during that interval. Of all infected families, less than one-half consumed town water habitually.

My first case was in the family of a milkman of most uncleanly habits, yet the succeeding thirty-four cases were in families not supplied with milk by this dealer; in fact, less than 5 per cent. of all the cases were in households furnished milk by this man. Nine different dealers, supplied the infected house-

*Read before the Jenkins Medical Association.

holds. Three infants had been exclusively breast-fed by cleanly and uninfected mothers.

While in all probability the Shiga bacillus, which appeared to cause the disease, entered the system by way of the mouth, it was not determined that any one article of food or drink was the usual medium. In two families the utmost precaution was exercised in vain, even before a number had become infected, the people going so far as to use no uncooked food, no unboiled drink, carefully washing the table service and bathing the hands immediately before eating.

Cases occurred in families of all classes, yet about four times more often in the insanitary homes of the poor; and it was observed that there would be but one case, or at the most two, in a well-governed family, while several cases would be the rule in a filthy household. Uncleanliness undoubtedly increased the number of cases, but it seemed to exert no influence on the severity of an individual case. Four of the eight worst cases I saw were in homes where cleanliness and hygiene were practised as cardinal virtues. The severity of the cases did not vary with the locality nor with the date of occurrence, nor were the later cases in a family more severe than the earlier ones. While the mortality was highest for infants, this was the result, probably, of their small power of resistance. Very severe and prolonged cases were seen in robust adults.

Thirty-one per cent. of all cases were infants under three years, yet no age was exempt. Five cases were men and two were women over seventy. The disease did not appear to select for victims those of diminished vitality, for less than 10 per cent. of the infants had inherited tainted constitutions, or had been enfeebled by preceding sickness, and in only 2 per cent. of the remaining cases was there preceding enfeeblement. Eleven patients were men of unusual health and vigor. In one family, consisting of an aged woman, 3 other adults and 3 children, every member had the disease; 2 cases being severe, 3 of moderate severity, and 2 mild.

Before describing in detail the several symptoms of the disease, it may be well to present the composite picture of a number of typical cases of medium severity.

Without prodromal symptoms, a diarrhœa begins with movements every two hours. This is accompanied by some abdominal pain of a colicky character and decided prostration. Within a few hours the stools become more frequent and are mixed with mucus and bright blood. The temperature rises to 101°, with an increase in the pulse rate to 120. There is moderate vomiting and some headache. The abdominal pain increases, becomes located over some part of the colon, and is constant with exacerbations. Accompanying this is a beginning tenesmus. At the end of forty-eight hours the disease is at its height. There is a constant desire to stool and a severe tenesmus which give the patient no rest. At intervals of a few minutes there are small stools consisting of a little watery, fecal matter, considerable tarry and bright blood, and some thick, stringy mucus. After three or four stools, there is a remission for an hour or two, then again a number of movements in rapid succession. The abdominal pain has become very severe and gives the patient no respite. The vomiting has checked somewhat, thirst is excessive, and there is complete anorexia. The temperature remains the same, but the pulse becomes more rapid and of poorer quality. The most prominent symptom is the great prostration, out of all proportion to the others.

This condition prevails for about ten days, the only changes being a rapid increase of the prostration and emaciation, lessened tendency to vomiting, less tenesmus, longer rests between the series of stools. Then begins a gradual amelioration of the symptoms protracted over a period of ten days. The movements are less frequent and contain less blood and more mucus. The tenesmus and abdominal pain disappear rapidly. Thirst is less urgent. The appetite returns and the craving for food becomes great. The temperature has reached normal, but the pulse remains rapid. Convalescence is slow, the presence of mucus in the dejecta and the tenderness to pressure over the colon being the last symptoms to disappear. With care, recovery is accomplished and the patient is about at the end of four weeks, but emaciation, anæmia, and lack of strength remain much longer.

Diarrhœa with blood in the stools is essential to a diagnosis of dysentery, and was present in every case I saw, yet the several characteristics of this symptom varied greatly. In 85 per cent. of the cases diarrhœa was the first symptom; in 91 per cent. it had started during the first twelve hours, in 98 per cent. it was observed within eighteen hours, while in only three cases it was developed as late as thirty-six hours from the onset of vomiting, pain, and temperature. In about 75 per cent. of the cases its duration was that of the other symptoms. The longest instance of continued diarrhœa, not the result of a relapse, was from July 23 to September 2, in a child named Everitt.

The number of stools varied greatly in the different cases and in the same individual at different times. As few as 3 stools and as many as 63 a day were noted. Eight was the average for the first day, 18 for the next five or seven days, and 3 or 4 a day thereafter in cases responding well to treatment.

At the outset, the dejecta were of moderate size, soft, and green or yellow, in color. Soon they lessened in size and were more fluid, to become rapidly the characteristic small stool of about an ounce, consisting of a little watery, green fecal matter, mixed with a variable amount of bright or tarry blood and stringy mucus. Every case had movements of this nature at some time during its course. A marked change in the character of the stools seldom took place until close to the end of the disease. Even when constipation supervened the movements would continue to present the same characteristics with the exception of the size and consistency. A reliable indication of beginning recovery was the appearance of some solid, brown fecal matter in the stool. Strings of mucus were present uniformly from the first few hours, and always could be found in the stool, especially in the morning, for several days after every other symptom had disappeared. In the Everitt case it was seen as late as November 10, and I considered the child well early in October. The quantity in a single stool varied from a few strings, through the average of a drain or two, to as much as several ounces. The last of a series of rapidly successive movements, especially when accompanied by tenesmus, often consisted of but little else. Blood appeared early, at first as a few bright streaks, the amount increasing rapidly. In some movements, especially if the quantity was great, it was bright, but usually it was dark and tarry. The average amount in a dejection was a drachm or two. Sometimes the stools were of bright blood alone. Eight times—twice in one patient—the amount of blood voided in single stools was over two ounces.

In the earlier cases, the administration of bismuth resulted in nasty black stools streaked with blood

and mucus, and of a most offensive smell. As a rule, there was very little odor from the dejecta.

After it had been controlled once, a recurrence of the diarrhœa was experienced only by patients who too soon abandoned the restricted diet, or in whom constipation had been permitted to occur.

Next to diarrhœa, tenesmus was the most striking intestinal symptom. Usually it began early and ended with the diarrhœa. In fourteen cases it was never present, in thirty it was slight, in the others it was well-marked or severe. Children between the ages of five and fifteen appeared to suffer more from it than did others. Several times a child remained three or four hours on the bed-pan and got relief only when exhaustion resulted in sleep.

Constipation was a common occurrence during convalescence, but never during the acute stage unless the result of over-drugging. Even when the patient was constipated, the stool consisted of fecal matter, mixed with blood and mucus.

Fecal incontinence was present in twelve cases, all children. As a rule, it was of short duration, but twice it persisted over five days. It appeared only after the disease had continued a number of days and exhaustion had become marked. In five of the cases the symptom was not developed until after a marked toxæmia had supervened.

Abdominal pain was present in every case, its intensity varying greatly. In many instances it was out of proportion to the other symptoms, some bad cases evincing very little, several mild cases complaining bitterly of its severity. As a rule, it began early and augmented rapidly. Pain in a phlegmatic boy of twelve which is not controlled by half a gram of morphine given hypodermatically is severe. Patients complained more of this symptom than of any other. During the first day it was colicky and intermittent, soon assuming the form of a constant, sharp pain with cramp-like exacerbations. A paroxysm of pain frequently preceded a stool. Indefinitely situated over the whole abdomen at the outset, it promptly became localized and fixed over some part of the colon, becoming more general again only with the occurrence of abdominal distension. It is an interesting fact, that the ingestion of food, even of the blandest sort, promptly caused an exacerbation of the pain. A majority of the patients complained more of this symptom in the forenoon and after a period of sleep. Happily, it was unusual for the pain to continue to be severe throughout the disease. When the course had reached its height corresponding evidently to the maximum of local pathological changes, pain diminished rapidly, to become troublesome again only as the result of a relapse, or of some mismanagement of the case. Of all symptoms, I think abdominal pain was most ameliorated by curative measures.

Tenderness on pressure over the colon was present regularly and in proportion to the severity of the other symptoms. The sensitiveness of the swollen gut, easily mapped out beneath the retracted abdominal wall, contrasted with the insensibility of the other abdominal viscera. It was possible to palpate freely the center of the abdomen, but the least pressure over its sides or upper border elicited an expression of great pain. This symptom was persistent and outlasted the others.

Abdominal distension occurred in but 8 per cent. of all cases. In one fatal case it was severe; in the others it was of small degree and of short duration. Retraction commonly resulted in the longer cases from the great emaciation.

Strongly fetid breath was the rule for older children and adults, together with a dry, glazed tongue and a parched appearance to the bucca mucous membrane. A white-furred tongue accompanied vomiting. Herpes labialis was present in three cases.

Vomiting was the rule for infants, though not of a severe type. In others it was present in 16 per cent. of cases. It began most often about the second day and ceased early. In a few cases—the Everett child for instance—it persisted almost to convalescence. The vomited material consisted usually of stomach contents, rarely it was bile-stained; it was never fecal. Nausea without vomiting was marked in only six cases.

Singultus was present eight times, all the patients being infants or young children.

The temperature was relatively low even in the most severe cases. It ranged between 99° and 102° F. Only five cases gave a higher mark. The four highest marks were 103.2° F. twice, 103.8° F., and 104° F. In eleven instances the mark was subnormal, each time in a case presenting marked toxic symptoms. In one fatal case, after an initial rise to 101.2° F., lasting thirty-six hours, the temperature dropped to 97.4° F., and remained at about that point to death. The average duration of the subnormal temperature in these eleven cases was five days. As a rule, there was but little difference between the morning and evening marks. A return of the temperature to normal usually antedated the abatement of other symptoms and was of little value in determining a prognosis.

The pulse seldom corresponded with the temperature—it was more rapid and of poorer quality than would be expected. Except in very mild cases it was about 125 or 130 for adults, 140 for those under four years. Its quality was uniformly poor. In 68 per cent. of all cases irregularity or intermittence occurred at one time or another. One interesting feature was that it became poor early in the disease.

Respiration was rapid and shallow, deep breathing apparently augmenting the abdominal pain.

Symptoms of nerve origin were common in children. Convulsions occurred in 14 cases, 6 having but one paroxysm, 5 having two, and the others three or more. Delirium was seen in 19 cases, almost always passive or muttering. Marked coma was developed but four times. Extreme restlessness was a regular feature. In one fatal case the boy picked his skin until it was covered with excoriations. In another instance picking at the bedclothing was observed.

Absolute anorexia from the outset gave place to great hunger as recovery began. Piteous appeals for food made by adults as well as by children sometimes made it a difficult matter to continue the rigid abstinence essential to an undelayed recovery. Tonics for the appetite were never needed after recovery.

Marked prostration was a prominent and decided feature of the disease, and was, in its excess, out of all proportion to the other symptoms. It was great and increased rapidly as the disease continued. The patients appeared to be the victims of a toxæmia which prostrated them early and rapidly exhausted their vitality. Nearly every patient, excepting the mildest cases, voluntarily kept to his bed until recovery was well advanced.

As might be expected, rapid emaciation and a progressive anæmia kept pace with each day's continuance of the malady. This was more rapid and extensive than the loss of flesh which results in typhoid and other diarrhœal diseases. I can recall at least a dozen instances in which previously robust infants and children became but little more

than skeletons within four or five days, such a loss of weight as would result from not less than three weeks of gastroenteritis. One robust adult, a sturdy stone-cutter, lost twenty-eight pounds during an attack of ten days' duration. Of course some of the loss in these cases was due to the scanty diet I permitted.

A diminution in the amount of urine passed was found in all cases of which a record was kept, and the amount voided could be determined with sufficient accuracy. Eighty per cent. of the specimens examined showed at least a trace of albumin. Vesical paralysis was present for three days in one case.

The complications observed were numerous. Four patients had prolapsus ani—two infants, a boy of six, and a boy of eight. In only one case, an infant, was it severe and of prolonged duration. Bedsores were troublesome all of the seven times they were present, and appeared to be due to depressed vitality alone rather than to careless nursing. They responded very sluggishly to treatment.

Acute endocarditis developed twice, once for the first time in a boy of fifteen, the mitral murmur remaining up to the present time (January, 1903), although the dysentery was cured early in September. In another case, a girl of eight who had made, only a few months before, an apparently perfect recovery from an endocarditis complicating scarlet fever, the heart trouble reappeared.

Once there was a marked enlargement of the right parotid, once a moderate swelling of both glands. Two children had a mild varicella; two developed pertussis during convalescence. One boy of eleven, during convalescence, had repeated attacks of hysterical contractures of one arm and leg. Before his attack and since his recovery, he has never shown the first symptom of functional nervous disease. Bronchitis of a mild grade, complicated thirteen cases, but pneumonia was not present in a single instance.

Relapses occurred thirteen times and were due in every case either to errors in diet or to the too free use of opium or bismuth with resulting constipation. In one instance, each of two efforts made to feed an asthenic patient resulted in a return of the symptoms.

The average duration of the disease was 5 days for the mild cases, 4 weeks for the more severe ones. One case lasted 9 weeks, another 7, a third 6 weeks and a half, a fourth 6 weeks. Of these, three had been badly managed during the first two weeks. Of all the cases which lasted four weeks or over, 78 per cent. did not come under treatment until symptoms had been present at least three days.

The fatal cases numbered four and did not include two, one a man of seventy who could not be managed at home and was removed to St. Joseph's Hospital, Yonkers, after an illness of four days; the other, an infant of a few months, who died without medical attendance on what was probably the second day of the attack. An autopsy was made on this case and the typical lesions found.

The first patient to die was about two years old, sister of the infant that died without treatment. The second was a sturdy girl of seven, who at the outset presented symptoms of moderate severity only. On the second day a marked toxæmia became evident. It increased rapidly, collapse supervened, and the end came on the fifth day. The third was a girl of two years, who died on the second day, twelve hours after treatment had been instituted. Here, again, a toxic poisoning appeared to be the determining factor. The fourth, a boy of nine, brother of the girl just mentioned, died on the eighteenth day. For ten days he did well, then began a rapid decline, which ended in extreme emaciation, profound anæmia, and a fatal exhaustion. In this case, when the outlook became bad and treatment availed nothing, I abandoned my routine method and endeavored to feed the patient. The nourishment was not badly borne, although it aggravated the diarrhœa, yet it did not avert a fatal outcome.

These four cases made the mortality 1.17 per cent.; including the other two deaths, the rate was 2.5 per cent. The register of the Health Board shows that there were in all twenty deaths from dysentery in the town of Eastchester during the epidemic. There were in addition at least six deaths on the Yonkers side of the Bronx. Having no way of estimating the total number of cases, I cannot estimate the mortality rate for the whole vicinity. It is an interesting fact, that the vital register shows but two deaths from other diarrhœal diseases during the epidemic.

All efforts made to cure the disease were based on the indications to free the intestine from the causative microorganisms—which have been determined since to be the Shiga bacilli—and their products, to prevent their reintroduction and growth, and to heal the lesions already developed. At the same time, symptomatic measures were demanded urgently, to give relief from the pain and tenesmus, to lessen the number of movements, to minimize the wasting and rapidly progressive prostration, and to aid the exhausted and toxin-poisoned nerve-centers.

No drug nor remedial measure—and I tried faithfully all I could find properly vouched for—acted as a specific. Ipecac has been exploited to be such. I tried the drug conscientiously in the earlier cases. It gave uniform disappointment, whether given in small, frequently repeated doses or in a few large doses, the former doing nothing more than to cause a loss of valuable time, the latter only aggravating the symptoms by producing the unpleasant physiological effects of the drug.

When a case was seen at the very outset—within the first few hours—active catharsis, together with fasting and absolute rest, frequently seemed to abort the disease and end it within three or four days. This was true of very young children, as well as of adults. To substantiate this assertion is the fact that practically no short cases were seen early in the epidemic, while after this plan of treatment was adopted, a prompt recovery without the development of severe symptoms sometimes resulted. The patient was put to bed and given, if very young, ℥ ss of castor oil with gr. ¼ of calomel, repeated twice at intervals of four hours; to an adult, an initial dose of ℥ ss castor oil with gr. ii of calomel was given, then two doses of ℥ss of the oil and gr. ss of calomel at four-hour intervals. Eighteen hours after the last dose, if any pain, characteristic diarrhœa, or tenesmus remained, one or two grams of calomel, according to age and in divided doses, followed by a saline laxative, were given. If, on the other hand, no symptoms but a slight fecal diarrhœa remained, as well as when a similar condition was secured by the second purgation, three or four full doses of powdered opium were administered. From the outset, water and unflavored tea were permitted as freely as the patient would take them, but no food of any sort, with the exception of a little rice water diluted with lime water and small doses of whiskey. I could not believe that irrigations were an essential part of this treatment nor that they gave material aid in an effort to abort

a case, and for that reason they were not employed as a part of the plan. It seems to be unaccountable that these colon flushings, which were invaluable during the cases running a longer course, which catharsis had failed to abort or accomplish an equal result, would not promptly abort a case when properly employed from the very inception of the disease. This opinion was arrived at reluctantly and only after careful observation.

When a case was seen late, or when by its severity at the outset an attempt to abort it would have been but a waste of time—in other words, when the local pathological changes were well marked—the first indication was to secure as complete an emptying of the digestive tract as possible. The desire not to augment the prostration, contraindicated such active purgation as I have just described. Castor oil gave the best results of all the cathartics tried, and contrary to what might have been expected, it did not appear to aggravate the abdominal pain and tenesmus. When adults were unable to take it, I substituted citrate of magnesia with good, yet less satisfactory, effect. It was found to be well not to stop with one dose of the cathartic, but to continue its administration in small doses until scybala and undigested food were no longer to be found in the stool in any but a small amount.

The employment of colon irrigations of one sort or another, was the measure which had the greatest curative effect. I am sure, the cases which did best were those in which this procedure was carried out most carefully and persistently. Not having time to do more than superintend its employment in any but the very worst cases, I was obliged to depend upon the nurse or relatives after a preliminary lesson or two, so that I never knew just how punctually and correctly the flushing was done. When properly carried out, it kept the bowel comparatively free from irritating accumulations, it prevented the growth of the bacilli, the production and accumulation of their toxins, it brought antiseptic solutions in contact with the organisms, it carried astringents to the numerous ulcers. Its use lessened greatly the number of stools, relieved the pain and tenesmus, and controlled the toxæmia. For the purpose of cleansing alone, nothing answered better than decinormal salt solution. When an astringent action was desired, tannic acid accomplished most, and tannic-acid solutions, according to Hare, are antiseptic.

The technique of these injections I made as simple as possible, and I know I secured better results than when too many fussy details resulted in annoying the patient—terrifying him if a child—aggravating his pain and increasing his exhaustion. To turn the patient on his side and elevate his hips is not necessary. After a little experimenting, all I did was to slip a douche-pan under the buttocks. Nothing but a fountain syringe was ever permitted, and for its tip a soft rubber catheter with several additional holes cut in its sides. In a few cases I tried the hard-rubber return-current tube, to find it less practical and efficient than the catheter. In the earlier cases I endeavored to introduce the catheter into the sigmoid-flexure at the cost of much labor to myself and the nurse, annoyance to the patient, and with but little success. By chance I found a statement made by Johnston of Washington, that "colored fluid forced into the rectum under gentle pressure escaped in half a minute through a fistulous opening in the right iliac region." Subsequently, I directed that the catheter be inserted only four or five inches beyond the anus with just as good results. Gentle pressure was another essential to success, for when the bag was elevated too much the rapid inflow of fluid set up a too active peristalsis. The temperature of the solution employed was always made as high as the patient could tolerate without decided discomfort. For each irrigation, whether for infant or adult, four quarts of saline solution were used. This was permitted to flow out of the rectum by the side of the catheter. If a return had not begun after the introduction of three or four pints of the solution, or when the patient complained of a sensation of distention, the tube of the syringe was removed and the fluid permitted to escape through the catheter left in the rectum, after which the inflow was continued. I found that it did harm to permit the patient to make expulsive efforts during or after the completion of an irrigation. If the catheter was permitted to remain in place, practically all the fluid returned within a few minutes. Patients, even small children, soon became so accustomed to the procedure, that it could be carried out without any trouble. Of course, a few badly trained children with mean dispositions never became reconciled to the measure.

The solution employed and the frequency of its use was determined by the character of the diarrhœa. The lightest cases were given a saline irrigation after each movement, and always three a day. A case of moderate severity having daily from six to ten movements was given a saline after each stool, while night and morning the saline was followed by one or two quarts of an antiseptic solution. When the movements were exceedingly frequent a saline was given every three hours, every other irrigation being followed by a quart of water containing from 2 to 4 drachms of tannic acid. A few patients experienced so much pain after the employment of this solution that it could not be used. Tannic acid was of service also when the quantity of blood in the stools was excessive. As the diarrhœa lessened and its character changed, the number of the irrigations was reduced, but in every manageable case two salines a day were given for at least three or four days after recovery.

The value of these irrigations I cannot rate too highly—in fact, upon them and upon the diet I depended for best results. Twice I saw an exhausted child fall asleep during the flushing after a prolonged period of pain and tenesmus. Frequently little children asked to be given an irrigation, realizing the relief it would bring.

Next to the irrigations I found a rigid restriction of the diet of the greatest service. After trying many things I finally allowed all patients, whether infants or adults, nothing but rice water diluted with lime water, backed up by liberal doses of peptonoids and whiskey or brandy. This meager diet was continued without variation until convalescence had been well started. All other forms of light or fluid diet gave trouble at one time or another, this never did. When vomiting was present peptonoids and creosote were given. Perhaps my observation has been in error, but I do feel that if any one article of diet is to be avoided in this disease it is milk, so repeated and marked were the bad effects I saw follow its use. Several times I saw a relapse after its ingestion, even when the patient was practically well, a similar effect not so commonly resulting from a return to the use of other foods. Two of my most protracted cases were ones in which the patient would have milk. Twice I saw recovery begin immediately on stopping the milk in cases in which the patient had been permitted to have it. The first patient I lost was a bottle-fed infant whom I had brought almost to a cure. The movements had become about normal, the other symptoms had

disappeared. Not trusting the mother, I cautioned her to give the child nothing but rice water and peptonoids. Early the next day I was summoned in great haste to find that all the symptoms had returned in an aggravated form and the infant in collapse. Immediately after my departure the preceding morning, the mother had given her "starving" baby a bottle of milk, administering a second dose in the afternoon. The child never rallied, and died twenty-four hours after my hurried visit. I am sure it was not tyrotoxicon that did the harm. I know of a few patients who did well on milk, but they were the infrequent exceptions.

To 92 per cent. of all patients, whiskey or brandy was given as a substitute for other food. They were well borne; they did not aggravate any of the symptoms. Had they not been exhibited in large doses I believe exhaustion would have ended fatally many of the longer cases. To say the least, they made possible the employment of the starvation diet I found so essential to a good recovery.

The internal administration of bismuth and other astringents of service in simple diarrhœas gave me no results of value. In large doses they lessened the number of movements, but at the same time they made the stools pasty and offensive, elevating the temperature and aggravating the other symptoms. They seemed to cause the accumulation of waste products in the intestine and thus encourage the growth of the bacilli. In protracted cases, when diarrhœa was the only remaining symptom, I thought nitrate of silver in pill form of some service. In the acute stage I could not determine it to be of any value. Intestinal antiseptics—I tried all the more reliable ones—gave but indifferent results. From salol I thought some infants derived benefit.

The abdominal pain always demanded attention. In a few instances the application of turpentine stupes to the abdomen, the application of ice, or the alternate use of the two sufficed. In all cases they aided, if not in relieving the pain to any great extent, in reducing the hyperæmia of the colon when applied over its course. To control the severe pain experienced by many patients nothing proved adequate excepting opiates. Morphine, given hypodermically, acted best not only because its administration could be more accurately controlled and its sedative effects were more pronounced, but also because it had less effect on the digestive tract. I never employed it unless the pain was severe, and then I secured the best results when I gave it in large doses and at long intervals. Not once did toxic effects follow its administration, even to young children in large doses. At best morphine always had a tendency to cause constipation, so that I usually followed its exhibition with a small dose of castor oil. Some writers advise the use of opium as a part of the routine curative treatment. After employing it thus in a large number of the cases I found it of no value. When it produced any marked effect it invariably caused a retention in the intestine of irritating fecal matter with a resulting exacerbation of the symptoms.

For the relief of tenesmus I tried all the usual measures, including small enemata of starch and laudanum, but I found that the systematic and careful employment of irrigations did more to relieve this distressing symptom than all else.

Vomiting, as a rule, did not require special treatment after the diet had been regulated. Sinapisms to the epigastrium were often adequate. In a few cases it was severe enough to call for the use of antemetics, small doses of bismuth subnitrate and cerium oxalate answering the purpose as well as any, for this symptom appeared to be reflex and ceased when the other symptoms began to abate.

The systematic continued use of purgatives is not recommended, yet I found three cases which did better on small bi-daily doses of castor oil than on anything else. The Everitt child, already mentioned, began to mend after many tedious weeks so soon as I began to give the oil. When at any time during the disease the colon flushings did not keep the stools free from undigested food or an excess of mucus, the administration of a small dose of castor oil or of a saline laxative promptly rendered the movements of better character.

In reading over the histories I was surprised to find that, with the exception of the fatal cases and those complicated by endocarditis, I had used cardiac stimulants other than alcohol but seven times, and this in spite of the severity of many of the cases.

Whenever I could get the attendants to carry them out, the plan of nursing and the methods of disinfection resorted to in typhoid fever were those made use of during the epidemic, the only difference being that extra precautions were taken with the food. All drinking water was boiled, the rice water freshly prepared and kept in sterilized air-tight containers. During convalescence no uncooked food was permitted.

The five most interesting features of the epidemic were its extent; the abrupt onset of marked symptoms without prodromata; the great prostration occurring almost at the outset; the severity and long duration of many of the cases; and the marked value of colon irrigations and a narrowly restricted diet as remedial measures.

Addenda: During the summer of 1903 there were not more than ten cases of the disease in this whole vicinity where the malady had been epidemic the year before. The cases were very mild and yielded promptly to treatment. In three of them serum was tried, but its value could not be determined.

USE OF SERIES SPARK-GAPS FOR X-RAY WORK.

By L. WEISS, M.D.,
NEW YORK.

The advancement of radiography has to a great extent been due to improved methods of technique, but mainly to the improvement in the apparatuses used. Comparing the first *x*-ray picture of nine years ago, by Professor Röntgen, necessitating an exposure of about two hours with those of to-day, necessitating an exposure of a like number of seconds, one readily sees how rapidly this art has advanced.

A few years back there was doubt in the minds of many as to the most efficient apparatus to use in order to generate current for the *x*-ray tube, and there were as many to contend that with the static machine as good and as rapid work could be done as with the induction coil. To-day it is undoubtedly conceded that the large induction coil is the apparatus that excels by far in every respect every other form of apparatus used to energize the Crook's tube. Of course, where light work is to be done, as radiographing the hand, arm, foot, or leg, a static machine with at least ten revolving plates of thirty inches diameter, in the hands of an expert operator will do good work, but the exposures must necessarily be much longer than those of a coil in competent hands; but when radiographing the shoulder, hip, pelvis, or foreign body in the kidney, bladder or gall-bladder, one must necessarily have a coil of spark capacity of twelve to eighteen inches in order to do the best work; no

static machine can possibly compete in this work with a fifteen-inch coil.

The art of making a fifteen or eighteen-inch coil

Fig. 1.

was quickly learned, and to-day all first-class manufacturers make good coils of these spark lengths, and sell them with a guarantee against breaking down when properly used, and so made as to give a heavy hot spark, which is so essential to do instantaneous work. But the difficulty to be overcome was to make a tube that could withstand the full output of so large an apparatus, and to-day there are hardly any tubes made that can stand the full output of a fifteen-inch induction coil, where fifteen amperes of current are thrown into the primary (when the Wehnelt interrupter is used) that will be able to take care of this current for longer than one half to one minute, without breaking down the vacuum if the current is run from the terminals of the coil directly into the tube; for so large a current rapidly heats the tube to such an extent as to destroy the vacuum. Then again, besides the risk of destroying the vacuum, the inverse current generated by the induction coil has a tendency to blacken rapidly the tube, and I have time and time again deeply colored a tube by throwing in a large amount of current even for so short a time as a minute.

It is an obvious fact that we can easily take a picture of any part of the body in a few seconds if we can get a large enough coil with sufficient output of a hot spark, and can get a tube to stand this without breaking down the vacuum; for when the vacuum is broken down, the tube will not work again, unless it is reexhausted. Sometimes if the tube is carefully watched and the current hurriedly shut off just as soon as the vacuum starts to go down, which will be observed by a purplish hue interspreading itself about the green fluorescence, the tube in a few minutes will recuperate, and with gradual "working up" will again be in condition for use.

As the tubes made will not stand the output of a powerful coil, how was the problem to be solved of throwing so much current into a tube and doing this instantaneous radiography?

The main reason the tubes will not hold up with these large currents is on account of the inverse current generated by the coil; now this inverse current is hardly apt to jump over an air space of from one to two inches when placed in series with the terminals of an induction coil, and it is mainly this inverse discharge that causes the rapid heating of the anode, and the discoloration of the tube (which discoloration is due to the disposition of the metals of the electrodes of the tube on its glass wall), why not make use of such a spark-gap and keep away most of this inverse discharge from the tube and so eliminate to a great extent these harmful qualities of the current.

I found by experimenting, that one and three-quarter inches spark-gap was sufficient to overcome this on my coil, and devised a gap that could be so adjusted as to give a gap from a fraction of an inch to two inches, so that those using smaller coils could adjust this gap to meet their requirements, for on smaller coils, one inch to an inch and one-half would suffice, while on an eighteen-inch coil about two inches will be necessary.

I have tried a large number of tubes and found that without these series spark-gaps I could start to break down the vacuum in from fifteen seconds to one minute's time; when working the coil with less current, the anode would get hot in a few minutes, but when using the gaps, the anode would not get hot in twice and three times that length of time, when the same tube and same amount of current were used.

In addition to preserving the vacuum, preventing

Fig. 2

the rapid heating of the anode, and discoloration of the tube, I found that the spark-gaps greatly diminished the length of time necessary for radiographic

exposures, and that the resultant radiograph was much better, as is shown by the accompanying pictures; for the spark-gaps send the current through the tube with greater force and so act as condensers. The spark-gaps also have a tendency to push up the vacuum of the tube, so it is necessary to use a low tube, and it is just this kind of a tube that enables us to get the largest output of rays, rich in photographic effect.

The hand in fig. 1 was taken without gaps in six seconds, and that in fig. 2, with gaps, in one second, and the plate of fig. 2 was much better than of fig. 1. In the case of a hip, one picture was taken in forty-five seconds, with the gaps, and a second without gaps, in one and one-half minutes; in this case, in order to prevent the current from destroying the tube, I exposed for forty-five seconds and shut off the current, and keeping the subject in the same position, after a few minutes when the tube had cooled, I again threw in the current for another forty-five seconds.

The time of exposure necessary for good pictures with and without the spark-gaps for various parts of the body, with a subject of about 150 pounds, with the same amount of current, same *x*-ray plates and

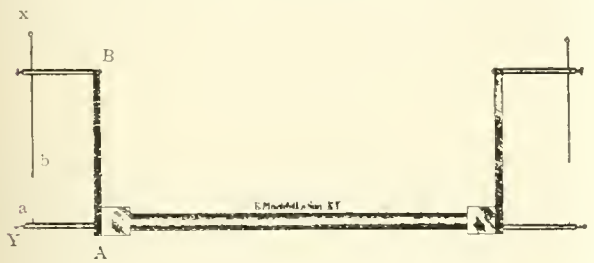

Fig. 3.

developer, same tube and same apparatus, was as follows:

	WITH GAPS	WITHOUT GAPS
Hand,	one second	six seconds
Elbow,	one second	fifteen second
Shoulder,	ten second	thirty-five seconds
Knee,	six seconds	thirty sesonds
Hip,	forty-five seconds	one and one-half minutes

Description of the Gaps.—The most convenient way is to mount these spark-gaps on a wooden rod about two feet long, and put one gap arrangement on each end. By means of a clamp, the wooden rod can be attached to any *x*-ray stand, and while at the same time supporting the gaps, it acts as a separator of the conducting cords. The clamp I use allows of almost every sort of arrangement of this supporter to conform with the arrangement of the position of the *x*-ray tube.

On each end of this wooden rod, I have mounted a piece of hard rubber about one-quarter of an inch thick and five inches long; and on this hard rubber, four inches apart from one another, are two upright metal posts, which are respectfully three inches high. Post A has a pointed edge to receive the current and also a loop for the conducting cord; post B has a hole drilled through its upper part, through which a metal rod slides, which is five inches long; it has one end pointed to transmit the current, and at the other end is a loop for the other conducting cord.

This sliding rod can be adjusted, from the point on post A, any distance from a fraction of an inch to two inches, and in this way any size spark-gap can be obtained up to two inches to suit the needs of each individual apparatus. A set-screw holds this rod firmly in place at the point of selection. Conducting cords run from each terminal of the coil to the loop on sliding rod at X, and another cord runs from loop Y, on top of post A, to the respective terminal of the tube. It is essential that posts A and B be separated fully four inches, for otherwise the hard rubber has a tendency to carbonize, and, acting as a conductor, prohibits the proper working of the spark-gap.

The advantages of these series spark-gaps are:

(1) The tube can stand the full output of the largest coil with the vacuum remaining constant.

(2) The tube is kept almost entirely free from blackening.

(3) The anode is kept from readily becoming hot.

(For these three reasons the life of the tube is necessarily prolonged).

(4) A richer volume of *x*-ray is produced, and so exposures of radiographs are greatly reduced.

278 West One Hundred and Thirteenth Street.

A NEW OPERATION FOR PYOTHORAX.*

By SPENCER GRAVES, M.D.,
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I wish to present an operation which seems to me practical—for the purpose of preventing deformities in some acute cases of empyema, and for causing a more uniform and anatomical closure of the suppurating cavity in chronic cases. In all cases the most serious consequence of the affection is deformity, and in children lateral curvature of the spine is likely to occur. I find, after looking up the literature on the subject of empyema, that the operation I shall describe, probably differs from those heretofore practised.

Resection of one or two ribs, solely for the purpose of drainage, usually cures acute cases, but the patient is often left with more or less deformity. The wound is extensive in thoracoplasty, "Estlander's operation," and it probably entails the removal of more of the bony wall than is necessary. The following case suggests the advantage of the operation I request you to consider:

Miss R., age sixteen years, consulted me about the first of January this year. She gave a history of pneumonia in May, 1903, continued illness, and the formation of a swelling a little below and to the right of the left breast, which opened and had continued to discharge pus. She was emaciated and presented generally the appearance of a consumptive. Temperature 101°, pulse 110.

With the history, after making physical examination, there was little difficulty in determining that the pus discharging from the sinus came from the thoracic cavity.

A transverse incision was made over the sinus, which was between the fifth and sixth ribs, about two and a half inches below nipple on left side, with the intention of locating the opening into the cavity, and introducing a probe to determine on a site for drainage posteriorly.

When the elevator was introduced under the sixth rib to raise it, the rib broke. I removed the sternal end of the rib because it was necrotic, then extended my incision, following the rib and removing sections for convenience till I came to periosteum that appeared sound. I removed the sixth rib to the posterior axillary fold, and located the sinus near this point. I then sutured the wound, except at the site for drainage, enlarged the opening and introduced a short rubber drainage-tube. The lung seemed to expand feebly and a large quantity of pus was discharged. After the second day cavity was irrigated daily with permanganate of potassium solution.

There was nothing in the condition of the patient worth noting, until about ten days after the operation. At this time I observed my opening for drain-

*Read at the annual meeting of the Missouri State Medical Society, 1904.

age was getting smaller rapidly in spite of my efforts to keep it open. On January 29 a probe could not be introduced into the opening, and the general condition of the patient was not so favorable.

I arranged immediately for the second operation. I found, on the operating table, that drainage was shut off by the fifth and seventh ribs coming together. I resected part of the fifth rib for the purpose of drainage. Treatment was continued as before. The discharge ceased in about ten days. The patient went home cured and in pretty good general health, three weeks after the second operation. There is absolutely no deformity, aside from the uniform sulcation where the rib was removed.

My experience with empyema since the case just reported, is limited to three cases. One was tuberculous. The second case was that of a girl aged fifteen; I assisted Dr. Dean in the operation. This consisted in the removal of about an inch and a half of the ninth rib in line with the angle of the scapula. Dr. Dean informs me that the patient's recovery was satisfactory, but that the deformity is marked. He at the same time remarked that he regretted not having removed rib anterior to the opening for drainage.

The third case was one of acute empyema following pneumonia. Patient a girl, aged fourteen years. About an inch of the seventh rib was resected below the angle of the scapula. An incision was then made in the pleura, and a long probe used to aid in determining the size of the suppurating cavity. I then extended the incision horizontally over the seventh rib, and removed the rib to the costal cartilage. After suturing this wound, I resected about an inch and a half of the eighth rib. The opening was then enlarged and a short drainage tube introduced into the cavity. The after-treatment was the same as was carried out in the first case. The patient made a prompt recovery without deformity. I removed the rib anterior to point selected for drainage, as I did not consider it necessary to remove the entire rib in an acute case.

The object of this preliminary report is to submit for consideration this operation. Removal of the entire rib anterior to the opening for drainage, which should be as near the posterior wall of the suppurating cavity as possible, the purpose of this being to prevent deformity; and resection of rib above or below, for adequate drainage in some recent cases of empyema. Removal of entire rib, if necessary two ribs (except the head), with resection of one for drainage in chronic cases, for the purpose of contracting suppurating cavity, which persists because of the thickened pleura and unexpanded lung. The rib removed should be the one passing over the center of the cavity, or one a little below this point.

The removal of the rib as suggested seemed to be followed by the ones above dropping lower, the cartilage bending and the change taking place without deformity. Just what all of the forces are that work to bring the rib above and the one below the rib removed together, I cannot explain. The deformity seems to be due to nature's effort to close the cavity, which is often too much for the granulating process. I believe the operation to prevent deformity is indicated when the suppurating cavity is large, and other conditions which indicate probable deformity are evident, and in cases of long standing.

In many cases there are evidences of beginning deformity when the surgeon is called, which was the case with Miss R. The operation seemed to correct as well as prevent deformity in this case.

The operation is simple and can be rapidly done. The sutured wound heals in a few days. It is very little if any more trying on the patient than operation for drainage. I am sorry not to have had experience to justify my belief that removal of one or two ribs (except the head) will prove a cure for some cases that have existed for a longer time than the one reported.

It makes no difference what incisions are made. Estlander's operation is extensive and is followed by great shock, and we must depend on atmospheric pressure and contraction in all directions to close the cavity, as all of the bony wall over the cavity is removed.

The sixth rib will generally be found to pass horizontally over the trough-like cavity a little below the middle. As the chest more readily contracts at this point than lower down, I believe in the majority of cases it will be found better to remove the sixth rib.

3603 Lindell Boulevard.

A CASE OF FOREIGN BODY REMAINING IN THE LENS OF THE EYE FOR SIX YEARS WITH THE LENS OTHERWISE CLEAR.

By FRANK N. LEWIS, A.M., M.D.,
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SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL.

A foreign body lodged inside the eyeball is usually considered to be a source of danger, not only to the injured eye, but also a possible cause of sympathetic inflammation of the other eye, starting up within a short time, or sometimes after many months or years. For this reason it is the practice as early as possible to use every effort to remove the foreign body. The satisfactory results in many cases following the use of the magnet, or that combined with other means, makes these cases always interesting to the oculist, and is a cause of much gratitude on the part of the patient.

Many patients in whom a piece of iron or steel has been removed from the interior of an eye, have recovered with good vision, and all possible danger of inflammation seems to have passed. Other cases, in which inflammation has ensued, although the foreign body had been removed, have gone through with the inflammation, and the vision is lost, but the eyeball presents a good appearance and the patient is saved from enucleation. Other cases still are not uncommon in which a destructive inflammation follows, even if the foreign substance has been removed and all possible treatment used to allay inflammation.

No doubt the condition of the foreign body, as to whether it is infected or not as it enters the eye, has much to do with the subsequent history. Even if the foreign body is at once removed, a severe infection may have taken place, which it is impossible to prevent spreading and ultimately destroying the eye. Again, it seems in some cases as if the foreign body may have been aseptic, and very slight or no inflammation has followed, or possibly, by becoming encapsulated, the foreign body remains in the eye for years without setting up inflammation.

There seems to be no limit as to time when a foreign body may set up a severe inflammation. Within a few hours of the injury much inflammation may be present or, as in some cases reported, many years may elapse before a foreign body will start up any trouble.

The location of the foreign body inside the eyeball, too, may have an important bearing on the

case. The point of entrance is another important factor. If the point of entrance or the foreign body is in the ciliary body, it has seemed, in the writer's experience, to be especially dangerous. Foreign bodies which enter through the cornea, or those which pass through the eyeball and are lodged in the posterior part of the sclera, may possibly not set up as severe inflammation as those affecting the iris or ciliary body. Foreign bodies that are lodged in or have passed through the lens almost always produce a traumatic cataract. This usually begins a short time after the injury, so that in twenty-four hours there may be much opacity of the lens. The age of the patient may have much to do with the rapidity with which the opacity increases. The hard lens of old age will naturally not become as rapidly opaque as the soft lens of early life. If the wound of the lens capsule is large, we may expect a more rapid development of the cataract than where the wound is small, the former allowing more aqueous to enter the lens substance.

The most common of the small substances that enter the eye are particles of iron or steel, which are driven in while one is using some instrument in hammering. Others are bits of brass, copper, or particles of glass. It has been considered by some that pieces of glass are less likely to set up a destructive inflammation.

But when all the various conditions, as to location of the wound and of the foreign body in the eye, the size, the material, and the duration of time since the injury, are considered, it would seem that there is only the one and almost invariable conclusion that a foreign body in an eyeball is a dangerous thing, and should be removed at once if possible.

In view of the above facts, and of the practice of at once removing a foreign body from the eyeball, when possible, which is my plan, in common with that of all, I believe, the following history of a case of foreign body may be worthy of record: Although the patient was seen within a few days of the injury, and the foreign body was readily located lying in the lens, on my advice no attempt was made at that time, nor has any effort been made since, now over six years, to remove it. While this may seem an unusual proceeding, after giving the history of the case, the reasons for so doing will be considered.

Fred A., twenty-six years of age, a machinist, in good general health, first appeared at the Manhattan Eye and Ear Hospital on November 11, 1897. He stated that while using a chisel on a piece of steel, one week before, a particle flew up and struck the left eye. Practically nothing was done in the way of treatment until he came to the hospital. On examination there was found slight redness of the eyeball, but no marked tenderness and no pain, and very little photophobia. The vision of this eye was $\frac{20}{200}$. There was slight lacrymation. At the lower nasal part of the cornea was a small wound, but the rest of the cornea was fairly clear, the aqueous also clear, no iritis, and pupil acted normally. In the lens was seen a dark, glistening particle, a little to the supratemporal side and slightly posterior to the equator of the lens. It was irregular in shape and about 2 mm. in its largest diameter. From the history and the appearance it was thought to be a piece of steel. The lens was otherwise clear, and no changes from normal were detected in the vitreous or in the fundus of the eye. The right eye was normal and vision was $\frac{20}{15}$, and ability to read Jaeger No. 1, 5″ to 17″. The first impression as to treatment was to remove, if possible, this foreign body. For some reason the patient could not remain as an indoor patient at the hospital. The eye not being painful, and not showing the usual amount of irritation after such an injury, it was decided to watch the eye at the outdoor clinic. He was given a solution of atropine, two grains to the ounce, and iced application, and instructed not to use his eyes. It was expected that a traumatic cataract would soon develop and, as the patient's age was twenty-six years, it was somewhat unusual that at that time there was not some milky-white appearance. On the contrary, aside from the foreign body and a very minute wound of the anterior capsule, which could with difficulty be seen, the lens was clear. The patient was seen at frequent intervals and the eye carefully watched. Under this plan of treatment the eye became white and showed no irritation from the presence in the lens of the foreign body, no cataract developed, the tension remained normal, and the vision on November 27 was $\frac{20}{30}$. The eye remained quiet several weeks. On January 27, 1898, there was present a considerable amount of redness of the left eye, which the patient stated began a few days previous. But the congestion seemed to be that of a catarrhal conjunctivitis, with mucous discharge, and not the congestion with photophobia lacrymation, and little or no mucous discharge, which is seen as a result of a foreign body in the eye. There was no opacity of the lens other than the foreign body, the iris was clear, and vision as before $\frac{20}{30}$. The other eye was free from redness.

The patient was now admitted to a ward of the hospital and the eye treated with cleansing, iced applications, and a solution of argentum nitrate, five grains to the ounce. Under this treatment the conjunctivitis disappeared and the patient left the hospital in one week, on February 5.

The use of a solution of atropine in an eye is sometimes a cause of conjunctivitis, and, while in this case the atropine was used only enough to keep the pupil dilated, it is a possibility that it may have had something to do in starting up the conjunctivitis. Conjunctivitis from the use of atropine, however, usually shows a peculiar dryness, wrinkling, and redness of the skin of and around the lids, which was not present in this case.

The patient continued under observation and the eye remained free from redness and irritation, the vision continued as before, until February 18, two weeks later, when he was again admitted to the hospital for another attack of conjunctivitis. Under treatment with astringents, cleansing, etc., the eye again became white. The symptoms were so decidedly those of conjunctivitis, and not such as would be caused by irritation from the foreign body, that it seemed best not to attempt to remove the piece of steel from the lens. The vision remained $\frac{20}{30}$ and the lens continued clear. There seemed to be no doubt about the particle in the lens being a piece of steel or iron. Many different ones examined the eye, and I think all agreed that it was so. The use of the magnet was not attempted, for if it had been, and the particle dislodged, it was expected that opacity of the lens would follow.

The conjunctivitis entirely disappeared and the patient left the hospital March 9.

On June 9, 1898, the record shows that a foreign body was removed from the left cornea. Otherwise the patient has since had no ocular symptoms. He had continued his work as a machinist.

April 16, 1899, the condition of the eyes was as before. V.R. $\frac{20}{20}$ + V.L. $\frac{20}{20}$. Reads Jaeg. 1 with each eye. The foreign body in the lens is as when first seen.

The patient was thoroughly instructed as to possible symptoms in the future, that might arise as a result of the foreign body being in the eye. He is an intelligent man and seemed to appreciate

the situation and the necessity for immediate attention, if in the future the eye became in any way affected.

On December 14, 1903, over six years since the injury, he came to my office, in response to a letter of inquiry as to his condition. He had had no trouble with the eye, and it had remained free from any symptoms of irritation. The foreign body in the lens presented the same appearance as before, the lens otherwise being clear. V.R. $\frac{20}{20}$ +, V.L. $\frac{20}{20}$ +.

The question naturally arises, whether in this case it would have been or is now better to follow the usual practice, of attempting to remove every foreign body from inside an eyeball? While the possibility of future inflammation is fully appreciated, it does seem that this case is an exception to the general rule. The foreign body is very probably encysted, although no enveloping membrane can with certainty be seen. The eye may remain as it is during the entire life of the patient. Dangerous symptoms are less likely to arise from a foreign body in the lens than where it is lodged in some other part of the eye, such as the ciliary body. The danger of sympathetic ophthalmia in this case, while not entirely absent, is not, it would seem, very great. The patient is one who can probably be relied on to seek advice at the onset of any ocular symptoms. If a successful attempt is made to remove the foreign body we naturally would expect the formation of cataract, and, even the most satisfactory treatment for this would leave the eye in a far different condition as to useful vision. Seldom do we find that where one eye is normal, and the other eye, from which a cataract has been removed, work satisfactorily together.

Every case should be treated according to its individual indications, and a rigid following of set rules for any class of cases is not wise. It does not seem to the writer that it would be an act of wisdom or good surgery to attempt at present to remove the foreign body in this case. Even a successful operation to remove it would probably so impair the present normal vision that the eye would be practically useless. If at any time later there are symptoms of irritation, then certainly an operation to remove the foreign body will be indicated.

35 West Thirty-sixth Street.

A CASE OF CHRONIC FIBRINOUS BRONCHITIS, WITH ESPECIAL REFERENCE TO THE TREATMENT OF THIS DISEASE.

By W. MOSER, M.D.,
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The patient, a man forty-eight years of age, had recurring attacks of severe coughing and dyspnœa. The expectoration which was frequently blood-stained contained rolled-up masses, which, when placed in water, showed the characteristic arborescent appearance. The tree-like appearance corresponded to the ramifications of the bronchi. Thus,from a larger bronchus the trunk was formed, while the finer bronchial ramifications represented the branches or twigs of the tree.*

The casts consist usually of fibrin, but may, according to Grandy and others, consist of mucin. They may be formed of both fibrin and mucin.

The patient first expectorated these bronchial casts about twelve years ago, with intermissions of varying duration. Since the patient came under my observation two years ago,he had repeated attacks, with intense dyspnœa.

The physical signs were those of ordinary severe bronchitis, with the exception that now and then slightly diminished respiration was noted on one side.

There was no perceptible difference in the percussion note of both sides, and the bruit de drapeau, described as a very fine dry râle, due to the vibration of a detached part of the bronchial cast was not satisfactorily obtained. The partially separated membrane may even cause a palpable thrill (Hoffmann).

With the onset of each attack the patient had a slight rise in temperature, varying from 100 to 101 F., with headache and chilliness

While fever is generally associated with the acute form, it will be seen from this case that it may occur with the chronic. Where the sputum is not carefully examined, this condition may be mistaken for malaria, as there may be a slight enlargement of the spleen.

The patient about fifteen years ago contracted a chancre, and is at present suffering with syphilitic myocarditis, ocular paralysis, and eruptions on the palms of the hands, and soles of the feet.

The etiology of this disease is not easily determined, and seems to depend upon different factors. Sokolowski found in four acute cases Staplylococcus pyogenes aureus and albus, and believes they stand in etiological relation with this form. Strauss found in his case the pneumococcus, Löffler's bacillus, streptococci, and staphylococci. Osler found in a case the aspergillus fumigatus. Bettmann found protozoa.

Mader regards pemphigus as an etiological factor. Fibrinous bronchitis is sometimes associated with skin eruptions, as in my case (syphilis).

Street's case was associated with herpes zoster and impetigo, and Waldenburg's with impetigo capitis. Small bronchial casts are sometimes expectorated in lobar pneumonia, and in asthma.

Fibrinous coagula, either ribbon-shaped or of cylindrical form, may be expectorated in various diseases; as, for example, in influenza, as noted by Roque, in typhoid fever (Souqué, Eisenlohr, Möller, Mazzotti), articular rheumatism (Degler) or pneumonia. Fibrinous bronchitis is sometimes, as in this case, associated with chronic cardiac disease. I do not, however, regard the myocarditis as a cause of the fibrinous bronchitis in my case, but am inclined to regard them both as dependent upon syphilis. Fibrinous casts have been seen in the sputum after tapping the pleura (Osler).

Fritsche describes a toxic form following iodine My patient, who had taken large doses of the iodides with mercurial inunctions, for his syphilis, was in no way relieved of his fibrinous bronchitis by these drugs.

McCullom has seen fibrinous casts of the trachea and primary bronchi expelled in diphtheria.

Mallory, Pearce, and Councilman found fibrinous membranes in the bronchi in forty-two fatal cases of diphtheria.

These cases, are of course, secondary fibrinous deposits, and do not properly belong to what Bettman calls iodiopathic fibrinous bronchitis. Late in the course of tuberculosis, casts of the bronchi may be expectorated. Hot vapor has been known to produce fibrinous casts. Chemical irritants, such as ammonia, have been known to produce a similar membrane in the trachea and bronchi, but are not expectorated.

The use of lactic acid for tuberculosis of the

*I demonstrated one of these casts before the Brooklyn Medical Society at its May meeting, 1903.

larynx has been said to produce ribbon-shaped mucoid shreds of the bronchi (Hoffmann).

The sputum may be greenish, as in Escherich's case of fibrinous bronchitis. Greenish sputum is exceptional, and is more often seen in the pneumonia of the aged.

The casts consist miscroscopically of a hyaline basement membrane, and are of lamellated structure, the individual lamellæ being arranged either concentrically or in irregular layers (Eichhorst). Mononuclear leucocytes are common with few red blood cells. Blood pigment (hæmatoidin crystals, Austin Flint) has been seen. Charcot-Leyden crystals and Curschmann's spirals have also been seen. Vintras failed to find Charcot crystals in his case. I have seen hæmatoidin crystals, but they are by no means so common as in abscess of the lung.

Eppinger, Huchard and Claisse, Herzog and Nachod found the bulk of the casts to be made up of fibrin, while Klein and Habel found chiefly mucus, or rather mucin. Degenerated epithileal cells are frequently seen, with fatty matter and granular detritus. Schmidt found in his case hyaline blood-cylinders, "corpora lecithinoidea," or "lecithinoid cylinders" (quoted by Hoffmann). The treatment consists in the early administration of creosote and cod-liver oil. Creosote seems to cut short the attacks, improve the nutrition of the patient, and lessen, in a great measure, the tendency to tuberculosis, which is most to be feared

Thus tuberculosis was found in ten out of twenty-one autopsies collected by Model from Bäumler's clinic. In the chronic form of fibrinous bronchitis the danger lies, first, from tuberculous complication, and, secondly, from an extension of the membrane to the air cells—fibrinous pneumonia.

In the acute form death from suffocation is more to be feared than in the chronic variety.

In both class of cases oxygen is of service to relieve the dyspnœa.

I would recommend emetics for this purpose, and inhalation of lime water or steam to loosen the membrane. Alkaline (bicarbonate of soda) spray may be used. The fewer cough mixtures given in this disease the better.

I have found a codeine tablet of ¼ to ½ grain given occasionally of some benefit.

A nutritious diet and fresh air are important.

It is remarkable that this disease should occur chiefly in males rather than in females, and it has been known to occur in several members of the same family.

As before stated, I have found the iodide of potassium and mercury useless, but nevertheless, believe that syphilis stands in a certain percentage of cases in etiological relation with this disease. In acute cases Biermer advises mercury.

Not all diseases or morbid states are due to bacteria alone. The bronchi, like the mouth, although to a less extent, contain, even under ordinary conditions, a great variety of microorganisms.

In diseased processes of the respiratory tract, as in this disease, varied microorganisms, which ordinarily find their habitat in the mouth and bronchi, become more abundant. It is often not the finding of a given microorganism which is important, but the number of germs. Thus different bacteria may stand in etiological relation to a given morbid process. I have seen protozoa in noma and in thrush in addition to the usual fungus of this disease, Oidium albicans, while at the same time other bacteria multiply in numbers.

The aphthous stomatitis (foot-and-mouth disease), in which inflammation and vesiculation occur in the mouth, may have as a prolific cause the streptococcus of Klein, or the micrococcus of Cnyrim and Libberitz, or other organism, yet I feel that these are not the only cause of a similar morbid state with gastric disturbance, which I believe may be due to chemical irritants, of which the wonderful and complex tar colors and allied dye-stuffs so widely and indiscrimately used in the arts and foodstuffs serve as a cause, as it does of cases of alleged ptomain poisoning.

The wonderful and complex chemical composition of many of these series of tar colors, as well as physiological experiments, will refute the idea that arsenic alone is the deleterious agent, althoug potent factor.

I ask your indulgence for this digression, and feel that in seeking the origin of disease, whether it be fibrinous bronchitis or some others, much is yet to be learned.

In conclusion, I reiterate my belief that creosote given during the attacks, and carefully during the intervals, is the proper drug for this disease.

That chronic fibrinous bronchitis *per se* is not tuberculosis, is proven by the fact that tubercle bacilli are absent in the sputum.

The great value of this treatment lies before their presence becomes manifest, but even afterward it is not contraindicated.

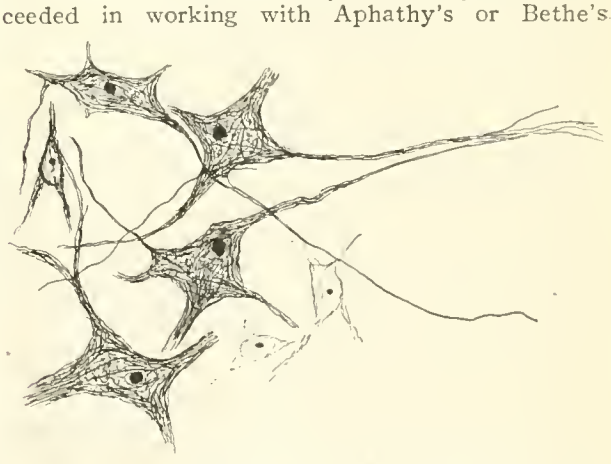
300 South Fourth Street.

FIBRILS AND GANGLION-CELLS.

By V. BIART, M.D.,
CAPTAIN U. S. ARMY, RETIRED.

The investigations which have been made during the last years regarding the structure of the ganglion-cells have, as is well known, dealt very much with the question, whether, besides the Nissl granules, there really exists fibrils passing through the cell-body from one cell to another. There has been much written about an intrinsic network within and around the cell, and between the cells.

Aphathy's and Bethe's work in this field are well-known, but I dare say not many have succeeded in working with Aphathy's or Bethe's



complicated methods. A new method has, however, been recently published by S. Ramóny Cajal of Madrid, which recommends itself by its great simplicity, as well as by its satisfactory results. Prof. L. Edinger, Director of the Senckenberg Neurological Institute, of Frankfort-on-the-Main, in whose laboratory and under whose guidance I have been working for some time past, desiring to test the efficacy of this new method, requested me to try it.

I accordingly went to work, and after a few trials had the satisfaction of obtaining most gratifying results. The simplicity of the method is apparent, when one considers that it requires no

other manipulations than the immersion of small pieces of nervous tissue in a weak solution of nitrate of silver, in which they are left for a few days at a temperature of about 95° F. and are then submitted to the reducing action of a pyrogallic acid bath. After proper dehydration they may be mounted, either in celloidin or in paraffine. The microscopical images obtained are remarkably clear and well-defined. This is especially so when the greatest contrast between the fibrils and the background has been attained, in which case the latter is exceedingly light and transparent, whereas the cells and the fibrils appear as delicate structures of either black or dark-brown color.

The beauty of this method is well exemplified by the accompanying illustration: It represents cells, etc., of the anterior horn of the cord of a newborn rat. The drawing was made by Dr. Kurt Goldstein, assistant at the institute, and is a perfectly exact copy of the microscopical image, even in its very finest details.

I should like to insist upon the fact, that all the fibrils shown by this perfect method are lying within the cells or their processes, and that there is no indication of an intercellular network, as claimed by Nissl, who lays especial stress on such an one.

According to Nissl, not the intracellular network shown in this illustration, but an hypothetical intercellular network forms the basis of the performance of the functions of the nervous system.

It is certainly very interesting that, even in this complete preparation, Nissl's network is not apparent.

Frankfort-on-the-Main, Germany.

A Chinese Physician.—The contrast between precept and practice in the Far East is sometimes puzzling to the Western mind. We have heard much of late concerning the barbarity of Chinese medicine, but the following account by an old Buddhist of an ideal medical man—most probably a Chinaman—should give pause to all such as believe the Chinese physicians to be little better than savage medicine-men. Our quotation is from Colonel Yule's notes on Marco Polo's "Voyages": "In my own town," says the Buddhist writer cited by Colonel Yule, "there lived a physician by name Chang-yang-ming. He was a man who never took payment for his treatment from anyone who was poor; nay, he would often make presents to such persons of money or corn to lighten their lot. If a rich man would have his advice, and paid him a fee, he never looked to see whether it was much or little. If a patient lay so dangerously ill that Yang-ming despaired of his recovery, he would still give him good medicine to comfort his heart, but never took payment for it. I knew this man for many a year, and I never heard the word *money* pass his lips. One day a fire broke out in the town and laid the whole of the houses in ashes, only the house of the physician was spared." Colonel Yule comments thus on this passage: "Of such as this physician the apostle said: "Of a truth I perceive that God is no respecter of persons, but in every nation he that feareth Him and worketh righteousness, is accepted with Him."—*The Lancet.*

Albuminuria in the Apparently Healthy.—Samuel West believes that under ordinary conditions physiological albuminuria does not occur, and when it does it is a transudation, not a secretion. The greatest importance is to be attached to the state of nutrition of the walls of the capillaries, and also to the presence or absence of high, arterial tension. Cases under consideration may be divided into three groups: (1) post-renal, or accidental, due to the contamination of the urine from the genito-urinary tract; (2) renal (*a*) with obvious cause, as kidney disease, (*b*) without obvious cause; (3) pre-renal (*a*) with obvious cause as in fevers or heart disease, (*b*) with no obvious cause. With regard to the post-renal class of cases a tiny calculus in the kidney may lead to a transient albuminuria or hæmaturia, the condition completely clearing up with the passage of the stone. Temporary albuminuria may also be due to the passage of oxalic acid gravel. It is also said that the strongly acid urine of acute gout may likewise give rise to the same condition. Many different names have been given to this form of albuminuria. Its importance and significance vary with age. In school children the practical question is whether the school life should be interfered with. The writer believes that each case should be judged upon its own merits and that continuance at school under medical supervision is the best course to pursue. The gravity of the condition increases almost *pari passu* with every year. The chief point in the whole question lies in the difficulty of excluding latent disease of the kidneys, especially granular kidney. In regard to life insurance, it is advisable to reject all cases of albuminuria above the age of forty, to load heavily those between thirty-five and forty, to add considerably between the ages of twenty-five and thirty, and to postpone and watch those cases occurring between eighteen and twenty-five. If arterial thickening is present at the same time one should reject at all ages. Albuminuria is never physiological but always pathological, though not necessarily renal.—*Medical Press and Circular.*

Some Aspects of Obesity.—Leonard Williams declares that obesity is not only not a disease *per se*, but occasionally it is not even, strictly speaking, pathological, inasmuch as its presence is apparently essential to the ordinary physiological working of certain individuals. In the commoner forms, obesity is due to a want of balance between intake and output. Too much food is eaten or too little is oxidized. The ingested material may be excessive in quantity. This is frequent in the case of those who have been athletic in youth. That class of women patients, too, who think they need "supporting" habitually takes more food than can be assimilated. The practice of drinking fluid with meals is another cause of the ingestion of too much food. This fluid not only seems to increase the appetite, but by enabling the food to pass more rapidly out of the stomach than it would otherwise do, it makes it possible for the patient to eat more. Insufficient mastication leads to the ingestion of a great deal of unnecessary food. Excess may be a matter of quality. The quantity itself may be moderate enough, but the excess may reveal itself in the relative quantities of fat-forming or fat-saving principles. The starches, sugars, fats, and alcohol, are most readily converted into adipose tissue. As to the oxidation of food, the chief agent in effecting this is muscular exercise. Ordinary obesity probably never occurs where circumstances allow this agent full play. When obesity is already established, there are substitutes for ordinary exercise which may be used, such as massage, electricity, Swedish movements, and Zander exercises. The nervous system plays a part in the oxidation of food. Mental anxiety may give rise to an extreme degree of emaciation. The obese patient must have mental and physical energy forced upon him. The writer believes that hot baths for ablutionary purposes by the young and healthy are most undesirable, except when they are immediately followed by cold affusion and vigorous toweling. The prevalent vice of overclothing is still more important. The wearer of flannel under-garments, as far as his skin is concerned, lives in a moist climate—relaxing in its effects. The activities of skin and lungs, bowels and kidneys, are very important. Mineral waters, in so far as they are helpful, are so in virtue of their effects upon the bowels and kidneys when taken internally, and upon the skin when administered in baths. The writer concludes by speaking of the use of thyroid extract in obesity. Its use is by no means unattended by danger.—*The Practitioner.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

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AN EDITORIAL CHANGE.

IT is with deep regret that we have to announce the resignation by Dr. George F. Shrady of the editorship of the MEDICAL RECORD after nearly forty years of continuous service. Dr. Shrady has had editorial control of this journal from its foundation, and it is to his initiative and executive talent that the MEDICAL RECORD owes the position it holds to-day in American medical journalism. The journal was founded thirty-eight years ago, with Dr. Shrady as sole editor, and his name has been on the title-page of sixty-five consecutive volumes—a record of continuous editorial management exceeded, we believe, only by that of the Wakleys and *The Lancet*.

The first line of type of the first number of this journal was set by Dr. Shrady, the first leader was penned by him, and from March 1, 1866, to June 25, 1904, it has been his policy that controlled the editorial pages. During that time the paper has grown from a semimonthly of twenty-four pages in each issue to a weekly of over 2,000 pages a year. It has chronicled some of the greatest triumphs that medicine has had in all the ages, and in its pages may be read the history of discoveries which have raised the study of disease almost to the level of an exact science. It has witnessed, too, and chronicled, and taken part in some stirring episodes of medical politics, through all of which it was guided by the courageous conscience of the editor who feared not to speak up for what he believed to be the right—and to him has come the satisfaction of seeing, before laying down his burden, the acceptance by the medical profession of the entire country of the principles for which he so earnestly contended.

The change in editorial management of the MEDICAL RECORD involves no radical change in policy or methods, for the former associate editor, who now becomes editor in chief, assisted Dr. Shrady in the conduct of the journal for some twenty years, and for the past several years a great part of the editorial work has been under his sole direction. The personnel of the editorial staff remains as before.

The friends of the MEDICAL RECORD and of Dr. Shrady will unite with us in making grateful acknowledgement of what the retiring editor has done, not only for this journal but also for medical journalism in general. They will also join with us in the expression of cordial good wishes and of the hope that he may have still many years in the enjoyment of a well-earned rest from his unselfish labors in the cause of medical learning.

PERFORATING WOUNDS OF NERVE TRUNKS.

IN the Boer war, according to Major S. F. Freyer (*Journal of the Royal Army Medical Corps*), lesions of nerve trunks seemed the commonest complications of Mauser bullet wounds. These wounds closed usually by first intention, but the nerve repair at the time of healing was notably imperfect. The most striking thing, however, was the incompleteness of the paralysis (sensory or motor) below the lesion. In not one aseptically healed wound did Freyer see complete paralysis; and though others have met with complete division of nerves, he believes that will prove extremely rare in Mauser wounds. He gives in detail three cases in which on operation nerve trunks were actually seen to show a central perforation, though the diameter of the bullet was much greater than that of the nerve trunk. In the first case the wound was a puncture of the musculospiral nerve only just large enough for the end of an ordinary pocket-case probe to drop through; in the second, a central perforation of the median, large enough to admit a large probe; in the third, a slit-like aperture of the median which left three-quarters of the nerve intact. This lesion is, the author remarks, evidently a new one in military surgery. It was undoubtedly one of the chief causes for invaliding home. During the few weeks that the wounded were under observation in South Africa, little or no improvement took place in nerve lesions generally, but the degree of recovery ultimately attained in these perforated lesions was surprising. Thus in two cases there was perfect recovery, and another case showed, four years afterward, great improvement, but there was some wasting of the small muscles, and the fist could not be clenched. It can only be surmised that the nerve flattens out in advance of the bullet on the impact of the latter, or that the conical shape of the Mauser splits up the nerve trunk. That it is not, however, special to the Mauser, is shown by the fact that the wound in one of the cases was from an ordinary service revolver bullet with blunt leaden nose.

As regarded treatment, it was considered sufficient to replace the nerve in its bed, and the results seem to have justified this course. The inference drawn by the author is that undoubtedly in partial lesion of a nerve trunk when the wound has healed by the first intention, any operation on the nerve is unnecessary. The only apparent exceptions arise in complicated cases, as when a bone has been fractured, and the nerve is imbedded in callus. True, all bullet wounds involve a string of cicatricial tissue, but with Mauser wounds this is very fine, and we know clinically that this sort of cicatrix seems not to interfere materially with the growth of the young nerve fibers, and until the results of nerve suturing are more definite and certain, it is inadvisable to interfere in these partial breaches of continuity by operation.

As regards the time of restoration of function, the author's experience on medical boards has shown him that years and not months must be allowed for complete restoration, many such cases showing little improvement in six months, though eventually, to all appearances, recovering entirely.

In the cases described there was no naked-eye

evidence of any neuritis, and the author believes that this condition is for the most part confined to septic wounds. In nerve wounds the whole prognosis turns, he thinks, on the possibility of obtaining primary union in the bullet track, the importance of which cannot be exaggerated. In South Africa this result was attained in the immense majority of cases, it being astonishing how readily the Mauser wounds closed and scabbed over when not interfered with.

The causes of this may prove instructive in regard to wounds in general. It is not that the "first dressing" has not come in for its full share of credit. Indeed, there is just a danger of attributing more than a due share of the success to asepticism, or some one or other of the antiseptic systems. Or rather, perhaps, the danger lies in neglecting the physical factors acting upon and common to all wounds, and which are preeminent in the healing process. The results of Preobrajensky (*Annales de l'Institut Pasteur*, 1897) would well repay the attention they have not excited. He demonstrated conclusively the overwhelming importance of the physical in comparison with the chemical characters of a dressing, showing that the forces of evaporation, osmosis, and capillarity, intelligently assisted by an absorbent dressing, can set up such a fluid current from the depths of the wound to the surface, that ordinary infection is practically impossible, and even deliberate infection by the anthrax bacillus somewhat difficult. In Mauser wounds, as in all well-planned operation wounds, the surfaces fall together in the depths, and there is a constant current outward through the little fluid between the raw surface. Preobrajensky also found that when a sufficient "molecular adhesion" existed between the dressing and the fluid in the wound, the efficiency of the dressing depended on its permeability and capacity for absorption. For the latter nothing stands higher than gauze, so that, hermetically sealed wounds apart, gauze (or a gauze substitute) is the only thing common to all aseptic, and antiseptic systems. And in Preobrajensky's opinion, this reconciles the results attained by successful surgeons whose systems seem to differ widely and more or less antagonistically.

Ricinus and Pawpaw Plants as Deterrents to Mosquitos.

From time to time, certain plants have been advertised as obnoxious to mosquitos. In fact it has been confidently alleged of some that not only would mosquitos shun them, but they were so deadly to these insects, that in those districts in which such members of the vegetable world existed mosquitos would be conspicuous by their absence. Upon close investigation the majority of these statements have been discredited, and have proved to be but idle tales.

For example, Groom, in the *Journal of Tropical Medicine*, July 15, 1903, asserted that the pawpaw plant (Carica papaya) had so deterrent an influence upon mosquitos, that they would not venture into its neighborhood. Castor plants are commonly credited with a similar action. In order to test this reputed effect, MM. Edmond and Etienne Sergent, as related in the "Comptes rendus de la Société de Biologie," 1903, p. 1357, placed a pawpaw plant in the middle of a mosquito net of oblong shape in such a way that mosquitos would be compelled to pass it in traveling from one end to the other. At the end of the net nearest the window were placed a dish of water and a raisin, of which mosquitos are inordinately fond. At the opposite end four female Anopheles maculipennis and four female Culex pipiens were introduced. In a short time one anopheles and one culex had reached the far end of the net, and were resting on the leaves of the pawpaw. The insects were confined in the net for one week, during which time one anopheles and one culex died. From experiments of a like nature with the ricinus plant, exactly similar results were obtained. Thus it will be observed that neither the pawpaw nor the ricinus exerted any influence upon mosquitos.

C. P. Handson, writing in the *Journal of the British Royal Medical Corps* for May, says that his observation has led him to conclude that the ricinus actually attracts mosquitos. The same may be said of the eucalyptus plant, which has the reputation of being inimical to mosquitos.

Indeed, the result of investigations would seem to show that not only are these trees no safeguard against mosquitos, but are in truth harmful, as they harbor them during the day.

The Battle for Health in the Tropics.

Major Ronald Ross, in an address recently delivered before the Northumberland and Durham Medical Society, complained of the difficulties with which he had to contend in endeavoring to battle with the malaria-bearing mosquitos.

The great mass of the people are everywhere notoriously skeptical with regard to matters beyond their ken, and if all the moot points of a new but well-established theory are not cleared up to their entire satisfaction, its validity will be doubted, despite the fact that the said theory has been universally accepted by scientific men. This human failing has been especially evident so far as the relation between mosquitos and malaria is concerned. The belief that the disease originates and spreads from marshes and swampy lands has been too long held to die easily. Major Ross points out that this skepticism on the part of the public is of great importance as regards the prevention of malaria; because it shows us how little we can trust the population at large to take preventive measures against the spread of disease. Therefore, he is of the opinion that our only hope for the extirpation of malaria and other important tropical diseases on a large scale lies in government action. In tropical climates, in those places in which malaria is prevalent, drainage, whenever feasible, is the best course to pursue in order to destroy the disease-bearing insects. Of course in many instances "the game is not worth the candle." But in all tropical towns a scrupulous surface drainage should be undertaken, thereby removing the small puddles in which the anopheles chiefly breed. It will be undoubtedly a long time ere malaria is extirpated, although there is reason to hope that such a result may eventually come to pass. The sooner, however, that the general public take an intelligent interest in the matter and give active coöperation the more quickly will that happy day arrive.

The Murder Habit.

Statistics of murders, which have just been compiled in Italy, show that while in France the annual rate is one murder to every one hundred thousand inhabitants, in northern Italy it is four, in the middle provinces twenty-four, and in

the southern provinces, including Naples and Sicily, it is thirty. Last year the Cook County (Illinois) Coroner held inquests in 118 cases of homicide, of which only 11 were reported by him as justifiable. This is at the rate of about six for every one hundred thousand of the population. Chicago can hardly take pride in the fact that her murder record is five times better than that of Naples and Sicily, for she has to admit that it is six times worse than that of France. Probably the local record for the current year will be better than that of last year, for the numerous instances of severe penalties inflicted by juries during the first six months of the year cannot fail to have their effect. Nevertheless, the need of improvement will still be marked, and improvement can come only as a community places a higher value on human life and insists that all public officials take the most vigorous methods to bring all murderers to justice.

News of the Week.

The Registration of Births.—Dr. Thomas Darlington, Commissioner of Health of the city of New York, has issued a circular letter to the physicians of the city directing attention to their moral and legal responsibility relative to the registration of births. The failure of the physician to comply with the law requiring him to register births is attended, the commissioner says, with serious consequence to the child, who is deprived of the opportunity in many cases to help his parents and earn his own livelihood at a time when he is willing and able so to do; for upon the filing of a birth certificate by the physician in attendance at the time of birth may depend the admission of the child to the public school at the proper age, and his ability to obtain employment on arriving at the age of fourteen, provided he is unable to furnish other proofs of age. The new Labor Law, which took effect October 1, 1903, requires the parents of the child to furnish documentary proof before the Board of Health is allowed to issue an employment certificate. In the case of native-born children, the only proof available, besides the birth certificate, consists of religious records—baptism, confirmation, circumcision, etc. But when the parents stand outside of any religious communion, or when they have neglected the ceremonies attached to their belief, there remains no other proof than the record of birth. Physicians failing to comply with the law thus lay upon themselves a serious moral responsibility, besides rendering themselves liable to a fine of one hundred dollars.

The National Association for the Study and Prevention of Tuberculosis has secured an office in the United Charities building at Twenty-second Street and Fourth Avenue. The work of the association will be mainly one of education. There is no intention of founding any sanatorium or dispensary for the treatment of the disease. It is not likely that a laboratory even will be instituted at first, although that may be done later. The work planned for the present is the collection and dissemination of information of every sort touching the disease. Statistics will be collected and pressed on the attention of municipal bodies and institutions in order to get them to make scientific warfare against the spread of the infection. The formation of local associations and committees will also be urged and assisted in every possible way. One of the first definite enterprises will be the publication of a tuberculosis directory, containing, among other things, information regarding the one hundred and twenty-five hospitals and sanatoria in this country and Canada specially equipped for the treatment of tuberculosis.

Philadelphia Free from Smallpox.—According to a statement issued by Dr. Edward Martin, Director of the Department of Public Health and Charities, the city of Philadelphia is, for the first time in three years, free from smallpox. The epidemic has cost thousands of lives and millions of dollars. It was due to some irregularity in the quality, efficiency, or purity of the vaccine and to widespread neglect of vaccination. To insure the discovery of isolated or imported cases and to prevent any possible spread of the disease, house-to-house inspection will be made by the medical inspectors, and those unprotected will be vaccinated. Especial stress is laid upon the vaccination of little children.

Typhoid Fever in Cincinnati.—The report of the Health Department for the week ending July 23 shows a decrease in the number of all cases of infectious diseases except typhoid fever. Here there is a marked increase over the corresponding week of last year. Then there were 16 new cases with 5 deaths against 69 new cases and 11 deaths this year.

Allegations of Cruelty against Nurses of the Insane.—After examining fifty employees of the Northern Hospital for the Insane, the Illinois State Board of Charities voted that the charges of abuse and cruelty preferred by the Elgin Trades Council in a recent letter to Governor Yates were baseless. The board is charged, however, with not giving the members of the Trades Council, who have made affidavit to special cases of cruelty, proper opportunity to appear. The board had what purported to be the original charges, and made an investigation among the employees of the asylum to discover if any attendant, nurse, physician, or other official had committed any of the brutal deeds set forth in the accusing document, and each of the witnesses asserted there could be no possible premises upon which to build tales of inhumanity.

A New Medical School in China.—Recently several foreign missionary societies in this country and England agreed to establish jointly a school of high rank in China for the instruction of natives in the principles of modern medicine and surgery. In accordance with the scheme a medical college is now under construction. The cost is estimated at $50,000. Toward this the Dowager Empress has contributed about $6,000. Subscriptions are now being sought from high Chinese officials, who are expected to follow the example of the Empress. There will be a five-year course, and the school will have authority to confer the degree of doctor of medicine upon students who complete this course and pass the examination successfully. The training will be regardless of creed, but the bulk of the students at first will naturally be Christians.

Laboratory of the Rockefeller Institute.—Plans have been filed for the laboratory of the Rockefeller Institute of Medical Research, which is to be built on Exterior street, east of Avenue A. It is to be a five-story edifice, 136 feet front; with a pilastered façade of limestone and ornamental brick. The upper stories are to be furnished as general and special laboratories and research rooms, and the roof will have houses for the animals. The building will also have an auditorium hall and a library and study on the first floor. An annex will contain a two-story building for the animals, and a power-house.

Medical Society of the Missouri Valley.—The seventeenth annual meeting of this association will be held Thursday and Friday, August 25 and 26, at Council Bluffs, Iowa, under the presidency of Dr. A. D. Wilkinson of Lincoln, Neb. The adoption of a new constitution and by-laws, placing this society in line with the American Medical Associa-

tion, which is to be voted upon, will, if effected, make this one of the most important meetings in its history. The secretary of the society is Dr. Charles Wood Fassett of St. Joseph, Mo.

The American Neurological Association will hold its next annual meeting at St. Louis on September 15, 16, and 17, 1904, under the presidency of Dr. James W. Putnam of Boston. The sessions will be held at the Planters Hotel instead of at the Inside Inn, as originally planned; they will last from 9 A.M. to 1 P.M. daily. A general invitation to attend is extended to the medical profession. The secretary of the association, is Dr. Graeme M. Hammond, 58 West Forty-fifth Street, New York. The chairman of the Committee of Arrangements is Dr. Frank R. Fry of St. Louis.

Increase in Suicide in New York.—The records of the Police Department and the Health Board show an increase in the number of suicides in this city. It is estimated that the number of suicides during the first six months of the year was over 450, while 264 persons made unsuccessful attempts to take their own lives. It is reckoned that this year's total of suicides will be in excess of 900, as against 806 last year, 772 in 1902, 678 in 1901, and 743 in 1900. Out of last year's aggregate of 806 suicides, about 35 per cent. were native born, 26 per cent. were German, and less than 7 per cent. were Irish. Russia furnished about 5 per cent. of the total, England 3 per cent., and Austria-Hungary something less than 5 per cent.

Charters of Medical Colleges in Danger.—Dr. Henry Beates, President of the Pennsylvania Board of Medical Examiners, is quoted as stating that the charters of several medical colleges may be revoked because the graduates of these institutions are not sufficiently equipped for the proper practice of their profession. The statement is based upon the results of recent examinations of applicants for license to practise medicine in the State of Pennsylvania. The difficulty is attributed to insufficient preliminary education and defective methods of medical teaching.

Effort to Compel a Medical Board to Issue License.—Dr. S. DeMeyer of St. Louis has filed an application with the Circuit Court in that city asking that a writ of mandamus be issued against the State Board of Medical Examiners to compel that body to issue him a license as a regular practising physician. His application states that after the board had evoked his license he appeared at a meeting on May 3 last and asked that the action be reconsidered, but his request was denied. With his application Dr. DeMeyer files an exhibit purporting to be a resolution passed by the board, which states, among other reasons for revoking the license, that he changed the face of the license by inserting "De" before "Meyer" in his name.

Low Death Rate in Philadelphia.—For the week ended July 30 there were reported to the Philadelphia Bureau of Health 434 deaths, as compared with 482 for the previous week and 485 for the corresponding week of the preceding year. The largest number of deaths due to one cause was 84, namely gastroenteritis in children under the age of two years. Fifty-one deaths were due to pulmonary tuberculosis, and forty to diseases of the heart.

The Medical Society of the Woman's Hospital of Philadelphia was organized June 30 at a meeting of the hospital staff. Dr. Mary W. Griscom was elected president for the ensuing year.

Dr. Charles Norris of New York has been appointed director of the pathological laboratories in the department of Bellevue and allied hospitals, said appointment to date from October 1, 1904.

Illness of the Kaiser's Son.—Prince Oscar, the youngest son of the German Emperor, is said to be suffering from an affection of the throat, probably tuberculous in nature. He is now at Interlaken, where he was sent by his father, acting upon the advice of Professor Gerhardt.

Bequest to Hospital.—By the will of the late Mrs. Marie L. Gage of Philadelphia the sum of $5,000 is bequeathed to the Presbyterian Hospital in memory of her husband.

Changes in Medical Faculties.—Profs. Orville E. Brown, Elias P. Lyon, and Chas. H. Neilson, of the Department of Physiology of the University of Chicago, have resigned to accept similar positions on the Faculty of the University of St. Louis.

Will of Dr. N. S. Davis.—The will of the late Dr. N. S. Davis disposes of an estate valued at $39,000, of which $25,000 is real estate. The homestead is bequeathed to his widow, his library to his son, and a perpetual scholarship in Northwestern University to his grandson, Frank H. Davis.

Dedication of Kewanee Hospital.—The new St. Francis Hospital, Kewanee (Illinois), which has been erected at a cost of $100,000, was dedicated on July 24 with impressive ceremonies. The dedicatory address was delivered by Bishop Spalding.

Opening of a Tuberculosis Hospital.—The new hospital for the treatment of consumptives at Dunning was turned over to the officials recently, and a little later all the patients in the old building were transferred. The new hospital consists of five cottages, and will accommodate one hundred and sixty patients. The old building is to be used as a hospital for the sick insane.

Work of a Nurse Association.—The report of the Visiting Nurse Association of Chicago for the month of July shows that 798 patients were attended and 3,679 visits made. The principal cases treated were consumption, typhoid fever, and children's diseases. The work of the association is greatly hampered by lack of funds, more nurses being needed at once.

New Building for Cripples.—Mrs. R. H. McElwee of Lake Forest (Illinois) has donated a new building to the Home for Destitute Crippled Children. The gift will be in the form of an extension to the present structure, and will cost from $30,000 to $40,000. The work of construction will begin soon. The institution as it stands affords accommodation for thirty-five or forty crippled little ones, but even with that limited number its wards are overcrowded. The new wing will house eighty more.

Manufacture of Liquid Air.—Demonstrations in the manufacture of liquid air will be given at regular intervals in the Department of Liberal Arts at the World's Fair. The experiments will be conducted by the British Royal Commission in a building erected for that purpose and lectures will be given twice a week. The plant is a reproduction of the one used by Prof. James Dewar in his extreme low temperature researches at the Royal Institute, London.

Obituary Notes.—Dr. H. S. TORRANCE of Cripple Creek, Colo., was killed recently in a railway accident near Cameron, Colo. He was born in 1869 and was graduated from the Medical Department of the University of Pennsylvania in the class of 1891. He was a member of the Colorado State Board of Health, to which he was appointed in March, 1902.

Dr. GEORGE V. WENNER of Milford, N. J., died July 19. He was forty years of age and was a graduate of the Medico-Chirurgical College of Philadelphia in the class of 1896.

Dr. D. H. BADGELY died at his home near Cin-

cinnati on July 21, at the age of seventy-eight years. He was a pioneer and one of the early settlers in the vicinity of Cincinnati.

Dr. Henry M. Wetherill died in Philadelphia on July 28 at the age of fifty-two years. He was a graduate of the Philadelphia College of Pharmacy and of the Medical Department of the University of Pennsylvania in the class of 1877. He subsequently became a resident physician in the Philadelphia Hospital and the Pennsylvania Hospital. He had for several years been secretary of the State Board of Lunacy and Charity.

Dr. John W. Morrison died at Cochranville, Pa., on July 26 at the age of ninety-three years. He had been engaged in the practice of medicine for sixty-five years, was Surveyor of the Port of Philadelphia under Professor Buchanan, and the only surviving member of the Thirty-third Congress. He was president of the Parkesburg National Bank.

Dr. Albert P. Fulkerson died at his home in Lexington, Mo., on July 28. He was born in Lee County, Virginia, in April, 1836, and came to Missouri in 1855. During the Civil War he served as surgeon in Parson's Brigade of the Confederate Army. His wife, two sons, and a daughter survive him.

Dr. Richardson B. Okie died at Berwyn, Pa., on July 30, at the age of fifty-four years. He was graduated from the Medical Deparment of the University of Pennsylvania in 1870.

THE BRITISH MEDICAL ASSOCIATION.

The seventy-second annual meeting of the British Medical Association was held at Oxford from Tuesday to Friday of last week, July 26 to 29. Through the courtesy of the editor of the *British Medical Journal* we are enabled to present abstracts of the general addresses in advance of the special report prepared for us under the direction of our London correspondent.

The Growth and Development of the Oxford Medical School.—This was the subject chosen by the president, Dr. William Collier of Oxford. He reviewed the history of the Oxford medical school, in which great changes had occurred since the last visit of the British Medical Association to Oxford, in 1868. The members of the association took a keen interest in the school and took active measures to bring about many changes. In 1880, when the association met at Cambridge, Sir George Humphry, the then president, urged that the department of medicine be given its full share of attention. He pointed out that originally the Faculty of Medicine had been placed on a par with those of Divinity and Law, and the provisions for teaching and graduating in all these faculties had been made alike. The College of Physicians in London, founded by the influence of Linacre, with the privilege of licensing practitioners throughout the kingdom, became in time the succesful rival of the old Universities of Oxford and Cambridge. As the influenee of the London College increased, little was left to the universities beyond the function of giving a preliminary training to the few who could avail themselves of it. In other countries the only avenues to medicine are the universities. In 1878 an anonymous letter was published complaining bitterly of the way in which the study of medicine was entirely overlooked at Oxford, and the controversy thus started was carried on with vigor for months. Some were very anxious to establish a complete medical school. The British Medical Association took up the question and adopted a memorial in which was urged the immediate constitution of a thorough medical curriculum, at least in the subjects of anatomy, physiology, general pathology, materia medica, clinical medicine and surgery for beginners, and state medicine, including medical jurisprudence and public health. This memorial was signed by upward of 2,000 members, and a little later another petition of similar import, signed by a different body of men, many of them London teachers, was drawn up. In November, 1882, Burdon Sanderson was appointed to the Chair of Human Physiology and Histology at Oxford, and this was the first step toward the establishment of medical education in Oxford on modern lines. Laboratories and lecture-rooms were then built for the professor of physiology. In 1885 the Faculty of Medicine was re-created, and Arthur Thomson was appointed Lecturer in Anatomy. In a year or two the lectureship was converted into a professorship. In 1886 a statute was passed by which students in natural science were exempted from the first public examination in classics known as Moderations. This enabled medical students to devote their first year at Oxford to the study of preliminary subjects in natural science. In 1891 Henry Acland inaugurated a new department in bacteriology, and in 1895 Sir John Burdon Sanderson succeeded Henry Acland in the Regius Professorship, Gotch taking Sanderson's chair. In 1896 Jerome was appointed Lecturer in Pharmacology and Materia Medica. In 1898 a decree was passed empowering the university to spend £7,500 in erecting new laboratories and lecture-rooms for the study of botany and comparative anatomy. In 1901 the new pathological laboratory was opened. Various friends of the university gave generous donations, and the Drapers Company presented the magnificent medical library. An excellent eye hospital now exists in the city, due to the efforts of Mr. Doyne. The present condition of the university shows how generously the former requests of the association have been complied with. The orator then spoke of the many brilliant names that have been associated with the university and of the influence of the school. John Radcliffe, he said was, of all, the greatest benefactor. He was born in 1650 and died in 1714. During his life he gave largely to his old college and to several charities, and at his death he left by will his Yorkshire estate to the Masters and Fellows of University College forever, to be held in trust for the founding of two Radcliffe travelling fellowships, the overplus being paid for the purpose of buying perpetual advowsons for the college. In addition he left £5,000 for the enlargment of the college and £40,000 for the building of a medical library. With money derived from his estates, two other buildings were erected in this city by his trustees, the Radcliffe Infirmary and the Radcliffe Astronomical Observatory, and money was further granted toward the building of the College of Physicians in London. The Radcliffe Library in Radcliffe Square, completed in 1747, is one of the most conspicuous buildings in the city. It was in this building that the first meeting at Oxford was held in 1835, on the third anniversary of the organization of the British Medical Association. Sydenham, Matthew Lee, Lord Litchfield, and George Aldrich were other noteworthy benefactors of the Oxford School in times past. In conclusion, Dr. Collier recalled the previous meetings of the association in Oxford, in 1835, 1852, and 1868.

The Sanitary Needs of the United Kingdom.—Sir William Selby Church took as the title of his address in medicine "Our Sanitary Needs, with Special Reference to the National Health." He referred briefly to the position in which medical knowledge stood in 1868, the last time that the British Medical Association met in Oxford. Up to that time the conceptions of the causes of morbid changes in the

body had not undergone any great modification from the views held by the originators of pathology—Morgagni, Hunter, Baillie, Carswell, and others. Knowledge of the infective processes leading to inflammation and suppuration did not really exist at that time. As to the specific fevers, their symptoms and course as well as the circumstances under which they occur had been thoroughly recognized and worked out, although the true nature of the specific poisons on which they depend was not known. It was in the year before the Oxford meeting that Lister at Dublin read his paper on the "Antiseptic Principle in the Practice of Surgery," founded on the results of his treatment of compound fractures, abscesses, and wounds, during the preceding three years. The infectivity of tuberculous matter began to be generally recognized at this time. But it was a wide gulf that separated the medicine of the present day from that of our immediate predecessors. William Gull, in speaking of infectious diseases, said "that they spread by emanations from the sick must have been long known, and that such emanations are of a solid nature we may infer from the fact that they may be dried and conveyed from place to place, but in what state, whether as amorphous material or as germs, we know no more to-day than was known a thousand years ago." Now we are acquainted with the specific organisms which are the *causa causans* of many of the febrile diseases, and can safely assume that the others in which we have not yet discovered the microorganisms are due to a similar agency. It was the adaptation of Pasteur's work and discoveries to Medicine, and Koch's demonstration of the bacillus of tubercle in 1882, which led to the revolution which has taken place in our conceptions of the nature and cause of many forms of disease. The writer then touched on the subject of immunization and the phenomena presented by the agglutinative, bactericidal, and hæmolytic properties of the blood serum under certain conditions. In the realm of physiology, another important step was taken when the connection between the group of symptoms called myxœdema and disease of the thyroid gland became known. The brilliant results following the administration of the thyroid gland or its extract in myxœdema raised hopes that the administration of other glandular extracts would be beneficial in those conditions in which it appeared probable that there was some defect in an internal secretion. These hopes, however, have not yet been realized. The writer then suggested that possibly the problem was not the simple absence of a normal secretion, but rather the presence of a vitiated secretion acting injuriously on the organism. Oliver had shown the remarkable effects produced on the blood pressure by the administration of small doses of creatinin, uric acid and its compounds, glycogen, xanthin, and the purin bodies contained in food. Equally active depressors of arterial pressure were found in bodies so closely allied by chemical composition to those which increase it, as creatin, hippuric acid, and hypoxanthin. Tropical medicine was next considered. The natural history of malaria and yellow fever had been slowly worked out, and the results of sanitary work in this department were very striking. That done by the authorities of the Suez Canal had already borne fruit, as shown by the fact that the attacks of malaria, in a population consisting of about 1,900 or 2,000 Europeans and 7,000 natives, have fallen from 2,089 in 1897 to 209 in 1903, and the mortality had correspondingly lessened. The expense of the work had been comparatively small. Sleeping sickness and various other tropical diseases had also more or less completely yielded up their secrets. Turning to the main subject of his address, Dr. Church said that the exact knowledge, based on scientific research and demonstration, now possessed of the cause and nature of disease had greater influence on preventive or State medicine than on clinical treatment. He believed that legislation at the present time was in advance of administration, and it was not so much fresh legislation that was needed as the simplification and codification of the existing laws. The administration of the law could not be much in advance of the knowledge and feeling of the public. Medical officers of health throughout the country, although they gave full credit to municipal and other sanitary authorities for good work which had already been done, were still fully aware of the great ignorance shown by the majority of the population concerning the principles upon which the public health depends, and of the crying need of educating the general public to the proper appreciation of the fundamental principles of sanitary science. The increase of knowledge in these lines had made it necessary for those who held important positions in connection with preventive medicine to have special preparation for their work. The orator then called attention to the necessity for supervision of the sale of food. At present the maker of foodstuffs sold under a fancy name was not obliged to submit to any authority the nature or proportion of their ingredients It was only after the article had been placed on the market that any control could be exercised by samples being taken for analysis. This gave but little indication of the suitability and value of the preparation as a food. Greater power should be placed in the hands of the health authorities. Because the necessity for sanitary regulations was so much greater in large towns, the sanitary methods appropriate there are considered by the public as the only ones, but when they were imitated in rural districts they were productive of great loss and harm to the community. Small towns often expended large sums in systems of sewers and sewerage works, which necessitated the introduction of water-works entailing another great expense. The interest of the money thus spent would in many instances have provided for the expenses incident to a proper system of scavenging. Air and light were the greatest enemies of the disease-producing microbe. But what chance had the microbe of being destroyed by these agencies in the piles of brick and mortar which were now built around central wells? Overcrowding was also one of the sins against sanitation so prevalent in this age. Whether it concerned single houses or localities, it should be more stringently dealt with; sanitary authorities, guided not by theories of disease, but by facts capable of scientific demonstration, should have the power to restrain both individuals and public bodies from perpetuating and increasing evils which were threatening the welfare and prosperity of the nation. Finally, Dr. Church urged that the association should use its influence to impress both the public and the Government with the desirability of a physical census of the nation being taken now and then, and with the necessity for the registration of the physical condition of the children on whom the future of the country and the empire depended.

Address in Surgery.—Sir William Macewen took as the first subject of his address the "Cerebral Invasion of Pathogenic and Pyogenic Organisms." He said that prior to the advent of cerebrospinal surgery in its later development, abscess of the brain was regarded solely as of a pyæmic nature, occurring by metastasis, and, owing to the aberrant manner in which abscess formed, its localization was regarded as impossible, except in the few instances in which

abscess happened to occur in parts which gave rise to functional manifestations. Some were inclined to believe that, even when abscess occurred as secondary to a primary pyogenic cranial lesion, the brain abscess was equally due to a pyæmic manifestation, and accordingly could occur at any part of the brain, distant from, and without relation to, the primary lesion. Later, however, this view was changed. It had been shown that in a large majority of cases in which abscess of the brain had formed from primary foci on the exterior of the skull, the abscess was situated in direct contiguity with the infected structures. Anatomical features generally determined the direction taken by the pyogenic organisms which passed to the brain from the primary focus. The orator stated that he had never seen a case in which brain abscess occurred by pyogenic organisms traveling by way of the internal auditory meatus. This would not be likely to occur from the anatomical features of the parts. The brain was separated from the original pyogenic focus by the whole length of the internal auditory canal. The expansion of the cerebral membranes ensheathing the nerves in the canal, however, dipped right into it. On this account leptomeningitis was set up in the canal, and from there spread over the basal membranes. Often there were collections of pus in the meshes of the pia and arachnoid, and sometimes they produced a softening and ulceration of the surface of the brain—but not cerebral abscess. He next considered tubercle of the middle ear extending to the brain with intact membrana tympani. He had personally seen ten cases of tuberculous meningitis in which the middle ear was involved without perforation of the tympanic membrane. He gave a brief history of these cases. It was possible, even on post-mortem examination, in cases in which extension to the cerebral membranes had taken place, by way of the internal ear or the sigmoid sinus, to overlook the channels of extension, on casual examination of the interior of the skull, and so the primary focus might remain undiscovered. Patients who were suffering from tubercle of the middle ear, with rupture of the tympanic membrane, were subject to secondary pyogenic invasion. This ran a rapid course, for the pyogenic organisms found abundant food for their development. There was still another way in which tubercle of the mastoid might menace life—by dissemination through the sigmoid sinus to other parts of the body. The orator noted one case of rapid illness from tubercle, resembling an acute infective disease in its rapidity and fatal termination, in which general miliary tuberculosis was found in the lungs and some of the other viscera. Both mastoids were filled with granulation tissue. There was an aperture in the right sigmoid sinus, which was in direct contact with caseating tubercle.

A Respiratory and Cardiac Reflex Induced by Peripheral Impression on the Pudic Nerve.—The speaker made some interesting observations in regard to the recognition of a respiratory and cardiac reflex induced by peripheral impressions on the pudic nerve. He recalled a case in which an alarming spasm of the glottis took place at the moment when the sphincter ani was stretched preliminary to the removal of hemorrhoids. The patient was, of course, anæsthetized. At the time it was thought that the anæsthetist was at fault in not having placed the patient sufficiently under the influence of the anæsthetic. But it was learned later that, however deep was the anæthesia, this reflex, though modified in degree, was present. Besides being induced by the stretching of the sphincter ani, it could also be caused by painful impressions upon the external genitals, and even upon the perineum and lower gluteal region. Sir William Macewan believed that impulses from almost every sentient surface might modify respiration. The heart also participated in this reflex through the vagus, but the effect upon it was seldom the prominent feature. It was, in reality, generally very slight. All of these reflex phenomena, due to stimulation of the pudic nerve, might be prevented or greatly lessened by local anæsthesia induced a little previous to the administration of the general anæsthetic.

The Choice of Suitable Material for Ligatures and Sutures.—The orator then devoted considerable time to the consideration of material for ligatures and sutures, and the requirements of the living tissue relatively to them. Aside from being physically fitted to perform its function, such material needed to be rendered aseptic; and further to comply with a physiological test. It must remain in the tissues until its object had been accomplished. After that had been attained, it should be quickly removable by absorption. It was well known that sterilized silk was practically non-absorbable. It was very resistant to the action of the tissues, during long periods. Silk-worm gut and hair were proof against absorption, and had been found at the end of five and even seven years after their introduction, quite intact, with their surface still smooth. Deer and kangaroo tendons, although they were absorbable, were resistant to the action of the tissues—often for months. It was well known that it was difficult to promote absorption of a sloughed tendon exposed in a wound. Long after the surrounding soft tissues were ready to unite, the presence of dead tendon would prevent their doing so. The orator believed that catgut was one of the best substances generally available for sutures and ligatures, but good material must be chosen. One of the best media for the preparation of catgut was obtained by adding an aqueous solution of chromic acid to glycerin. For ligatures and sutures raw catgut ought to be selected. Those pieces were best chosen which presented the best physical properties and showed care in their manufacture. It was clear that any further preparation would not remedy the original defects. Consequently, the most perfect specimens were the only ones that should be used. Poor specimens might be known by their want of strength or their roughness. The resistance necessary would depend upon the use to which the catgut was to be put. On this account, it was prepared with various degrees of resisting power. Some hanks were designed for rapid absorption, and some were intended for resisting the action of the tissues for longer periods. A precaution that should be observed was in regard to hardening. The gut must not be so hardened that it would prevent the penetration of leucocytes—otherwise it would be too resistant, and thus might not be superior to silk or even wire. The compound of chromic acid and glycerin above mentioned was found to act upon the catgut by increasing its resistance to the action of living tissue. The action of this compound produced a soft and pliable catgut, and the degree of resistance of the gut could be varied according to the length of time it was kept in the solution. The longer it remained in the solution the greater its resistance became. After it was prepared in this way it was stored in a solution of carbolized glycerin. After a fortnight's stay in the storage solution, it was ready for use. It might be kept in the storage solution for a long period—for months or years, and it then became slightly more resistant to the tissues. It must be remembered that if the crystals of chromic acid were added directly to the glycerin an explosion or violent

ebullition would take place. To avoid this an aqueous saturated solution of chromic acid was first made, and this was added to the glycerin in definite proportions as follows: (*a*) Chromic acid 1 part to 5 parts of water. Dissolve thoroughy and use only the clear solution. (*b*) Take one part of a solution to 5 parts of glycerin. After preparation this compound was at once poured over the loose catgut, previously arranged in a suitable vessel, all air balls which adhered to the gut being carefully removed. The catgut remained in this solution from one to ninety-six hours, as desired. It was then removed, rinsed in sterile water, stretched, and wiped with a sterile towel. It was then wound on rods and preserved in a storage solution composed of 1 part of carbolic acid to 5 parts of glycerin. The gut after steeping for a fortnight in this storage solution was ready for use. If the catgut was not wanted for immediate use, but six months or a year later, the storage solution could be made weaker, 1 part of carbolic acid to 20 parts of glycerin. Just before the catgut was to be used for a stitch or ligature, it was removed from the storage solution and dipped into absolute alcohol. This removed the superfluous glycerin. It might be dipped into sterile water for this purpose, but such a process softened the gut, and this was not desirable. It was no longer necessary, the orator concluded, to disturb the patient by dressing in order to remove sutures which, after they had served their function, would be silently and perfectly removed by the activity of the living cells in the patients' body. A wound which, while being made, was painless and remained so throughout, healed without inflammation or the production of pus, and under the dressing applied at the time of the operation, was ideally perfect.

The Nucleus in Malignant Neoplasms.—Peter Paterson's attention was first drawn to this subject by noticing the peculiar appearances presented by many of the nuclei in a carcinoma of the kidney, in which, owing to the protoplasm of the tumor-cells having undergone a colloid change, the tissue was specially suited for observations on the nucleus. Sections show a number of nuclei throwing out processes like pseudopodia. In some cases these projections are the first stage in the formation of daughter-cells by budding, but in others they are the beginning of a migration of the nucleus from its cell. Such a process reaches the cell-wall, through which it forces its way, and gradually the whole uncleus follows, thus leaving the cell without a nucleus, if it only contained one originally, though a considerable number of the cells possess two, derived usually from the primary nucleus by budding or fission. This wandering body is then found either in an adjacent cell or among the supporting fibrous structure of the tumor, where it may produce daughter-nuclei and become the center of a new cell formation, or it may coalesce with another similar nucleus. Coalescence takes place either directly or by means of a long process. The newly formed nucleus is large and deeply staining. Sometimes several nuclei fuse. Coincident with these phenomena, other nuclei are proliferating by mitosis. Some of these, when about to divide, extrude a small part of their chromatin substance. This part may grow till it resembles a lymphocyte. This extracted part gradually becomes separated from the dividing nucleus. It would almost seem that the process is analogous to the formation of polar bodies and the union of sexual elements, but in the case of malignant tumors the resulting nuclei are only able to reproduce cells similar to those from which they originated. As to what is the exciting cause of this alteration in the character of the nuclei, the writer can offer no definite opinion, but it seems more of histological than of a bacterial nature.—*The Practitioner.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CANCER RESEARCH FUND; ANNUAL MEETING—THE LIVERPOOL FUND—DR. WOLFF'S CANCER STATISTICS—TREATMENT OF CANCER, TWO REMARKABLE CASES—OBITUARY NOTES.

LONDON, July 15, 1904.

YESTERDAY the Queen went to the East End to inaugurate the flower show of the East London Horticultural Society. The proceeds of the show are to be given to the London Hospital.

The Prince of Wales presided over the third meeting of the General Committee of the Cancer Research Fund at Marlborough House when he announced that the King had approved of the fund being known in future a the "Imperial Cancer Research Fund." This recognizes the determination of the committee to extend the work as far as possible, and has the further advantage of distinguishing it from other organizations which were contributing very valuable investigations but are more local in their scope and perhaps more limited in their resources.

The report presented showed that investigations have been conducted on an extensive scale, and that the disease has been proved to pervade all classes of vertebrates and present constant characteristic features in them all, but is only transmissible from one animal to another of the same species. The extent to which cancer pervades the animal kingdom excludes numerous circumstances which have been suggested as possible causes, such as geographical surroundings, geological formation, climate, food, and other things which have been more or less loosely indicated. No sign has been discovered by which its presence can be surely detected; the circumstance which first causes a suspicion being too often a consequence. The report gravely counsels the public and the profession not to delay surgical aid, no attitude being "more strongly to be deprecated than that of procrastination—waiting for definite evidence of the cancerous nature of a suspicious growth."

The treasurer's report showed a further encroachment on capital and the annual expenditure is increasing. From the outset the promoters realized that the capital ought to be at least £100,000 and this has not been attained. Up to the present only 328 individuals and ten city companies have subscribed. There seems to be an impression that a few wealthy men will find all the money required, but this is not the fact and small gifts will be most helpful. The treasurer suggests collections by (1) ladies interested on account of the ravages of the disease on their sex; (2) large business and manufacturing firms; (3) colliery owners, so many of whose employees become victims. It is also suggested that insurance companies have pecuniary interests in the research and that the municipal corporations might legally and justifiably assist.

The views stated in the report are also largely the same as those entertained by the Liverpool Cancer Research Fund, the director of which, Dr. Grunbaum, has recently issued a letter to the press urging the importance of seeking advice immediately anything wrong is noticed. He mentions that certain organs are more affected than others; in men, the gullet, stomach, and intestines; in women, the breast and womb, which account for two-thirds of all the cases of cancer. Of course, these organs are also subject to other diseases, some of them of little importance. Dr. Grünbaum says his committee feels that it cannot too strongly state how important it is that the disease should be recognized at the earliest possible moment, and this recognition can only be attained by the patient going to his or her doctor for examination at the very beginning of illness.

With regard to the influence of the environment, I may say the conclusion stated in the report is not supported by the statistics collected by Dr. Alfred Wolff, who published them last year in the *British Medical Journal*, and has added to them in the current number. In England, France, and Germany he finds indications that geographical conditions play no small part in determining the incidence of cancer. In England, he says the distribution has always been patchy. It is difficult to explain this, but he suggests that the small size of the kingdom, involving considerable similarity in the conditions of life and in the distribution of natural features, such as wood and water, may have some influence. A similar patchy distribution obtains in Holland. It is otherwise in France where the high cancer mortality is mostly comprised in the northern third of the country.

In Germany and in France, thickly wooded, well-watered regions show a heavy death rate from cancer, and these new statistics seem to confirm the view previously expressed by Dr. Wolff, that a combination of woods with much water, running or stagnant, constitutes an environment, in which cancer will be prevalent, although the

mode of life of the inhabitants must also exercise an influence. The cancer death rate along the shores of the Mediterranean is low, so that climate may possibly have some influence in preventing the disease, though it is just as likely that some other explanation may be the true one.

To the foregoing I will add a note from another point of view—treatment. In the July number of the *Journal of the Royal Army Medical Corps*, two cases of inoperable cancer are recorded by Colonel Ligertwood, C.B., M.D., and Dr. J. A. Shaw-MacKenzie. They were treated in the Royal Hospital, Chelsea, with much relief and even apparent arrest. The first was cancer of the tongue of seven months' duration in an old soldier of seventy-three. He was treated with subcutaneous injections of soap solution as first proposed by Dr. Webb of Melbourne. Marked cessation of pain and of all factors, followed with diminution of growth, etc. Unfortunately the patient had advanced cardiac disease, from which he died, though the cancer was still receding.

The second case was epithelioma of the neck in a soldier of seventy-three. There was a hard, fixed mass, ulcerating in places; over the sternomastoid, great pain and dysphagia. The head was tilted on one side. He was treated with sterilized subcutaneous injections of chian turpentine in olive oil—5-minim doses of a three-per-cent. solution. Some reaction occurred when the dose was increased. Ulceration decreased, the discharge became purulent with no factor, the head could be moved again, dysphagia ceased and the mass diminished in all directions. The patient was in the convalescent ward in a month and goes out continually.

You will remember that chian turpentine was extolled some twenty-five years ago by Professor Clay of Birmingham as a remedy for uterine cancer. He gave it by the mouth. I well remember that for years it was freely tried but it fell into disuse. If other cases should be as successful as this, Colonel Ligertwood and Dr. Shaw-MacKenzie will have done well to reintroduce it by a more active mode of administration.

The death of Mr. John Birkett, ex-president of the Royal College of Surgeons (1877), which occurred on the 6th inst., severs a link with the long past, for he was in his ninetieth year and had retired from practice for a long time. He was a Guy's student and became a Guy's surgeon and consulting surgeon in due course. He was elected F.R.C.S. in 1844 and took the Jacksonian Prize in 1848. He was Hunterian Professor at the college, an examiner in surgery at the sister college and the University of London. Other offices and honors fell to his lot in due course. For many years he also held the appointment of Government Inspector of Anatomy. Mr. Birkett was not converted to antiseptic methods, but he may be regarded as a pioneer of asepticism, as he was most careful in preparing for operations by the minutest details of perfect cleanliness. He was a skilful and successful operator. He contributed to Holmes' "System of Surgery" the article on this subject, on which, also, he wrote in "Guy's Hospital Reports," of which he was for a time editor.

From British East Africa comes news of the death of Dr. Harold Edward Mann, medical officer of the Protectorate, at the early age of thirty-nine. He qualified in 1887 at the two colleges and took the Public Health Diploma in 1892. He was a St. George's student and afterward served as an assistant registrar at that hospital. Subsequently he took office under the Asylums Board as one of the assistant medical officers, in which capacity he worked for about five years. After that he secured an appointment to East Africa.

Dr. Unsworth, whose death is reported from plague at Zagazig, was a British officer in the service of the Egyptian Government. He was a St. Thomas's student and took the double qualification in 1899, subsequently serving as house surgeon and clinical assistant at his hospital. He was afterward an assistant medical officer at the Paddington Infirmary. Eventually he went to Egypt as an inspector in the sanitary service, Cairo.

Dr. Wm. A. McKeown, surgeon to the Ulster Eye, Ear, and Throat Hospital, and lecturer on ophthalmology and otology, Belfast College, died on the 9th inst., aged sixty. He was M.D., M.Ch.R.U.I. 1869, taking first honors and the gold medal. Before settling in practice he also studied for a time in Paris and London. He was on the Senate of his university and president of the Ulster Medical Society. He wrote a treatise on "Unripe Cataract," which contains tables of 152 cases, and contributed many papers to the medical societies and journals—chiefly on subjects connected with his specialty.

Norman Bruce Elliot, M.D., F.R.C.S., M.R.C.P., Barrister-at-law, died on the 4th inst. He took his first diploma in 1872. His fellowship in 1877 at the College of Physicians and M.D. in 1901.

Alfred Smith, L.D.S., 1880, surgeon to the National Dental Hospital for the last twenty-two years, died on the 6th inst.

Dr. John M. F. Scatliff of Brighton, died on the 3d ult., aged fifty-three. He was surgeon to the Brighton Throat Hospital and formerly physician to St. Mary's Hospital in the same town. He also held other appointments.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

PHYSICIANS' ACCOUNTS—THE 1902 HEALTH REPORT FOR PRUSSIA AND FOR BERLIN—DECREASE OF THE CYSTICERCUS—GOLDSPOHN'S OPERATION—ABSENCE OF SPERMATOZOA—A CASE OF RENAL DIPHTHERIA.

BERLIN, June 25, 1904.

In an earlier letter I wrote that efforts for bettering the economical status of physicians on salaries were in operation, and now I have to mention a subject which interests particularly Berlin physicians, namely, physicians' accounts. For a long time it has been the custom in Germany for a physician to send his bill on the first of January following the date of his services. While in the smaller towns, because of the ease of identification, this signifies only a loss of interest, in the larger cities, through this method large sums are lost, since many patients often cannot be found. There are very few patients so grateful but that after a time they forget their pain, and consider even the smallest account from a physician too much. Therefore the association of physicians of the suburb of Oranienburg has proposed the passage of the following regulations by all the Berlin associations. (1) Physicians' accounts must be sent not later than three months after conclusion of the treatment. (2) Notes and promises from private individuals should be in the form of sight drafts. (3) Night calls on unknown persons are to be paid for at the time.

As Berlin in these matters stands at the foot, so, according to the recently published health report for 1902, it stands among the foremost of all the cities in the empire in that it has the smallest death rate. In all Prussia, in 1902, the mortality was the lowest since 1875, probably as the result of a cool summer, and also as the result of the decrease in the number of births. In the almost universal decrease in the birth rate in the last quarter of a century, Berlin shows the greatest change. The birth rate here fell from 46 in 1876 to 25.53 in 1902. For this reason the greatest city in the land has also the smallest death rate. While in the province of Schlesin the death rate is 23.35 per 1,000 inhabitants, in Berlin it is only 15.90, and this in spite of the very high infant mortality. If one compares the death rates of the twenty-two Prussian cities of more than 100,000 inhabitants, Berlin is found to hold the seventh place, surely very creditable. As far as child mortality is concerned, 1902 was a very favorable year, for it showed a notable decrease in almost all the large cities. Berlin, in spite of its great child mortality, was surpassed only by Dantsig, Stettin, Breslau, Magdeburg, and Aachen.

An interesting report is that of the society for the relief of accident cases for the year 1903, seven hundred and seventy-six persons applied to the bureau for instruction and information for the preparation of complaints. The chief part of the work is in the brush factory which now supports itself, its sales, amounting to 48,700 marks, having more than doubled recently. Therefore it is to be expected that this philanthropic association will soon be able to enter the much larger field of furnishing employment for those who are still more incapacitated than are those able to work in the brush factories.

It is hardly possible to depict the results of social philanthropy more clearly than did Hirschberg in the Medical Association in his address on the decrease of diseases caused by the cysticercus. An instance of the decrease and practical disappearance of a disease in the course of the last hundred years is seen in the leprosy of Europe. But the speaker had himself noticed in the case of the cysticercus that a disease may disappear even in the course of a generation. The cysticercus cellulosus was very common in Berlin in the middle of the last century. According to the observations of Graef, from 1853 to 1866, among 80,000 cases of eye disease there were 90 of cysticercus; from 1869 to 1885, among 60,000 cases, 70; from 1886 to 1894, among 73,000 cases, the speaker saw cysticercus of the eye only three times, and 2 of these 3 patients came from abroad. Between 1895 and 1902, among 65,000 cases, no cysticercus has appeared. The cause for this decrease is in the careful inspection of meat, and in the vigorous efforts made for more healthy animals. Tænia solium has, according to statistics, very greatly diminished in Germany—indeed it has hardly been noticed in Berlin in recent times.

Kossmann's paper on the Goldspohn operation, read in the Medical Association June 1, is of great practical value,

and the more so, because of the usual lack of success of operations for the relief of symptoms. Although formerly complicated cases of retroflection were not considered common, conditions have so far changed that retroflexion complicated with adhesions is now considered common, and the symptoms are recognized as depending on the adhesions. Goldspohn, choosing from the three methods, ventrofixation, vaginal or vesical fixation, and the Alexander-Adams' operation, has modified the last. He widens the inguinal canal on each side, so that with the finger behind the uterus, counter-pressure being made in the vagina if necessary, the adhesions can be loosened. An adequate shortening of the round ligaments hold the uterus, now freed from its adhesions, permanently in its normal place. Kossmann performed this operation frequently since 1899, with very good results. Duhrssen, the father of vaginal fixation, said that if one closed the peritoneal wound separately, as he had done for ten years, there could be no adhesions with the abdominal or inguinal wounds, and no disturbance would result during a subsequent labor. In the second place, by anterior colpocœliotomy one could observe the fundus of the uterus and also the posterior wall, even into Douglas's pouch, better than by the Goldspohn operation.

That the vaginal opening of the abdominal cavity in the hands of a skilful operator is certainly very easy, Duhrssen showed in three cases. (1) He showed dropsical appendix adherent to a right-sided pyosalpinx, which, by a complete vaginal castration, were removed together. (2) Through anterior colpocœliotomy, a tubal pregnancy in the fourth month, which had developed under the retrodisplaced uterus and the left adnexa, was removed, in spite of the fact that the sac burst. (3) In a woman five months pregnant the posterior vaginal wall was opened by a small incision, then the peritoneum of Douglas's pouch, and, with the aid of mirrors, the under side of a parovarian cyst, as large as a child's head, was engaged, punctured, emptied, the sac pulled out with forceps, and, after ligature of the pedicle, removed.

Henkel, before the Obstetrical and Gynecological Society on May 27, in his address on conservative surgery of myomata, advocated in general the abdominal route, because of the better view obtained by the operator. Of the women who had been operated upon there came for examination forty who had had myomata enucleated, and fifty who had had supravaginal hysterectomy. The latter operation prevented in great degree (80 per cent.) the appearance of prolapse. Among those who had undergone myoma enucleation, there were but five without symptoms. Lest the poorly nourished myoma capsule should cause difficulty, the speaker recommended its removal, and great care in bringing the well-nourished surfaces of uterine substance in apposition. The much-feared sarcomatous degeneration of myomata had been seen but once in thirty operations in Ölshausen's clinic, of which the speaker is chief, in the year 1903. Carcinoma is independent of myoma, and their appearance together is easily understood because both appear most commonly in the same period of life—that is, between forty and fifty years.

In the section on genitourinary diseases, on June 6, in the General Medical Association, a paper on diagnosis and treatment of azoöspermia was read by Posner and J. Cohen. The speakers stated that it has been for a long time known that disease, by blocking the seminal passage, might result in injury and inflammation, especially in the cauda epididymis. To-day we know that gonorrhœa is the chief cause, and a very common one. When called upon to treat a case of supposed sterility in a woman, one should always bear in mind the possibility of absence of spermatozoa in the man, and must not be deceived by the histories, for out of thirty-five cases occurring within three years, three men under oath denied former attacks of gonorrhœa. Usually no knots are to be felt when a hydrocele is present, but after puncture of the sac they are very evident. For curing azoöspermia, according to Fürbringe, it is first to be determined whether the apparently normal testicle contains spermatozoa. In several cases Hahn found for the most part only non-motile threads, but Fürbringe showed that motion was first given the cells in going out from the prostate.

The question of making an anastomosis between the testicle and the vas deferens was first suggested by Badenheuer in 1886, and then taken up by a pupil of Durant, and by Rasmowsky. Four Americans, Martin, Carmet Levy, and Pelling, through establishing such anastomosis, have succeeded in causing full restoration. The speakers in similar cases have not succeeded in the operations undertaken. They indeed treated the whole question because they believed that a complicated but successful operation could perhaps be planned out from another point of view, and accomplished with better success. Perhaps one would attain better results if the operation was done very early.

Krause has recently reported the marvellous success of an operation for diphtheria of the kidney. On account of slight cystitis, catheterization of the ureters was performed; the urine from the left was normal, but from the right no urine was obtained. The opening of the right catheter was filled with a greasy mass which proved to be necrotic tissue, and contained no bacteria. Since the pulse was almost imperceptible, the temperature 41°C, and repeated chills had occurred, the right kidney was exposed. The organ was not enlarged, and except for a cloudy parenchyma showed nothing abnormal. The pelvis, however, was filled with a greasy mass, which seemed to be a combination of necrotic tissue and uric acid deposit. For fear of infecting the peritoneum, the kidney was kept outside. On the next day the patient still had a high fever. During the twelve hours before the operation only 305 c.c. of urine were passed; the following twenty-four hours the amount rose to 950 c.c., and then to 1300 c.c. On the eleventh day the patient was without fever. The kidney had slipped back into place, and granulation tissue had almost completely taken the place of the foul deposit in the pelvis. During the following weeks a small fistula developed. Ten weeks after the operation, the kidney functionated, although but slowly. The large amount of albumin at first found in the urine of the right kidney had in the course of the last month decreased to a mere trace. The etiology of the disease could not be understood. The insignificant cystitis certainly was not a sufficient cause.

THE OVEREDUCATED WOMAN AND THE RACE QUESTION.

To the Editor of the Medical Record:

Sir: The native-born American woman has been the subject of discussion *ad nauseam* indeed. It seems never, or almost never, to occur to the medical profession that the condition of the male population has anything to do with the past, present, or future of the race; all depends upon the overtaxed brain of our educated women.

Has medical science reached that point where one can hope to see figs grow on thistles? Is there a law in physics that proves that we can hope for perfect development from blighted, contaminated seed; or can we transfer all weakness and inherited taint to the male population, and the female have no share but to rise out of the mire a glorified intellectual being with brain power sufficient to control herself and help control the universe.

When statistics tell us that ninety out of every one hundred men are or have at some time been afflicted with gonorrhœa, the deduction one would naturally draw is: that only 10 per cent. of the male population are capable of reproducing a normal healthy being, and yet almost nothing is said of this phase of human development, but all blame placed to the overtaxed brain of intelligent women.

The cry is what can be done for the boys. Teach them that they can be as bright, energetic, and resourceful as their sisters; that they have as much brain power, if properly cultivated and guided, and can attain heights morally, mentally, and physically impossible for those whose vitality is exhausted by wrong living.

From what source, if not from the medical profession, shall this change come? Come it must, and I for one shall be glad to see the profession, rather than these overtaxed women, undertake the work.

Josephine Kingsley, M.D

San Antonio, Tex.

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 28, 1904.

A Case of Malignant Endocarditis with Recovery.—Charles F. Withington reports the case of a man of twenty-six years who had had an attack of gonorrhœa the month before he entered the hospital for sudden and severe pain in the cardiac region, and dyspnœa. The temperature was 102-105; pulse, 160-170. A thrill, presystolic in time, was felt below the nipple; gallop rhythm. A short systolic was heard in the fourth space to the left of the sternum. There were limited areas of consolidation in both backs. There was marked phlebitis of the left leg throughout its whole extent. Blood was taken from the vein at the elbow and showed, in the culture, gonococci. Few cases of gonorrhœal ulcerative endocarditis have occurred, the writer believes, in which pathologists have been able to demonstrate this organism intra vitam in the blood current.

Implantations of Silver Filigree for Cure of Large Ventral Hernia.—H. B. Perry describes the operation which he advocates, as follows: Up to the point of closing the hernial opening, it is identical with the operation for autoplastic repair. Then the omentum should, if pos-

sible, be stitched to the margin of the hernial ring. The sac is cut away, except that sufficient is left to close over without much tension. This is done with a continuous silk suture. The fat is then excavated sufficiently wide to admit the silver wire pad and permit stitching its border to the muscles and fascia. This is done with a continuous wire suture of sufficient length to have its starting and finishing points together, thus reducing to the minimum the rough points left. This completed, the skin and fat is closed over all by interrupted silkworm-gut sutures. The silver pad should be of sufficient size to overlap the margins on the opening from one-half to one inch. This plan is permissible only in the classes of cases in which autoplastic repair is impossible with any assurance of success from any or all of the following reasons: The large size of the hernial opening; a long existing hernia; atrophy through pressure and fatty degeneration of the adjacent muscular and fibrous tissues; previous unsuccessful attempts at autoplastic repair; and in fatty abdominal walls. The writer suggests this operation as worthy of trial in cases in which tissues already existing in the patient cannot be utilized to cure the defect.

Journal of the American Medical Association, July 30, 1904.

A Comparison of Phototherapy, Radiotherapy, and High-frequency Therapy in Skin Diseases.—Charles Warrene Allen, basing conclusions on nearly 450 personal cases, beside the 250 mentioned as having been subjected to high-frequency currents, makes the following statement: (1) In the vast majority of cutaneous affections the Röntgen ray is of greater utility than either the actinic or high-frequency methods. (2) In lupus the Finsen method, though tedious and disagreeable, is efficacious. The combined ray and high-frequency spark may prove to be equally good. (3) The actinic method is less beneficial in cancer than the Röntgen ray. (4) The high-frequency method is exact, no more disagreeable than the actinic, and for small lesions of epithelioma, lupus erythematosus, and many skin diseases gives quicker and better results. (5) All three can be advantageously combined for the different stages and phases of a large class of affections.

False or Cicatricial Cheloid.—A. Ravogli says the name cheloid was given by Alibert to neoplasms made up of connective tissue in the form of patches, strips, or tuberosities having identity with cicatricial tissue. One kind of cheloid is developed spontaneously in the derma, with which the cheloids are intrinsically connected, while others take their seat on the cicatricial tissue. After they have attained certain proportions they may remain without change indefinitely, though in rare cases they may undergo involution and disappear. One of the important features in the structure of the cicatricial cheloid is the nearly total absence of elastic fibers, and the growth of the connective tissue is greatly increased by this loss of the elastic fibers. From observations made it clearly appears that the destruction or the degeneration of the elastic fibers is the predisposing factor for the production of the cheloid. As a determining cause many have thought of a peculiar infectious pathogenic cause. In the case reported, on account of the locality and of the extension of the cheloids, no surgical operation could find any indication. The patient was suffering much pain, and a salve was applied containing resorcin, salicylic acid, olive oil, and lanoline. For three weeks this afforded relief, but later this treatment had to be discontinued because of the irritation produced. The irritation subsided under boracic acid, 5 parts in 100 parts of starch powder. Later they were treated with *x*-rays, which were applied for a few minutes two or three times a week, with rather satisfactory results.

The Consideration of Late Hereditary Syphilis.—R. R. Campbell says that at meetings of the Chicago Dermatological Society the question often arose. "Can hereditary syphilis manifest itself for the first time some years after birth by the presence of such late lesions as occur in the acquired form, and with a total absence of triad symptoms?" If long periods of latency may occur in the acquired form of syphilis, why may they not occur in hereditary syphilis? The triad of syphilis are Hutchinson's teeth, interstitial keratitis, and a particular form of deafness. Hutchinson's teeth are late manifestations of syphilis and appear not before the fifth or sixth year. These teeth are present in only a minority of those who are the subjects of inherited syphilis. Interstitial keratitis occurs usually between the ages of six and fifteen years, but may occur as early as the second or third year of life. Labyrinthian or central deafness is most frequently met with about the age of puberty, or in adults, being unilateral in the beginning, but in a few weeks or months becoming bilateral. The patient complains of noises, dizziness, and sometimes even attacks of vertigo. It is not improved by antisyphilitic treatment. Other diagnostic points of significance are acute ulcerative destruction of the soft palate in young persons, atrophic chorio-retinal plaques in both eyes, gummata of the skin, etc. Cases of latent hereditary syphilis are not very numerous in the literature. Brief reports of cases from the writings of different authorities are made.

Medical News, July 30, 1904.

The Value of a Knowledge of Abnormal Mobility of the Iris as an Acid in Diagnosing Diseases of the Nervous System.—D. Kerfoot Shute declares that in order to appreciate the significance of abnormal mobility of the iris in diseases of the nervous system, it is essential to understand the anatomical basis for normal pupillary activity and the appearance of the normal pupil. In disease, the dilatation of contraction of the pupil can be either irritative or paralytic, or both. Paralytic mydriasis is produced by an inhibiting disease, either of the pupil-contracting center or of the fibers that pass along the third nerve to the sphincter iridis. It may also be due to disease of the centripetal pathway between the retina and the oculomotor nucleus. The pupil is moderately dilated. Spastic mydriasis is caused by an irritation of either the pupil-dilating center or the pupil-dilating fibers going to the dilator pupillæ muscle. There is moderate dilatation of the pupil. Paralytic myosis is due to an inhibiting lesion of the pupil-dilating center in the mesencephalon or spinal cord or of the pupil-dilating fibers. Spastic myosis is caused by an irritation of the pupil-contracting center or of the pupil-contracting fibers. The pupil is moderately contracted and reacts very slightly to reflex stimuli. The value of a knowledge of pupillary abnormalities is well shown in the case of paralytic myosis. The small pupil in this condition is usually associated with retraction of the ball of the eye into the orbit and narrowing of the palpebral fissure, and is most often seen in aneurysm of the thoracic aorta or other mediastinal tumor, in chronic inflammations of the cervical part of the cord, and in locomotor ataxia. Spastic mydriasis occurs in irritation of the sensory nerves of the intestines by worms or intestinal tumors, in the spinal irritation of people suffering with anæmia after severe illness, in acute mania and melancholia, in paralytic dementia when it is associated with paralytic myosis in the other eye, and in hunger. While mydriasis in spinal diseases indicates an irritative process, in cerebral lesions it points to an extensive inhibiting disease of the brain. Spastic or irritative myosis is symptomatic of early stages of inflammatory diseases of the brain and its meninges; it is present in the early stages of epileptic and hysterical attacks; and in the early stages of intracranial tumors involving the third nerve. Another anomaly of the pupil is hippus. It is a normal clonic rhythmical spasm of the sphincter iridis. Both abnormal hippus and nystagmus are very important symptoms in the diagnosis of insular sclerosis. Abnormal or exaggerated hippus occurs in mania and other psychical disturbances. Nuclear disease of the oculomotor nerve is a common cause of symmetrical mydriasis, and may be developed by many causes. A lesion of the visual path between the optic chiasma and the cortical center for vision will cause the symptom known as homonymously hemianopsia. In locomotor ataxia the pupil is commonly contracted, though it may be normal or even dilated. In paralytic dementia the most common condition of the pupil is marked contraction of the sphincter iridis. The writer concludes by speaking of the different phases of mobility of the iris in chloroform narcosis.

New York Medical Journal, July 30, 1904.

Report of a Case of Lentigo with Unilateral Distribution.—John Irving McKelway says that the condition of freckles is usually found in individuals of a light complexion and having light hair, and the exciting cause is generally exposure to the rays of the sun; hence the regions most commonly affected are the face, backs of the hands and forearms, and is generally bilateral. The case reported is of interest because of the unilateral distribution of the disease, its occurrence in a woman with dark complexion and dark hair and eyes, the length of time the condition had existed (nine years and a half at least) without any appreciable change in the intensity of the pigmentation, and the fact that she was not a patient who spent much time out of doors, and was therefore exposed but little to the sun. A photograph, taken after her death, shows the distribution of pigment on her left breast, chest and arm, and, to a less degree, that on her face and neck.

Some Notes on Rigg's Disease and Its Treatment.—George F. Souwers says that if the tooth is in the preabscess stage, denoted by pain, a feeling of elongation and a sensation as though it were swollen and being crowded by its fellows, these symptoms being due to the formation of gas in and about the root, the proper procedure is to bore a hole into the root canal, this affording an avenue of escape for the gas. Then a mere thread of

absorbent cotton, wet with carbolic acid, oil of cinnamon, or other good disinfectant, should be carried up into the canal by means of a fine wire and allowed to remain. Free drainage is aimed at. The remainder of the treatment should be confided to the dentist. When the services of a dentist are not to be had and the disease has developed the gums should be cleaned thoroughly with peroxide of hydrogen, taking care to reach the recesses in the mucous membrane posterior to the last molar tooth. When the pus present has had its quietus, wash the mouth out with water and then apply aromatic sulphuric acid, basing its strength on the degree of evil present. All recesses, corners, and fistulous passages are treated, between the gums and necks of the teeth. Following the acid treatment, sodium carbonate and borax must be freely applied and the mouth again cleaned with water. The sulphate of quinine is dusted along the seat of the disease and lightly packed between the teeth. One thorough treatment of this kind will often stamp out the trouble, though it may be necessary to repeat it. The quinine treatment should be continued daily by the patient till its tonic effect is shown by the normal state of the gums being maintained. As an aid in the relief of the congestion of the gums a 1-1000 solution of adrenalin acts nicely. Where the teeth are sensitive on their lateral aspects to temperature changes, relief may be obtained by adding a few drops of phosphoric acid to oxide of zinc, the mixture to be of pasty consistence, and applying to the painful area.

The Management of Rigid Os in Labor.—Stanley P. Warren, in an editorial article, states that non-dilatability of the uterine outlet in labor is one of the curiosities of obstetrics and that tardy dilatation, or torpor, of the os and true stenosis are obviously two quite different conditions. Of the two conditions, the first is that which is most common, manifesting itself as a perversion of function rather than an arrest of it; the second, while being very exceptional, is anatomical only. The treatment of tardy relaxation, or what seems in certain cases to be mere torpor of the os is either temporizing or active. For the strong energetic woman the general line of management should be depressant, and an emetic will often do surprising good. Very hot normal salt douches, repeated every two hours or oftener, are of service. He also gives hypodermically a full dose of morphine and $\frac{1}{150}$ gr. of atropine. Complete relaxation follows this often within two hours. Reports are increasing in number of the good effects of cocaine, and there seems to be no general absorption of the drug when applied to the os even in massive doses. For the lethargic, anæmic woman, "rigid os" is a synonym for uterine apathy and mental stimulus is commonly more indicated than bodily. All distracting, well-meant interference of friends should be checked. In these cases he uses hypodermics of strychnine, $\frac{1}{30}$ of a grain, every three or four hours, supplementing occasionally by a single dose of ten grains of quinine. An occasional hot douche is beneficial for its local stimulant effect. "Everything is all right" cannot be told her too often. So far as the mechanical dilators are concerned he prefers the hand; under full anæsthesia rigidity yields to manual pressure more slowly than with metallic dilators, but more effectively than under the elastic hydrostatic pressure of rubber bags. Finally, careful, tentative traction against the resistant tissues with the forceps should be attempted, though its usefulness is restricted to the last half of complete opening.

American Medicine, July 30, 1904.

Carcinomatous Transformation of Ulcer of the Stomach.—John Dudley Dunham declares that the accurate work accomplished by numerous clinicians in all parts of the world would seem to furnish ample evidence that cases of cancerous changes in ulcer of the stomach do occur. The accumulation of the rough reports from such cases will probably show that cancer develops on ulcer more frequently than has been supposed. The ulcer is found at or near the pylorus in more than 50 per cent. of the cases. The process of canceration upon ulcer shows only a slight tendency to spread and invade the pylorus. The dilation of the organ is therefore less frequent. When the disease is well established, vomiting of food occurs very soon after its ingestion, which fact probably explains the moderate degree of dilation when present. The base of ulceration is generally made upon one of the neighboring organs. It is usually smooth and hard, as in chronic ulcer. The canceration begins in the pavement epithelium of the glandular tubules. Mayo says that of one hundred and forty-five cases of cancer of the stomach which came to operation under him, 60 per cent. presented a history of ulcer. Years may have elapsed before the cancerous process began. In the majority of cases the indications of ulcer continue until malignant invasion. This change is accompanied by an aggravation of the pain which at times is almost intolerable. Vomiting is excited by food. Small quantities of blood may be found in the vomitus, but there is rarely profuse hæmatemesis. Fragments of growth may be found after lavage. An increase in the hydrochloric acid is usually noted until very near the fatal issue. In another class of cases, the ulcer symptoms continue until the end. Profuse hæmatemesis may occur and perforation is not uncommon. In still another class, the ulcer symptoms may have subsided for months or years, and a recurrence of digestive difficulties which seems to indicate a return of the ulcer, may in reality be due to the beginning of the malignant growth. When the presence of the ulcer is established, the physician should impress upon the patient or his friends the gravity of the case. The classic treatment consists of rest in bed with rectal alimentation, followed by milk diet for perhaps four weeks. If the symptoms become more marked under this treatment, the diagnosis of conceration of ulcer is fairly certain. The treatment may be along surgical lines with a reasonable hope of prolongation of life, and along medical lines merely in a palliative manner. In cases of intractable chronic ulcer, gastroenterostomy should be employed to prevent the possibility of cancer development. Surgical interference is successful only when resorted to early in cases of development of cancer upon ulcer.

The Lancet, July 23, 1904.

On the Education of Visual Centers.—W. Hamilton Hall says that perhaps it is not easy to obtain clear ideas on the process whereby the "visual centers" acquire the power of vision, using vision to mean accurate perception of minute detail in the simplest degree. This faculty of instant recognition is usually deemed to be rather in the nature of judgment or intellectual perception than a matter of sight pure and simple, and it seemed to him worth while to describe in some detail an instance in which it can hardly be denied that imperfection of this faculty lay in the "visual center" of one eye exclusively.

One Form of Suppurative Appendicitis.—Arthur C. Roper reports three cases: in the first case there was a cascating gland; in the second there was a small and quite recent abscess with no acute symptoms at all; in the third, there was a large abscess. An interesting point was whether the gland is primarily attacked, which is unlikely, or whether it is secondary to some infection, tuberculous or otherwise, of the appendix or cæcum. He lacks bacterial evidence as to the precise cause of the suppuration, but the pus and abscess wall were strongly suggestive of tubercle.

Postdiphtheritic Chronic Bulbar Paralysis.—Wilfred Harris reports the third case of this kind that he has met with. The patient's improvement under large doses of strychnine and galvanism after so long a period as seven years is of great importance when compared with the recovery of one of his two other cases six years after the onset of the palsy, under the nutritional stimulus of pregnancy. He concludes that the nature of the lesion must be a slight form of nuclear lesion, not necessarily progressive, and capable in certain instances of being recovered from. All three of his cases commenced with palatal palsy and nasal regurgitation, from three to six weeks after an attack of ulcerated sore-throat. Two of his cases recovered, one completely after six years and the other partially after seven years, and the other, the most severe of the three, after suffering four years, was slowly becoming worse, the palatal palsy having become complete and laryngeal palsy beginning, while the eyelids and lips remain completely closed.

British Medical Journal, July 16, 1904.

Ozæna (Atrophic Fetid Rhinitis) a Cause of Gastritis.—Adolph Bronner speaks of the peculiar pale, ashy, complexion as being one of the most characteristic symptoms of ozæna, apart from the offensive smell. A bad taste in the mouth in the morning with vomiting, and no appetite, are other common complaints. These symptoms are due to the passage of the offensive nasal discharge full of bacilli into the stomach, and their deleterious action on the mucous membrane and on the contents of the stomach. In case any of the accessory cavities of the nose are affected, they must be opened up and treated. The writer advocates the use of formalin as a spray or douche. In bad cases he also applies trichloracetic acid or the galvanocautery to the diseased mucous membrane.

Mitral Stenosis in Advanced Life.—John S. F. Weir notes two cases of this nature. The first patient was a woman of seventy-three. She complained of pain in the left side and dyspnœa. There was a slight apical thrill, and a well marked presystolic murmur in the mitral area was audible. Necropsy showed an advanced degree of stenosis of the mitral valve, of the "button-hole" type, and there was a row of pale vegetations on the edge of the orifice. The left auricle was much dilated. The second patient was a man of seventy-three. He suffered from cough and emaciation. There was general bronchitis, though no heart

murmur could be detected. Necropsy showed a moderate degree of stenosis of the mitral orifice, of the funnel type, and a row of old vegetations at one part of the edge of the opening. The lungs were tuberculous.

The Incubation Period of Pneumonia.—Eustace M. Callender believes that the difficulty in fixing the definite incubation period in any disease must always be due in great measure to the difficulty in ascertaining the actual source of infection and the time of exposure. He publishes a series of five cases which are striking and instructive. The first patient was a girl of thirteen, who showed symptoms of a severe nasopharyngitis on the evening of May 8. On May 11 her left antrum was full of mucopurulent secretion. There was marked prostration, and the temperature was 102°F. The patient's father was well on the evening of May 10. On May 11 he was too ill to work at 1 P.M. He had a typical basal pneumonia, and died on the eighth day of the disease, of toxæmia. The third patient had two conversations with the last patient on May 11. He became ill on May 14, but the disease ended favorably with a very definite crisis on May 21. The fourth patient was, on May 12 and 13, in the sick room of case 2. On May 14 she was too ill to work. Her illness lasted for a week. The fifth case went into the room of case 2, on May 17. On May 19 she was taken ill and died of acute pneumonia on May 22. The writer believes that these were all cases of pneumococcus infection. The earliest period of infection appears to have been that in the case 4, a period of only forty-five hours. The writer had a precisely similar illness to that of case 1, and the mucopus was loaded with pneumococci.

Paroxysmal Tachycardia.—James Barr states that great frequency of the heart's action is a very common accompaniment of many morbid conditions, but the paroxysmal character of this affection, occurring in otherwise healthy subjects, at once marks it out as a particular entity, due, perhaps, to deranged physiological conditions, rather than to any morbific influence. The case reported is that of a youth who was suffering from tachycardia, the result of a blow on his epigastrium. He had another attack after another blow in the same place. The third attack followed overstrain from carrying a heavy load upstairs. Still a fourth attack followed an attempt to run away from a policeman. The writer at first associated the tachycardia with direct injury to the epigastrium, but in the light of the last two attacks he believes that the cause was acute cardiac strain. The very basis of these attacks lies in a hyperdistension of the right side of the heart, a hyperdistension which would quickly terminate the life of the patient were not the musculature in a healthy condition. During these paroxysms there was comparatively little cardiac distress, no anginal-like seizure, and no real dyspnœa. The patient could move about, and from his appearance no one would imagine that his heart was contracting over 250 times in a minute. If the heart were beating at this rate with a relatively low blood pressure, the distress and dyspnœa would be great. The patient would be bathed in perspiration, and death would quickly terminate the scene, but, fortunately, the regulative mechanism of Nature maintains the blood pressure, and with it the coronary circulation, until the right side of the heart gets rid of the load oppressing it. The writer sums up the treatment as follows: Put the patient in bed, freely use such agents as amylnitrite, nitroglycerin, etc., to lessen peripheral resistance and equalize the amount of blood in the two sides of the heart. Encourage the patient to take long, deep breaths, so as to aspirate the blood from the right side of the heart into the lungs, and thus give a better supply to the left ventricle. Counter-irritation might call into play the reflex cardiac contraction of Abrams. If, with this treatment, the hyperdistended right ventricle does not properly contract, then the addition of digitalis or of digitalin and strychnine is required. A good brisk purgative clears the portal circulation. The diet should be as dry as possible, so as to avoid the addition of fluid to the over-repleted veins and right side of the heart.

French and Italian Journals.

Atrophy of Both Testicles after Contusion.—Groussin had a patient, aged twenty years, who had had two attacks of mumps, one when he was six years old, and one when he was fourteen. It was eighteen months after the second attack that, in a fall from a wagon, he bruised the right testicle, which atrophied after two and a half months in bed. When he was twenty-one years old, he fell while climbing a mountain. The left testicle was pressed against a hard object in his pocket, and in its turn atrophied after two months in bed, made necessary by the traumatic orchitis which was induced. Groussin, when called to see the patient, tried injections of orchitic fluid. These injections seemed at first to yield some result on the left side, but were continued in vain. Later it will be possible to judge of any improvement, although it now appears doubtful if any will take place.—*Le Bulletin Médical*, July 6, 1904.

The Argyle Symptom and Meningitis Syphilitica.—Mario Bertolotti has studied the relation of the Argyle-Robertson pupil to the lesions of syphilis. He concludes that syphilitic spinal paralysis, in the great majority of cases, begins with a meningitis. The Argyll-Robertson pupil may often be found in the progressive meningomyelitis of syphilis; this tends to support the theory of Babinsky that this symptom is pathognomonic of acquired or hereditary syphilis of the nerve centers. The Argyll symptom is a phenomenon resulting from chronic syphilitic meningitis; this meningitis is the first symptom of all forms of syphilis of the nerve centers. It is not purely a symptom of tabes dorsalis, but may be found as well in general paralysis, cerebrospinal syphilis, hemiplegia, pseudo-bulbar paralysis, and meningomyelitis of syphilitic origin.—*Rivista Critica di Clinica Medica*, June 11 and 23, 1904.

Ovarian Cystoma, Papillary Carcinoma Ruptured into the Peritoneal Cavity.—Gulielmo Levi records a case of ovarian cystoma that had ruptured into the peritoneal cavity, and had then degenerated into a papillary carcinoma and involved the intestine. The patient was a young woman, married, but never pregnant. Her health had always been good. The first symptoms were enlargement of the abdomen, accompanied by intestinal symptoms, for which she was treated unsuccessfully almost up to the time of the operation. She had pain in the abdomen, and abundant leucorrhœa. The abdomen was enlarged to the size of a seven-months' pregnancy, more to the left side. There was free ascitic fluid in the abdomen. No symptoms of rupture of the cyst had at any time been noted by the patient. At the operation it was found that both ovaries were the seat of adenocarcinoma. There was also a large mass in the back of the abdomen attached to the intestines that appeared to consist of material that had escaped from one of the ovarian cysts, and had then degenerated into carcinoma. The growth recurred six months after operation.—*Archivio di Ostetricia e Ginecologia*, May, 1904.

Incipient Adenocarcinoma in the Mucosa and Submucosa of the Vermiform Appendix, the Cause of Repeated Attacks of Appendicitis.—Filippo Neri has made the pathological examination in a case operated on for relapsing appendicitis, in which he found the appendix to be the seat of a beginning adenocarcinoma. The patient was a woman of twenty-nine years, with the history of a blow on the abdomen, followed by repeated attacks of pain and tenderness in the right side of the abdomen. The attacks occurred every few weeks. At the time of the operation there was tenderness at MacBurney's point. The appendix was long, bent in a U shape, and occluded at one point. The point of occlusion was the seat of a new formation of the connective tissue type, poor in vessels, and with cells rich in nuclei, round, long, or branching. Among these were atypical tubular formations. The cells had always a round, nucleus, with small amount of protoplasm. The author makes the diagnosis of primary adenocarcinoma without metastases. Only eleven cases of this type are recorded in literature, all in young persons, and all associated with chronic appendicitis. He thinks that these cases are not rare, but are not recognized.—*La Riforma Medica*, June 8, 1904.

A Case of Tic of the Head and of the Trunk, Existing Only During Sleep.—René Cruchet describes this unusual case. The patient, when admitted to the hospital, was six years of age. The affection for which he was taken to the hospital had begun at the age of two years, and had never ceased, save for two months, when the child suffered from croup. These movements of balance were performed rapidly and only during sleep. The movements continued for different periods, 10, 18, and 20 minutes. Between these times he would rest completely for a half or three-quarters of an hour. He made from fifteen to twenty movements, one after the other, with an interval of about a second between them. To balance himself, he placed his left hand behind his head, the trunk being half bent over the pillow. The respiration was rhythmical. The exercise made the child warm, for he was red when he finished. His eyes were closed. To make him stop, it was necessary to waken him, or touch him on the tips of his fingers, or prick him gently with a pin. Then he would moan and stop. When he finished the movements he would lie down in bed quietly till the next series. On waking he remembered nothing of what he had been doing. Lumbar puncture met with negative results. Antipyrin administered to the little patient seemed to improve the condition, but the disappearance of the tics is far from being obtained as yet. —*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, July 3, 1904.

Book Reviews.

International Clinics. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to Students and Practitioners. By leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U. S. A. With the collaboration of many well-known physicians here and abroad. Volume I. Fourteenth Series, 1904. Philadelphia: J. B. Lippincott Company, 1904.

Many very practical articles grace this issue of the "Clinics." Widal writes, in association with Javal, on the chloride-reduction treatment of parenchymatous nephritis; Edes on "What Is the Cure for Neurasthenia." Intestinal anastomosis receives consideration at the pen of John G. Clark. In the various regular departments, writers of reputation have contributed articles of interest and value. Progress for 1903 has been written up by Edsall, Bloodgood, and Stevens in a painstaking manner, in which is included an interesting chapter on tumors, well illustrated. One cannot fail to find much of general medical interest in looking over the pages of this volume, and the distribution of subjects is well made.

Obstetric and Gynecologic Nursing. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia, and in the Philadelphia Polyclinic; Obstetrician to the Jefferson and Polyclinic Hospitals; Obstetrician and Gynecologist to the Philadelphia Hospital. Second edition, revised. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

The field of obstetric nursing, as the author states in his introduction, is a wide one. It includes the nursing of the patient during pregnancy, parturition, and the puerperium, as well as the care of the child. The obstetric nurse must be prepared to meet the emergencies of these conditions—accident, disease, or operation. She must have a thorough knowledge of, and experience in, asepsis and antisepsis. To this end the author has worked in the preparation of this excellent book, and although the size of this volume is very convenient, there will be found between its covers all the essentials of obstetric and gynecological nursing. To this second edition new material has been added, while the original text has been thoroughly revised.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; One time Professor of Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Medical Dispensary of the Jefferson Medical College Hospital; Member of the staff of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. Volume II. June, 1904. Surgery of the Abdomen, including Hernia, Gynecology, Diseases of the Blood. Diathetic and Metabolic Diseases. Diseases of the Spleen, Thyroid Gland, and Lymphatic System. Ophthalmology. Philadelphia: Lea Brothers & Co., 1904.

The contributors who have aided in keeping this June number of Digest up to standard form are J. C. Clark, W. B. Coley, Edw. Jackson, and Alfred Stengel. The article on Gynecology, by the first-named, discusses the ever-interesting question of uterine cancer. The extract on Pruritus Vulvæ gives an excellent insight into the causes, with hints on treatment based upon the latter. Pernicious anæmia, leukæmia, and pathological conditions of the blood in general are well and fully considered by Stengel. Altogether the work is one of much value for reference, besides giving in collected and readable form the evidences of progress for the year.

Medical Diagnosis. Special Diagnosis of Internal Medicine; A Handbook for Physicians and Students. By Wilhelm v. Leube, Professor of Medicine and Physician in Chief to the Julius Hospital at Wurzburg. Authorized Translation from the Sixth German Edition, Edited with Annotations by Julius L. Salinger, M.D., Late Assistant Professor of Clinical Medicine in the Jefferson Medical College and Physician to the Philadelphia Hospital. With 5 Colored Plates and 74 Illustrations in the Text. New York and London: D. Appleton & Company, 1904.

With the wealth of books on medical diagnosis in the English language a question naturally arises as to the necessity for translating a work on this subject from a foreign language. There was a time in the history of medicine when America had to borrow a good deal from other countries, but that time seems now past; just as it is growing year by year less necessary for the American graduate in medicine to go abroad to complete his professional education. The advances made by the medical schools and the medical practitioners of America have been so rapid and so marked, and the science and art of medicine have been raised to so high a plane, that many now living are likely to realize—in fact, have already begun to realize—the prediction that in the not remote future physicians will come from Europe and elsewhere to America to round out their medical education, as American physicians have for so long in the past gone abroad. So, too, it is growing less and less the practice to translate foreign medical works into English, while the translation of English works into foreign languages is becoming constantly more common. It is not to be expected, however, that the tide will be in one direction only. It is more likely that there will be a mutual and continuous interchange, and especially between the representatives of medicine on the two great continents.

Of Leube's Diagnosis, now in its sixth edition, it need only be said that it takes front rank among the works of its class, covering in a most thorough manner the wide range of subjects comprised in the field of internal medicine, and having regard for established modern methods of clinical investigation. The translation is, in the main, acceptable, although marked in many places by awkwardness of expression and involvement of statement from an apparent effort to be literal rather than free. Numerous additions have been made by the American editor, adding to the completeness of the text. There is a copious index of 50 pages. The book is well printed, moderately illustrated, and neatly bound.

Manual of Materia Medica and Pharmacy. Specially Designed for the Use of Practitioners and Medical, Pharmaceutical, Dental, and Veterinary Students. By E. Stanton Muir, Ph.G., V.M.D., Instructor in Comparative Materia Medica and Pharmacy in the University of Pennsylvania. Third Edition. Revised and Enlarged. Philadelphia: F. A. Davis Company, 1904.

The author presents his text in three sections. In the first part a few pages are devoted to botanical definitions as well as to definitions of names of therapeutic actions. The second part is given up to the consideration of individual drugs. While the third part, under the heading of Pharmacy, treats of processes used in pharmaceutical work; also of the preparations, especially those which are compound. Incompatibility is also discussed here. The lengthy detail often found in textbooks is omitted and the text is concise and clear. Only those drugs and pharmaceutical preparations are considered which are in every-day use, and which are of recognized therapeutic value. The drugs are conveniently arranged in alphabetical order. The metric system is used primarily.

Beiträge zur Anatomie der Tubenschwangerschaft. Von Dr. Fritz Kermauner, Assistent an der Universitäts-Frauenklinik zu Heidelberg. Mit 44 Abbildungen. Berlin: S. Karger, 1904.

In this little manual, in which the author has carefully reviewed forty cases, he gives the results of painstaking study of the condition of tubal pregnancy. The text is made clear and attractive by illustrations—44 in number. The different types of cases here described, with their varied histories, must prove of value and interest to those interested in this subject.

Physical Training for Children by Japanese Methods. A Manual for Use in Schools and at Home. By H. Irving Hancock, Author of "Life at West Point," "Japanese Physical Training," "Physical Training for Women by Japanese Methods," etc. Illustrated from photographs by A. B. Phelan. New York and London: G. P. Putnam's Sons, 1904.

This little volume of Japanese physical exercise is as attractive as it is valuable. The author in his introduction calls attention to the remarkable endurance of the Japanese soldiers, which is due to the training by their marvelous system of "Jiu-Jitsu" exercises. The course given in this volume is intended to fill up a school year. The exercises can be mastered in less time, but the writer thinks it advantageous to spend considerable time in reviewing those already learned. He would advise spending from twenty minutes to half an hour daily on this work. No separate exercises have been given for boys or girls. Besides the chapters on special exercises, there is one devoted to the consideration of deep breathing, food, bathing, clothing, and the effects of alcohol and tobacco on the health. The book has 134 illustrations, taken from photographs, which add much to the clearness of the text. Aside from the intrinsic value of the exercises themselves, the book teems with sensible advice by the author intended for both teacher and pupil.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held May 5, 1904.

ANDREW H. SMITH, M.D., CHAIRMAN.

The Treatment of Diffuse Peritonitis.—Dr. JOSEPH A. BLAKE read this paper. He said that the diversity of opinion in regard to the treatment of diffuse peritonitis suggested room for improvement. Cases of peritonitis were classified according to the extent and progress of the peritoneal involvement into localized and diffuse. The cases of localized peritonitis were those in which the products of inflammation were limited by adhesions; by diffuse peritonitis he understood an established progressive inflammation without definite limitations. These cases could be subdivided into cases of spreading peritonitis in which parts of the peritoneum could be demonstrated as free from invasion, and general peritonitis in which no part, possibly excepting the lesser sac, were uninvolved.

As to the time of operating, he still favored an early operation, as the patient had a better chance with the source of infection and the major part of the exudate removed, and as the shock of a quick operation was less dangerous than delay.

The methods of treating the exudate varied. All methods of cleansing the peritoneal cavity were open to objection. He endeavored to minimize as much as possible exposure and traumatism to the intestines. He used a small incision and irrigated with a large amount of saline solution by means of an irrigating tube with a central inlet and lateral outlets which connected with a siphoning rubber tube. This permitted a very rapid change of water without increasing materially the intra-abdominal pressure. By the use of this device the abdomen could be washed out in about one-quarter the time it took with the simple tube and less water was left in the abdominal cavity. The excess he allowed to remain, as it was quickly absorbed and a certain amount escaped through the wound.

In the matter of drainage, he had found it better to drain just through the wound, the drain only entering the peritoneal cavity for half an inch in those cases in which drainage of the peritoneal fossæ was thought unnecessary. The cigarette drain was used and removed in from thirty-six to forty-eight hours. This method had given a lessened mortality, a shorter convalescence, more rapid subsidence of temperature, shorter wound healing, greater freedom from meteorism and absence of intestinal obstruction. He never advised non-drainage in abscess cases.

The after-treatment consisted in complete rest for the alimentary canal. The stomach was washed out and no food given until the tendency to nausea was past. Nutrient enemata alternated with saline enemata were administered if nausea persisted.

During the last year Dr. Blake had operated upon 19 cases of diffuse peritonitis; 5 of these were generalized and 14 were spreading peritonitis. Of the cases of general peritonitis one was caused by appendicitis and died; two by perforation of gastric ulcers, with one death; one by rupture of the jejunum, which recovered; and one by what was apparently an acute pancreatitis, which recovered. Of the 14 cases of spreading peritonitis, 11 were caused by appendicitis and 3 by perforation of typhoid ulcers. There were 4 deaths among these, in 2 of which, so far as could be told by clinical evidence, the peritonitis had resolved; the other 2 deaths were caused by a persistence of the process. Grouping all the cases that he had operated upon last year with those previously operated upon, there were 51 cases of diffuse peritonitis, comprising 29 cases caused by appendicitis with a mortality of 28.5 per cent.; 5 by typhoid perforation with a mortality of 40 per cent.; 6 cases of perforating ulcers of the stomach or duodenum with a mortality of 50 per cent.; 1 by perforating ulcer of the ileum, which died; 1 by rupture of the jejunum, which recovered; 1 by acute pancreatitis, which recovered, and 8 cases by infection through the fallopian tubes, partly gonorrhœal and partly pneumococcus and streptococcus infections with a mortality of 62 per cent. The only cases of perforated ulcer of the stomach or duodenum that died were those in which the operation was deferred until twenty-four hours or more had elapsed after perforation. The comparative mortality in the whole series of 51 cases among the deeply and superficially drained cases was 14 deaths in 26 cases in which deep drainage was employed, while there were 5 deaths in 25 cases in which superficial drainage was used. In a number of the cases in which deep drainage was employed the very conditions which demanded drainage were the ultimate cause of death, but eliminating these there still remained a large balance in favor of no drainage or of superficial drainage only. Lavage of the peritoneal cavity was carried out in all but one of these cases, so that no comparative deductions could be drawn in regard to methods of cleansing the peritoneal cavity.

The main point in the treatment of diffuse peritonitis was that of early diagnosis. The latter symptoms of diffuse peritonitis—marked distention, regurgitation, flexed extremities, the facies, and depression from septic absorption—should never be awaited. He had never lost a case caused by perforation when the operation had been done in the first twelve hours, while most of the long standing cases had terminated fatally.

Dr. GEORGE E. BREWER said that a number of years ago McBurney operated successfully in general peritonitis following rupture of appendicular abscesses by making large incisions and using large amounts of gauze for drainage; prior to that time these cases were regarded as hopeless. Shortly after, surgeons went even further and practically eviscerated their patients, attempting to remove all the exudate. The mortality was enormous, and soon after, these methods gave way to methods approaching what was used to-day. He thought it was due to Dr. Robert T. Morris that the old barbarous methods were given up. Dr. Brewer's personal experience had led him to believe in simplicity of operation and minimum of drainage, and Dr. Blake's paper went far to fix in the mind and establish the fact that more modern methods, such as advocated, would give the best results. The early mortalities of 60 per cent. and 70 per cent. have dropped considerably during the past few years. He never completely closed cases of extending or spreading peritonitis but used small cigarette drains in the pelvis and, although it increased the danger of intestinal obstruction, he considered it to be a great advantage. He believed the methods detailed by Dr. Blake were far superior to those used formerly.

Dr. ELLSWORTH ELIOT believed that to-day all surgeons had agreed as to the advisability of (1) rapidity of operation, (2) thoroughness in the removal of the cause of the peritonitis, and (3) of removal of the products of the inflammation which were associated with the peritonitis. This was the best accomplished by lavage with the least possible disturbance of the intestines and subsequently, so far as possible, in drying the abdominal cavity. The tendency now was toward using less and less gauze for drainage. He had never yet depended upon the cigarette drain alone; if the incision was made in the median line this method of drainage could be employed, but he had been in the habit of inserting a rubber tube with the wick-gauze for the purpose really of keeping the opening apart. He appreciated the fact that many of the cases would recover without this precaution. In nine-tenths of the cases of localized abscess in the appendix, if the wound was closed, recovery would likely take place. In many cases the peritoneum was able to take care of itself and protect itself; therefore, why could not the same results be obtained after the surgeon had removed the cause of the peritonitis and cleaned the peritoneal cavity? So far as drainage

was concerned, he wished that surgeons had some means at hand by which they could tell the nature of the germs causing the difficulty; then they could be guided more accurately as to the necessity of using drainage.

Dr. Hermann J. Boldt took up the discussion from the gynecologists' standpoint. Gynecologists came in contact with two principal forms—the post-puerpural and the post-operative infectious. In the first, with a streptococci infection, the patients usually died within a very short time, and in the post-operative, if the infection was a severe one, the cases ran about the same course. He agreed with Dr. Blake in the statement that secondary openings of the abdomen after septic peritonitis usually resulted fatally. Reopening such cases was undesirable. The forms of peritonitis that gynecologists more frequently came in contact with was the gonorrhœal, the tuberculous, and the non-infectious form, the chemical toxic and peritonitis due to foreign bodies. In the gonorrhœal form the pus escaped through the fimbriated extremity of the tube and the peritonitis spread rapidly. As a matter of fact, he said the peritoneum did not offer a good medium for the gonococci to survive long and such infected patients often recovered. There was another class of cases which depended upon the pneumococcus, and he said whenever the pneumococcus was present one was sure to have a very virulent form of peritonitis to deal with, for these infected patients usually died within two or three days. Regarding the tuberculous form of peritonitis, treatment was very uncertain, and one relied upon abdominal section chiefly because it had offered a larger percentage of recoveries. But the statistics offered could not be relied upon. Tuberculous peritonitis might be in the dry form, or there might be a large tuberculous abscess in the peritoneal cavity, or, again, there might be a large number of tuberculous nodules scattered over the peritoneal surface, and the mortality in each of these varieties differed. The dry form offered the most serious cases to operate upon, and the most favorable form was that in which the tuberculous process was encapsulated. The treatment of the chemical toxic form depended largely upon the medications used and the amount of material escaped from the Fallopian tube into the peritoneal cavity. In the foreign body peritonitis he limited this to that caused by a twisted pedicle of an ovarian tumor or an ovarian cystoma; in these cases there was a spreading peritonitis following a localized one and, as a rule, the prognosis was good. So far as drainage was concerned, he preferred to drain through the cul-de-sac of Douglas and not with a small but a very large drain. Elevation of the end of the bed he considered a very important factor in obtaining good drainage.

Dr. Robert T. Morris said that no matter how suspicious the bacteria were, no matter whether proliferating or subsiding in their virulence, it seemed to him that there were two chief principles that should be considered, and these two apparently were in conflict: (1) We were to remove mechanically the fluid which was carrying the toxins and bacteria; (2) we were to conserve the natural resistance of the patient; the patient had a natural self-resistance and he acquired a new cell resistance in overcoming the bacteria that still remained active. If by the too careful removal of the fluid containing the bacteria and toxins we shock the sympathetic ganglia we interfere with the natural cell resistance of the patient and prevent the following out of the new cell resistance. Therefore, a very nice judgment was required in the treatment in knowing just to what extent we can mechanically remove the bacteria and toxins and to what extent we could depend upon the patient's natural resistance and his acquired resistance. In former years it was thought best to use large incisions and extensive drainage apparatus, and, although the septic fluid was gotten out, the patient was prevented from using his most valuable means for recovery and the statistics then were not very good. It seemed to him that cases did far better when no gauze was used because the gauze interfered with the natural resistance of the patient.

Regarding extensive flushing, he had employed the Chamberlin tubes, but to-day he never used them. He depended upon the lymph channels rather than upon mechanical means for the removal of the toxins and bacteria. The question of drainage he considered to be one of great value. If one washed out too thoroughly the toxins and fluid containing the bacteria, one may shock the patient too much, and, therefore, he had been inclined to wash less and less, and advocated getting in and out quickly and leaving the parts as much alone as was possible. He once advocated the closing of the abdomen in all cases of peritonitis, even when the bacteria were proliferating actively, after he had removed the chief amount of fluid containing the bacteria and toxins. In this matter one seemed to be between Scylla and Charybdis. This plan he had followed during the past two years when there was not much hemorrhage to furnish culture media. To-day it was a question whether this procedure was a wise one and for two reasons: (1) These patients recover quite as well as when the abdomen is left open and drained, perhaps better; but one was almost certain to have abscesses form in the fatty layer of the abdomen which did not heal kindly, and the patients might have a high temperature for some time and suffer more or less from the toxic impression upon their cells. So to-day he was not sure of this method of complete closure and he now placed in a small drain. (2) If he dried the peritoneal cavity he removed or injured the endothelium, which was wiped off very easily. If the endothelium was deranged but ever so little, the mouths of the lymph channels would be closed and so interfere with the rapid taking up of the septic fluid material. Attempting to dry the peritoneal cavity he believed to be wrong for this reason.

Dr. John A. Wyeth was in accord with what was said by the reader of the paper in the advocacy of the smallest possible incision with a minimum amount of trauma in the operative work. The infecting focus should be removed whether large or small. If it was small and possibly necrotic and not disseminated, he said the focus should be cleaned out and general irrigation omitted. But if there was a general distribution of this necrotic septic material then thorough irrigation with saline solution under high pressure should be employed. He did not believe in attempting to dry the peritoneal cavity on account of the trauma that necessarily must be produced. With regard to the question of drains he differed with some, because he believed that the cases he had lost were due to his failure to secure satisfactory drainage, and he now made it a rule to drain by a cigarette or gauze drain from the focus of infection. He believed it was very important in general diffuse peritonitis to prevent the dangers of absorption, and he advocated keeping the patient in Fowler's position. The pelvic portion of the peritoneum should be drained, especially the cul-de-sac of Douglas, as advocated by Dr. Boldt.

Dr. John B. Walker said that the line of treatment depended upon the nature of the organism, and he believed in eliminating any serum or culture media which may be present and in which the organisms may grow.

Dr. Frederick H. Wiggin said that gauze in the abdominal cavity favored the formation of adhesions. In cases of peritonitis he used the small drain. It was almost impossible to prevent infection of the abdominal wound, and, therefore, he left a small drain in until the wound became clean and healthy granulations sprang up. In certain cases, such as peritonitis following a gangrenous appendicitis, with the abdomen much distended, he opened the abdomen and let out the excess of fluid more for the purpose of relieving the pressure upon the heart and lungs. He deprecated too much interference in the peritoneal cavity. The most severe forms of peritonitis he had met with were those which accompanied an appendicitis with an unruptured appendix.

Dr. William Bryan, West New Brighton, S. I., said he did not use the Chamberlin tube at all now, but did use a small cigarette drain. His results were now better than formerly, probably because of smaller incisions, shorter operations, and less traumatism. He agreed with Dr. Morris in the wonderful properties the peritoneum showed in being able to care for itself and getting rid of any infectious material.

Dr. Franz J. Torec reported eight cases of general peritonitis which followed appendicitis, with recoveries in all, and with different methods of treatment than those referred to by the reader of the paper. His incision was made very long, and was always the median one. He always selected the median incision whenever he found rigidity of muscles on both sides of the abdomen and this appeared in all of his eight cases. He believed in thorough flushing of the abdominal cavity, not using a tube, but pouring pitcherful after pitcherful into the cavity and moving it about with a rubber covered hand. In all these eight cases the wounds were closed completely, not even using a cigarette drain. In three of the cases he obtained primary union and three developed suppuration along the stitch canals; one developed an intramural abscess along the line of incision and one developed an intraperitoneal abscess. All were emergency cases. Early operation he considered to be of prime importance. Patients operated upon later than forty-eight hours gave very poor prognoses.

Dr. A. A. Berg made reference to some studies made at the Mt. Sinai Hospital. Five years ago a very large number of desperate cases of diffuse purulent peritonitis were met with in the emergency service, and it was concluded that the existence of a purulent exudate in the peritoneal cavity did not always mean a purulent peritonitis. Many of the cases that came to operation showed a diffuse purulent exudate of most fetid character, and in both spread and culture showed streptococci and staphylococci and the bacterium coli. Although not drained or washed out, some of these cases did remarkably well. What a purulent peritonitis was he had not yet decided. He believed the peritoneum could absorb very rapidly if normal, but if it was found to be less shiny or glistening then it had less absorptive power. Every case of modified peritoneum should be provided with drainage; if not drained, then he said one must expect abscesses, for these modified areas would be the starting points for fresh infections, which would spread over the peritoneal cavity. He guarded against the complete closure of the abdominal wound in these cases; this was only permissible when one was certain that the peritoneum was intact or unmodified.

Dr. A. V. Moschcowitz said there were two methods of treating these cases, one the dry method and the other as reported by Dr. Blake. With irrigation his results had been bad, but in justification of this method he said he had only treated the very bad cases.

Dr. Blake, in closing the discussion, said that his reason for stopping drainage was given in a former paper, and he did so because he could not drain the *entire* abdominal cavity. He also said that anyone must concede that washing or cleansing was necessary in the cases in which there was foreign material, either extravasated gastric or intestinal contents or fibrinous products of inflammation. In the cases in which there was only a seropurulent or purulent exudate, washing was not so important.

The Latest Cure for Appendicitis, as announced by cable from Berlin, is for the patient to walk on all fours for twenty minutes, four times a day. The theory on which this treatment is based is that certain muscles around the vermiform appendix are brought into play and strengthened by this quadrupedal cure, which are unused when a biped walks erect. Others are relaxed, and the localized inflammation has opportunity to subside.—*Medical Times.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GYNECOLOGY.

Stated Meeting, Held June 2, 1904.

Dr. A. Palmer Dudley, Chairman.

Ovarian Cyst with Twisted Pedicle Complicating Pregnancy.—Dr. L. J. Ladinski presented this specimen which he had removed from a patient, twenty-three years old, who had been married five months and who menstruated regularly until three months prior to admission to Beth Israel Hospital, April 8, 1904. For some weeks she had noticed marked enlargement of abdomen with some pain, especially on the left side. Four days prior to admission she was seized with sudden lancinating pain on the left side of the abdomen which compelled her to take to bed. These paroxysms of pain increased in severity, requiring morphine for relief for four days; then Dr. Ladinski saw her in consultation. The patient was then bordering on collapse, was somewhat cyanotic, pulse 140, rapid and labored respiration, very restless, with a normal temperature. The abdomen was distended with a tense, globular, fluctuating tumor, tender and sensitive to touch. The percussion note was flat in the median line and dull in the flanks, the latter disappearing on change of position. Evidences of fluid were obtained. Vaginal examination showed the uterus to be enlarged to about the size of one in the third month of pregnancy, and there was fluctuation in the anterior wall. The uterus was wedged down in the pelvis, and the vaginal vaults were bulging and tense from the pressure of the intra-abdominal fluid. Operation was advised. On opening the abdomen a large quantity of bloody, ascitic fluid escaped. The cyst wall was congested, black in color, especially toward the lower part. The pedicle was found to be twisted one and a half times to the left and sloping from the right side. Recovery was uneventful and pregnancy was not interrupted. He said that Platon and Ironé (*Marseille Médicale*, May 15, 1902) reported a case similar to his. Torsion of the pedicle in an ovarian cyst was a quite frequent accident during pregnancy, particularly when the uterus began to rise out of the pelvis into the abdominal cavity. These authors quoted Remig's statistics of 45 cases in which operation was performed, with the following results: During pregnancy, 18 patients, 10 recovered and 8 died; during labor, 15, 7 recovered and 8 died; during the puerperium 12, 4 recovered and 8 died. D'Sirne (*Archiv für Gynäkologie*, No. 24, page 154) collected 109 cases of ovarian tumor complicating pregnancy, in 10 of which, *i.e.* about 9 per cent., there was a twisted pedicle. Petritchek (*Centralblatt für Gynäkologie*, No. 26, 1900) reported a series of 30 cases collected and 2 of his own of ovarian cysts complicating pregnancy; in 26 cases twists of the pedicle had occurred. The diagnosis of torsion of the pedicle was made in only 3 cases prior to operation. Dr. Ladinski could find no more cases in the available literature.

Pseudohermaphrodism.—Dr. L. J. Ladinski presented this interesting specimen which was removed from a patient thirty-nine years old. During her eighteenth and nineteenth years she had had a slight menstrual discharge at irregular intervals, but had never menstruated since. She had had epistaxis off and on for many years, but was never ill before. The present history showed a right congenital hernia which had increased in size recently and caused her pain. Vaginal and rectal examination showed no cervix, uterus, or adnexa; the vagina was of normal depth, but ended in a blind pouch and was drawn toward the right side. The labial hernia of the right side descended to the perineum and presented, in addition to a coil of intestine, a smooth and hard ovoid mass the size of a hen's egg. The entire hernial contents could be reduced. Operation was performed at the Beth Israel Hospital October 20, 1903. Incision was made over the

right inguinal canal and extended down the labium. The hernial sac was freed from adhesions, drawn out, and incised. The sac contained coils of intestine. The outer half of the sac presented no unusual features, but the inner portion consisted of a broad, thick fold of tissue resembling the broad ligament, to which a hard, smooth, irregular mass was attached. The tip of the appendix was attached to the base of the sac. This was freed and the appendix removed, and the outer portion of the sac and as much of the inner portion as could be separated were then ligated and reduced. The mass which constituted the greater portion of the inner part of the sac was ligated in sections and removed. What appeared to be the round ligaments and the ovarian artery traversed the mass. The canal was then closed in the usual manner.

Dr. Ladinski had presented the specimen to Dr. F. M. Jeffries for examination and the report was made that sections of the mass revealed portions of uterine tissue, tissues from the testicles and probably also the prostate, although the last was somewhat in doubt. There were, corpora amylacea of a character resembling those found in the prostate. Both uterine and testicular structures were somewhat in an embyronic state. He concluded that he was dealing with a case of hermaphroditism.

Dr. A. Palmer Dudley said that, a few years ago, a true case of hermaphroditism appeared in the Harlem Hospital. The individual was sixteen years old and came into the hospital on account of pain in the right iliac region below the seat of the appendix. He then discovered that the person was an hermaphrodite and as true a one as he had ever seen. There was one testicle, one labium majus, one nympha, and a clitoris as large as the middle finger. There was no urethra. There was a gutter or narrow structure between the two crura perfectly formed. There was a small vagina and a hymen and by rectal and vagina examination there were discovered an immature uterus and a small ovary. The individual voided urine through the perineum. The person had all the psychological characteristics of both woman and man.

Specimens of Fibromata.—Dr. L. J. Ladinski presented the following three specimens of fibromata, not because they were of unusual interest, but simply as types of cases which had happened to come under his care recently. During the past few months he had had occasion to do eight hysterectomies for fibromyomata by the abdominal route, and all of the patients made uninterrupted and rapid recoveries. In none of the cases was it justifiable or advisable to do a myomectomy, because of the age of the patient, of the character and size of the tumor, or of the extent of involvement of the uterine wall. When possible one or both adnexa were retained. In most of the cases the indications for operation were pressure symptoms, and in some uterine hemorrhage. All these patients were operated on by him at Beth Israel Hospital with the exception of one who was operated on in private.

Case I.—C. P., aged thirty-eight years, married eighteen years, four children, youngest eleven years, had profuse and irregular menorrhagia for past three years, especially during the past few months, with pain in the abdomen, frequent and painful urination, and constipation. The abdominal tumor extended to above the umbilicus. Abdominal hysterectomy was performed April 5, 1904. In this case the tumor extended down to and involved the cervix, necessitating complete extirpation. The patient had a rather slow but good convalescence.

Case II.—N. S., aged thirty-three, married nine years, three children, the last child four years ago; during the past twelve months she had profuse menorrhagia and constant severe pain in the pelvis. She was operated on at Beth Israel Hospital, March 17, 1904. The tumor filled the entire pelvis and was intimately adherent to the intestines and omentum and the walls of the pelvis, and especially to the bladder and rectum. The left ovary was found to be cystic. Abdominal hysterectomy and supravaginal amputation of the cervix were performed. The right adnexa were retained. The patient was discharged from hospital April 9, 1904.

Case III.—B. S., aged twenty-nine, married ten years, two children, had profuse menorrhagia for six months and pain in the abdomen and pelvis. The patient was in a very debilitated condition. The tumor extended to the umbilicus. Abdominal hysterectomy and supravaginal amputation were peformed. Both adnexa were cystic and were removed. The patient was discharged March 26, 1904.

Uterine Fibromyomata.—Dr. A. Palmer Dudley presented these specimens, which he had removed from a housewife who had been married thirty years and widowed twenty-six years. Her last pregnancy was twenty-seven years ago. She had been sick for seven years and had had menorrhagia since last November. There were no vaginal discharges and no vesical symptoms. Locomotion was good. She had been in fair health until recently. Her bowels were regular and the appetite was good, but she was flowing at the same time when seen. Her present symptoms were flooding and pain in the left side. Physical examination showed a large growth in the right side and a smaller one in the left. Curettage was first performed without drainage. Cœliotomy was next done, the adhesions were broken up, the appendix was removed, and a large fibroid was removed from the right and a smaller one from the left side of the uterus; gauze drainage was introduced from the tumor cavities through the uterus and also gauze drainage from the abdomen through the cul-de-sac. The uterus was suspended. The usual after-treatment was given and the patient made a good and rapid recovery. She drained freely for over a week, was up in two weeks, and left the house at the end of three weeks.

Rectal Constipation in Women.—Dr. Grace Peckham Murray read this paper. (See page 201.)

Dr. Samuel G. Gant spoke of another causative factor not mentioned in the paper and that was the wearing of pessaries, which produced a mechanical impediment to the movement of the bowels. Very often he said it was difficult to determine whether the trouble was in the rectal or in the sigmoid region. As a result of pelvic inflammation and tubal inflammation the sigmoid frequently became involved in a mass of adhesions and bound down. The sigmoid might be much elongated and obstruction be caused by the formation of a loop. Again there might be an over-development of O'Beirne's sphincter, *i.e.* an increase in the number of circular fibers. All this was productive of constipation. As to the fæces going back into the sigmoid when the bowels were not emptied, he believed that occurred once in a while, but not as a regular thing. It was O'Beirne who offered the theory that when a patient had the desire to go to stool and did not then the fæces would go back into the sigmoid; that might happen occasionally. In preparing patients for operations it had frequently been noted that after clearing out the bowels thoroughly small particles of fæces would come down into the rectum, and by stripping the sigmoid then the bowels could be more thoroughly emptied. The treatment of such a condition was a very difficult matter. As a result of pressure of the uterus against the rectum, so common in women, making it even difficult to use the proctoscope, the congestion of the hemorrhoidal vessels that was produced increased the constipation. Another common cause of constipation was a narrow anus, caused either by pressure from without or by spasmodic contraction. His treatment of all these cases of constipation was carried out on these lines: The women should be properly educated; the sphincter, in many instances, should be divulged, but this was seldom necessary. He believed the rectal valve produced obstruction and constipation; as a result of a catarrhal condition, the valve became thickened and produced obstruction so as to prevent the free escape of the

fæces. Here he thought it was proper to divide the valve doing a valvotomy, according to the plan of Martin. In women sometimes one met with a membranous colitis and if, during such an attack, a proctoscope were introduced, there would be found a large flow of mucus from above the valve. Valvotomy should not be done in every case of constipation; he did not mean this. The principal thing to do in these cases was to educate the patient properly, and massage was a very valuable adjunct, especially by means of vibration.

Dr. James P. Tuttle said that occasionally he ran across cases in which the valve seemed to be at fault, and he then felt perfectly justified in clipping it off. Anterior rectocele had been spoken of; there was no doubt but that there was a lodgment of the fæces in such a condition, but there was also a posterior rectocele in which the fæces lodged, and which was fully as important. Masses of fæces could be found in the posterior cul-de-sac as well as in front, and one gave as much trouble to cure as the other. When there was a deficient perineal body, that must be attended to, and a new one should be formed in order to do away with the rectocele. He then referred to the lack of contractile power of the rectal muscles in individuals who had been victims of periproctitis; there was not actually a stricture produced but the rectal wall had lost its power of contraction. Nothing but abdominal force and washing out the rectum would relieve the condition. It was sometimes the result of peripelvic inflammations. Another condition often met with was what was termed "rectal hernia." In this there was an elongation of Douglas' cul-de-sac and the pressure forced the intestine down into the rectum; this condition was often diagnosed as a prolapse of the rectum; it presented one of the most difficult problems in the way of treatment. Another condition causing constipation, which was frequently overlooked, was an interstitial neuritis occurring around the margin of the anus in patients with fissures that had healed and left not a big cicatrix but a small one. Here the nerve had become involved in the plastic process and there had resulted a true neuritis. This interstitial neuritis was the cause of constant aching pain, which increased every time the bowels moved and on long sitting; as a result the patients dreaded going to the closet. Stretching the sphincter in these cases was absolutely useless. The only thing to do was to dissect out the entire deposit and then one would get rid of the constipation; the deposit should be dissected out and a plastic operation should be performed.

Dr. James J. Walsh said that during the past few years there had been a great change regarding the possibility of autointoxication occurring as the result of constipation. He did not regard the danger as great, for when one was constipated the water was more or less extracted from the contents of the bowel, and this lessened the tendency for bacteria to grow, making a poor culture media.

Dr. Gant said that he had had many cases of colitis occurring in patients with bad complexions; so soon as the colitis had been cured the complexions improved.

Dr. A. Palmer Dudley spoke of the constipations that were due to passive congestions about the uterus and adnexa resulting from the manner of dressing in women, which crowded the uterus and appendages down upon the bowel structures; then chronic constipation resulted, which brought about a condition of colitis as a result of the packing.

Dr. Murray said that her paper was addressed more to the general practitioner than to specialists. She said that the former frequently gave cathartics without understanding the conditions producing the constipation. This was shown in the cases of mechanical obstruction so frequently met with. She recognized a defect in the paper in not having given more prominence to the inflammatory conditions producing constipation; they were mentioned only incidentally. The mention of autointoxication brought to mind something she had thought of while writing her paper, viz., personal idiosyncrasy in regard to it. Many patients would go for a long time without any movement of the bowels and without any evidences of autointoxication. Regarding anterior and posterior rectocele, it was the anterior that she had observed most frequently in women, and this was the one treated of especially in her paper.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held May 23, 1904.

Dr. Wendell C. Phillips, Chairman.

The Passing of Neurasthenia.—Dr. Charles L. Dana read this paper. He said that the term neurasthenia by some was thought to be a reflex neurosis while others claimed that it was of central origin. For years Dr. Dana had met with many cases of melancholia, and in a series of one hundred cases more than one-half gave histories of what had previously been diagnosed as exhaustion, and he came to the conclusion that a large percentage of neurasthenics in the middle and later life were forms of melancholia. Simple melancholias he always considered to be curable. There was a tendency to recur, and it was usually easy to diagnose between the psychosis and the neurosis. More than one-half the cases of so-called neurasthenia could easily be regarded as cases of melancholia, or this plus some real non-psychical exhaustion. He said there was one general psychosis which took place in three forms, viz., (1) simple melancholia which was not always recurrent and which was oftentimes seen in adults; (2) melancholia or maniacal disease in which there were attacks of mania or melancholia, or both, which occurred early in life; (3) hypochondriacal melancholia. He stated that neurasthenia might be confounded with the melancholias of involution. He also referred to another group of cases, neurasthenic or hystero-neurasthenic, the form that occurred in adolescence. Hysteria had been recognized as a psychosis and belonged to the same group. There again was a group of insanities known as the exhaustion or toxic psychosis which was produced by and followed certain infectious diseases, such as typhoid fever and influenza. There was an important group of insanities which appeared before the period of adolescence and these were sometimes called the insanities of adolescence, the more modern name being dementia præcox. This was preceded for two or three years by pseudo-neurasthenic symptoms.

The so-called neurasthenia occurring before the age of twenty was apt to be a serious psychosis. Paranoia was a form of insanity, but here the symptoms do not develope in manifestly or evident psychosis. For some time these cases go on to fits of depression, to suspicions, they become hypochondriacal, and they pass as cases of neurasthenia or melancholia of adolescence, whereas they are really developing paranoia.

In summarizing his remarks Dr. Dana said that from one-half to two-thirds of the so-called cases of neurasthenia might be grouped under the headings already referred to, including the early stages of paresis. Still there were many cases that must yet be called by that name. In examining these cases of so-called neurasthenia one should make an attempt to classify them properly. It was stated that in the Boston and Massachusetts General Hospital they had not made a diagnosis of neurasthenia more than twice during the past twelve months and, therefore, Dr. Dana felt justified in calling the attention of the society to the fact that one must look further when meeting with such cases. Ten years from now this term will have been dropped or else applied to a very small group of cases.

Dr. Robert T. Morris said he was glad to hear what Dr. Dana had stated regarding the classification of these so-called cases of neurasthenia and to know that more than

one-half of them were really psychic in origin; this would greatly simplify matters. Surgeons saw a great many cases of neurasthenia which developed soon after surgical operations. Many of these were cases of psychosis precipitated by, for instance, a loose kidney, by peritoneal adhesions, eye strain, septic endometritis, and other causes which did not really cause but rather precipitated an attack. Hereafter he would consider these forms of so-called neurasthenia as really forms of psychosis precipitated by some peripheral irritation.

The Curette in the Treatment of Acne.—Dr. George Henry Fox read this paper, and said that he would like to impress upon the members of the society what it had taken him thirty years to learn, viz., the use of the curette was worth more than all the ointments and lotions that had ever been recommended from time immemorial and commonly used at the present day. He had used it for many years to the exclusion of remedies usually employed by others. By its use there were left a number of bleeding points, and patients, as a rule, were not impressed with it at the outset; but gradually the comedones were eradicated and marked improvement followed in the patient's complexion. The pain or discomfort lessened with the disappearance of the acne lesions. After using the curette he rubbed the face with some antiseptic lotion. The inflammatory condition quickly subsided without the use of soothing ointments. During the treatment the patient should massage the face, bathing first with cold water and then scrubbing it with a rough towel. Steam was rarely advisable. Cold water acted as a local tonic. He did not claim that the curette would cure all cases of acne; it would improve a toper's nose but it would not cure without changing the habits of the patient. The curette was the best method of local treatment, but the general treatment should not be neglected. The patient should be placed upon a rigid and restricted diet, and one should insist upon plenty of exercise in the open air. Every patient with acne was anxious to be cured, and he said that they all could be cured if attention was paid to the following three things to be employed, viz., diet, exercise, and the curette.

Dr. Wendell C. Phillips said that he had recently seen such remarkable results following the line of treatment advocated that he was much impressed with it.

Report of Rectal Operations Under Sterilized Water Anæsthesia.—Dr. Samuel Gant make this report and presented patients upon whom he had operated by this method of anæsthesia. He said he was led to use it because so many patients objected to anæsthetics or to anything that would keep them from business. He had experimented with local anæsthesia and finally got the solutions weaker and weaker, and then he observed that it did not make much difference how strong the solution was so long as it was introduced in a certain manner. He had operated upon minor cases, such as hemorrhoids, fistula, fissures, prolapses, etc., and with marked success, and without the bleeding that almost invariably followed the use of eucaine or cocaine which seemed to paralyze the blood-vessels and cause much oozing afterward. Within thirty seconds he could completely anæsthetize the parts to be operated upon. He had done more than 250 operations under sterile water anæsthesia. It could be used in other parts of the body. The injection was first made beneath the skin, and this was the only painful part of the procedure; this caused a sharp stinging pain lasting but a short time. The sterile water should be injected between the layers of the skin until a white line appeared showing the part to be completely anæsthetized. In skin work upon fat people it was sometimes impossible to get water anæsthesia. But in cases of hemorrhoids, the larger the better, this method of anæsthesia had proven very successful.

Dr. Edward Wallace Lee wished to corroborate all that Dr. Gant had stated. For a number of years he had resorted to this mode of producing anæsthesia in minor operations upon the extremities, and its effects he believed to be due to a paralysis of the terminal nerve filaments through mechanical pressure and also by diminution of the circulation. He had noticed where water anæsthesia had been used that there was no sloughing, such as so frequently occurred when eucaine or cocaine was used.

Dr. Elmer Lee said that in 1892, at St. Petersburg, during an outbreak of epidemic cholera, when hypodermoclysis was given it was found that the injections of water beneath the skin of the abdomen produced local anæsthesia.

Dr. Gant closed the discussion by stating that a peculiar thing to be noted was that there was practically no bleeding in these cases. Also, if you injected cocaine in one patient with hemorrhoids and sterile water in another, after the operation the first patient will jump off the table without any pain or discomfort whatever while the latter will suffer pain for hours.

The Conditions Which Interfere with Complete Success in the Operation for the Removal of the Adenoids.—Dr. Clarence C. Rice read this paper. He said the operation for adenoids was more commonly performed than any other surgical procedure and at least fifty such operations were done daily in New York City alone in the various clinics and hospitals. It was a condition always present in children with nasal catarrh, and this lymphoid tissue, or a certain degree of enlargement of it, primarily existed in children who had sore lips from their nasal discharges, who were mouth-breathers, who had catarrhal laryngitis and bronchitis, etc., and frequently this condition predisposed to pneumonia and pulmonary tuberculosis. To have to resort to surgical procedures for the removal of the adenoids added to the health and comfort of the patient. All operatians for the removal of adenoids did not always cure them, and the results that were promised failed for reasons which could be enumerated under three headings, as follows: (1) The operator did not make proper preparation for his work. He might operate too hurriedly and without anæsthetizing his patients properly, or he might have unsuitable instruments. The complete and thorough removal of the adenoids must be made before success was obtained, and complete anæsthesia should be employed. (2) The lymphoid tissue was not thoroughly removed. Dr. Rice spoke of the difficulty in clearing out the pharyngeal vault. No two cases presented similar conditions, and great care and study were necessary in order to accomplish the desired end, *i.e.* the complete and thorough removal of the lymphoid tissue. (3) The existence of abnormal conditions in other parts of the respiratory tract existing before or after operations. Dr. Rice said that our public school children, guarded by the Board of Health, were better off than the children of the rich who went about with vacant looks, open mouths, etc., and whose general health was far below par.

Dr. Francis J. Quinlan referred to the advantages of the upright position in operating for adenoids, and said that, with a competent anæsthetist, there was absolutely no danger. He said that sometimes the lymphoid tissue was pedunculated, soft, or friable, and that it was impossible at times to get rid of it either with forceps, the curette, or other mechanical device. For the last ten years he said he had used the upright position and he had had the best possible results from it. He believed that some anæsthetic should always be given. So far as hemorrhage occurring and blood going in the larynx was concerned, he had yet to see such a case. There was no possible danger of secondary trouble with the middle ear because complete drainage was had.

Notes on the Present Epidemic of Cerebrospinal Meningitis.—Dr. Henry Dwight Chapin spoke of the epidemic of this disease now present in New York City, which began early in March and which has been steadily increasing ever since. Comparing the figures obtained from the Board of Health of last year with those of the present year

he found that from March 12 to May 21 there were 64 deaths in 1903 and 498 in 1904. He then proceeded to enumerate a few of the salient points regarding this epidemic, which gave very irregular manifestations. The onset was fairly rapid. There was vomiting, chilliness or rigors, and frequently severe convulsions. The severity of the initial symptoms bore some relationship to the kind of attack. In one case a child had convulsions for four days and then made a good recovery in two or three weeks; other cases might present very mild symptoms and die. He said that if stupor or coma quickly followed the convulsions the prognosis was grave. The typical retraction of the head usually occurred on the second or third day. The rigidity was often extreme and hard to overcome. The posture of the patient was characteristic. Besides the opisthotonos, the thighs, arms, and hands may be extremely flexed. The retractions and rigidity were usually continuous during the course of the disease. The cases were very irregular in their manifestations, and those that appeared to be going on to a fatal termination recovered, while those that were very mild in type and apparently recovering would die. Dr. Chapin then considered some of the symptoms that occurred in the cases at the Post-Graduate Hospital, now under the care of Dr. Caillé. Tonic spasms of the group of muscles at the back of the neck was a constant feature. Hyperæsthesia of the skin was noted. The patients gave evidences of great discomfort when disturbed. Some cases went directly from the convulsions into stupor. Kernig's sign was recognized. Leucocytosis was present. The temperature, pulse, and respirations showed remarkable variations and gave nothing characteristic except this variability. One patient had a drop in the temperature of nine degrees in ten hours. The skin was rarely involved and no purpuric spots were noted. The eyes were more or less involved, dilating sluggishly to light. The ear was involved in a certain number of the cases, and deafness might follow. The general course and duration of the disease was very irregular. Patients extremely prostrated might go on to recovery. The most unfortunate cases were those in which the brain was affected by the disease. The diplococcus intracellulosus was obtained by lumbar puncture in all but two cases. The disease was prevalent among the poorer classes and where there were poor hygienic surroundings. He was glad to state that the coming mild weather would possibly check the disease.

Dr. Thomas R. Pooley said that both the eyes and ears might become affected in cerebrospinal meningitis early in the disease, and generally within a few days after the onset. The effect could occur in two ways, viz., by metastasis and direct invasion through the sheath of either the optic or acoustic nerve. He believed the disease more often spread along the natural nerve channels. Usually both ears were affected and with permanent results. The onset of the ear symptoms was characterized by pain and also by a persistent tinnitus and unsteadiness of gait. It was common to see one eye affected and always with complete loss of sight. Post-mortem examinations showed that the nerve trunk was involved and inflammatory condition extended to the membranous labyrinth, to the cochlea, etc., there being a purulent diffusion. This resulted in atrophy of the terminal fibers of the eighth nerve and with resulting deafness.

Dr. Wendell C. Phillips said that during the past two or three years he had made many examinations of pus in cases of acute and chronic otitis media and especially in those cases that manifested mastoid symptoms, and he had been surprised to find how many times the pus contained the diplococcus intracellularis meningitidis. This did not mean meningeal complications, but showed that the germ was present in a great many cases of acute suppurative otitis media with mastoid complication. He said that to-day at the clinics they were beginning to receive patients who lately had been victims of cerebrospinal meningitis and who now were troubled with eye and ear symptoms.

Society of Sanitary and Moral Prophylaxis.—Dr Ferd. C. Valentine regretted the absence of Dr. Prince A. Morrow, who was to make a plea for the organization of this society, and moved that such a society be at once organized. This was seconded and carried

Orleans Parish Medical Society.

At the meeting held May 28, 1904, a resolution was adopted authorizing the president and secretary to expend $5,000 for the purchase of a building for the permanent domicile. They were also authorized to issue 260 bonds of $25 each, to run twenty-five years at 4 per per cent. interest, unless retired sooner by the society, these bonds to raise the purchase price of the property and $1,500 for improvements.

After a discussion about recent "write ups" of physicians by the lay press, the following was adopted:

"*Be it Resolved*, That it is the sense of the Orleans Parish Medical Society that it is inconsistent with the highest ideals of the medical profession for members to permit the appearance in the daily press of articles bearing on their professional attainments or accomplishments."

Dr. Urban Maes read a paper entitled "Nitrous Oxide and Ether Anæsthesia." The deductions were based on 555 cases supervised and anæsthetized by the writer in 1903. Thirty-five were tabulated and the disagreeable features as well as the advantages noted. Profuse bronchorrhœa occurred but ten times out of 555. In a paralleled series of sixty cases the saving of ether was found to be 52 per cent. The dangers of reinhaling expired vapor was mentioned. The average time required to induce anæsthesia varied from three to six minutes. The extremes of age were found less suited to this method than adults. The absence of the stage of excitement was a feature especially to be commended. The method of gradual change from nitrous oxide to ether was soon found to be the best.

Dr. Quitman Kohnke, president of the City Board of Health, called attention to the fact that mistakes and disputes were often caused by the occurrence of mild ambulatory cases of smallpox, in which headache, backache, noticeable fever and malaise were absent. He had known of such undiagnosed cases in which the patients were allowed to mingle with other children at school.

Dr. Wm. M. Perkins was unanimously elected chairman of the Committee on Arrangements for the 1905 meeting of the Louisiana State Medical Society.

Investigations of Chicago Dairy Farms.—The following is a summary of the most important results of Commissioner Reynolds' personal investigation of a number of dairy farms in Illinois and adjoining States from which Chicago receives its milk supply: (1) An increasing proportion of Chicago's milk is delivered to the consumer within twelve hours after milking. The bulk of it, however, is from twenty-four to thirty-six hours old before delivery. There is no insuperable reason why it should not all be delivered within the shorter period and every effort of the department is being made to this end. (2) There is much room for improvement in the conditions of milk production on nearly all the dairy farms visited, except those under the direct supervision of a few large contracting firms. The dairy inspectors of the department are engaged in visiting this class of farms, explaining to their owners the necessary requirements, reporting upon their conditions, and recommending the exclusion of their product from the Chicago market if, after a reasonable time, they fail to conform to these requirements. (3) It costs more to produce clean milk than dirty milk—therefore, cheap milk is, *prima facie*, impure and unwholesome milk, and the housekeeper who buys it is helping to perpetuate unclean conditions of dairies and helping to swell the death rate of the city.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

ANLEITUNG ZUM CHEMISCHEN ARBEITEN FÜR MEDICINER. Von Dr. F. ROHMANN. 8vo, 98 pages. Illustrated. Cloth. S. Karger, Berlin, Germany.

BEITRÄGE ZUR ANATOMIE DER TUBENSCHWANGERSCHAFT. Von Dr. FRITZ KERMAUNER. 8vo, 137 pages. Illustrated. S. Karger, Berlin, Germany.

THE MOTHER'S MANUAL: A MONTH BY MONTH GUIDE FOR YOUNG MOTHERS. By Dr. EMELYN LINCOLN COOLIDGE. 12mo, 263 pages. Muslin. A. S. Barnes Company, New York. Price, $1 net.

DISEASES OF THE INTESTINES. By Dr. I. BOAS. Translated by Dr. SEYMOUR BASCH. 8vo, 600 pages. Illustrated. Muslin. D. Appleton & Company, New York.

DIE BUCHFÜHRUNG IM APOTHEKENBETRIEBE. Von Dr. J. BARBER und V. SCHESTAUBER. 8vo, 72 pages. Muslin. A. Hartleben, Leipzig.

MEDICAL LABORATORY METHODS AND TESTS. By Dr. HERBERT FRENCH. 16mo, 152 pages. Illustrated. Cloth. Bailliere, Tindall & Cox, London.

RÖNTGEN RAY DIAGNOSIS AND THERAPY. By CARL BECK, M.D. 8vo, 460 pages. Illustrated. Muslin. D. Appleton & Co., New York. Price, $4.

POPULAR AND MEDICAL GUIDE TO BAGNERES-DE-LUCHON IN THE PYRENEES. By E. LE JUGE DE SEGRAIS, M.D. 16mo, 30 pages, illustrated.

BEITRÄGE ZUR KLINIK DER TUBERKULOSE. Herausgegeben von Dr. LUDOLPH BRAUER. Band 2, Heft 3. 8vo, 201-250 pages. Illustrated. A. Stuber, Würzburg, Germany.

VORLESUNGEN ÜBER DEN BAU DER NERVÖSEN ZENTRALORGANE DES MENSCHEN UND DER TIERE. Von Prof. Dr. LUDWIG EDINGER. Erster Band. 8vo, 399 pages. Illustrated. F. C. W. Vogel, Leipzig.

PHYSICAL TRAINING FOR CHILDREN BY JAPANESE METHODS. By H. IRVING HANCOCK, Esq. 8vo, small, 153 pages, illustrated, muslin. G. Putnam's Sons, New York.

MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS—INORGANIC SUBSTANCES. By Dr. CHARLES D. F. PHILLIPS. Third edition. 8vo, 921 pages, muslin. Longman's Green & Co., New York. Price, $6 net.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS. By JOHN H. MUSSER, M.D. Fifth edition. 8vo, 1213 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $6.50 net.

MANUAL OF MATERIA MEDICA AND PHARMACY. By E. STANTON MUIR, PH.G., V.M.D. Third revised edition. 8vo, 192 pages, muslin. F. A. Davis Company, Philadelphia. Price, $2.

ELEMENTS OF GENERAL RADIO-THERAPY FOR PRACTITIONERS. By Dr. LEOPOLD FREUND, Vienna. Translated by Dr. G. H. LANCASHIRE. 8vo, 538 pages, illustrated, muslin. Rebman Co., New York. Price, $5.

INTERNATIONAL CLINICS. By various authors. Edited by A. O. J. KELLY, A.M., M.D., Philadelphia. Vol. I. Fourteenth Series, 1904. 8vo, 304 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

GRAVES' DISEASE WITH AND WITHOUT EXOPHTHALMIC GOITER. By WILLIAM HANNA THOMSON, M.D., LL.D. 8vo, 143 pages, muslin. William Wood & Company, New York. Price, $1.50 net.

DIE COLOSTRUMBILDUNG ALS PHYSIOLOGISCHES ANALOGON ZU ENTZÜNDUNGSVORGANGEN GLEICHZEITIG EIN BEITRAG ZUR LEHRE VON DEN LEUKOCYTEN UND DEREN GRANULATIONEN MIT HISTORISCHEN DARLEGUNGEN. By Dr. HANS BAB. 8vo, 97 pages. August Hirschwald, Berlin.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By RICHARD C. CABOT, M.D. Fifth, revised edition. 8vo, 549 pages. Illustrated with color plates and engravings. Muslin. William Wood & Company, New York. Price, $3.50 net.

A SYSTEM OF PRACTICAL SURGERY. By Drs. E. VON BERGMANN, P. VON BRUNS, and J. VON MIKULICZ. Vol. 2. Translated and edited by Drs. William T. Bull and Carlton P. Flint. 8vo, 820 pages, illustrated, half morocco. Lea Brothers & Co., Philadelphia. Price, $8.50 net.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 30, 1904:

	Cases.	Deaths.
Measles	183	8
Diphtheria and croup	202	24
Scarlet fever	88	8
Smallpox	1	...
Varicella	11	...
Tuberculosis	341	170
Typhoid fever	83	13
Cerebrospinal meningitis	...	25

Health of European Armies.—The health of European armies has been engaging the attention of Professor Kende of Budapest, and the results of his investigation are now given to the world. Of all the armies, the professor is inclined to put the German first, though the general sanitary conditions of the French appear to be almost as satisfactory. The Frenchman, however, is of a feeble constitution. Austria, it is said, suffers from the ravages of disease, and the sanitary condition of the Italian army is most strongly condemned. Out of a thousand men, according to Professor Kende, Italy loses nine, Austria six, France five, and Germany only four. The system of Germany is certainly a good one; but it must be remembered that it is employed on a stock naturally strong and robust.—*London Globe.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 30, 1904.

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
District of Columbia, Washington	July 16–23	..	1
Illinois, Chicago	June 16–23	4	..
Danville	July 16–23	1	..
Iowa, Clinton	July 8–16	1	..
Kentucky, Covington	July 16–23	1	..
Louisiana, New Orleans	July 16–23	1	Imported
Massachusetts, Fitchburg	July 16–23	1	..
Michigan, Detroit	June 16–23	1	..
Missouri, Saint Louis	July 16–23	5	..
New York, New York	July 16–23	2	..
Ohio, Cincinnati	July 18–15	2	..
Pennsylvania, McKeesport	July 16–23	1	..
Williamsport	July 16–23	1	..
Tennessee, Memphis	July 16–23	..	1
Wisconsin, Milwaukee	July 8–23	3	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	May 7–June 4	10	5

SMALLPOX—FOREIGN.

Belgium, Brussels	July 2–9	..	1
Brazil, Pernambuco	June 1–15	..	24
China, Hongkong	May 28–June 11	7	1
Shanghai	June 4–11	..	3
France, Paris	June 25–July 9	20	2
Great Britain, Edinburgh	July 2–9	..	1
Glasgow	July 8–15	11	2
London	July 2–9	10	..
Nottingham	July 2–9	3	..
India, Bombay	June 21–28	..	17
Karachi	June 19–26	2	..
Japan, Nagasaki	June 1–20	4	3
Netherlands, Rotterdam	July 8–16	1	..
Panama, Panama	July 11–18	1	1
Turkey, Constantinople	June 27–July 3	..	7

YELLOW FEVER.

Costa Rica, Limon	July 8–16	1	..
Mexico, Merida	July 3–9	4	..
Tehuantepec	July 3–9	6	1
Vera Cruz	July 9–16	4	..

CHOLERA.

China, Hongkong	May 28–June 11	13	11
India, Bombay	June 21–28	..	1

PLAGUE—INSULAR.

Hawaii, Hilo	July 21	..	1
Philippine Islands, Cebu	May 25	..	1
Manila	May 7–June 4	12	12

PLAGUE—FOREIGN.

Australia, Brisbane	June 11–18	1	..
Maryborough	June 3	..	1
Sydney	June 6	..	1
China, Hongkong	May 28–June 11	83	83
India, Bombay	June 21–28	..	48
Karachi	June 19–26	3	3

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Original Articles.

THE SUCCESS OF PHYSICAL REMEDIES IN PULMONARY PHTHISIS AS AN INDEX OF THEIR VALUE IN OTHER CHRONIC DISEASES.*

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IT were "sending owls to Athens," as the proverb says, to attempt to enlighten the physicians of this section on any subject connected with phthisiotherapy. I may, however, be able to suggest to you some therapeutic methods not in ordinary use, which have been ascertained as useful in my observations of private and hospital work. Before proceeding to the subject of the evening, I will, with your permission, Mr. President, briefly summarize some personal views on the subject of phthisis-therapy in general, and to point out that phthisis may be regarded as an illustration of what can be accomplished by systematic methodical managment in all chronic diseases. The latter have been the opprobrium of medicine because physicians have not applied the same methods of managing them which they have successfully applied in the management of acute diseases. These almost always tend to recovery or their course is sharp, short, and decisive. Chronic disease on the contrary comes upon the system insidiously. Like a thief in the night, it often invades the unguarded organism and destroys important tissue elements, when restoration is beyond our aid. In the presence of a case of typhoid fever, we begin the battle with hope and courage, feeling a certain degree of security in the knowledge that we have a powerful ally in the vis medicatrix naturæ, to enhance which all our energies are bent.

How different is our mental attitude toward chronic diseases. The modern physician who is so trustful to nature in acute disease does not feel inspired with hope or confidence in chronic disease. Far from it. Palliation is the goal of his therapeutics; restoration seems out of his reach. The average physician has certain ideas about diet in gout and diabetes, about cod liver oil, creosote and climate in phthisis, the iodides in chronic rheumatism, etc., but he cannot often lay his hand upon his heart and say that he has ever cured a correctly diagnosticated case of this kind. Why is this? The physician visits a case of typhoid fever or pneumonia once a day or oftener. He has the patient's condition recorded by nurses or relatives. His directions, medical, dietetic or otherwise are closely followed; in fact, the patient, together with his whole environment, is under his absolute control. A patient with chronic rheumatism, neurasthenia, diabetes, or phthisis, calls at the office about once a week. He is carefully examined, the history taken, the diet, etc., are ordered with precision, but from the moment he leaves the office he is no longer under the observation and control of the physician. The execution of the latter's directions depend upon his own sweet will; he returns or does not return, as directed, gives a rambling account of the effect of the treatment; the personal equation being perhaps the most important element in his statements. No skilled or unprejudiced observation of the treatment, mode of living, or anything else connected with the case is at the physician's service. The latter soon shares the patient's indifference because the danger of a fatal issue is absent, or seems very distant. The result is failure. The patient wanders from one doctor to another until at last he falls into one of the numerous quack-systems and perhaps ends with the Christian Scientist, who, by convincing him of the non-existence of the disease for which the doctors have treated him, cures at least his mind.

Such was the management of phthisis at no distant period. Happily a brighter day is dawning for the successful management of all chronic diseases, and it is entirely due to the fact that the medical profession has come to realize that phthisis, which was at one time regarded as the most incurable of all chronic diseases, has proven amenable to successful treatment. According to reliable authorities, healed tuberculous foci, encapsulated or calcified, are found in every third or fourth body examined at autopsy. Koeniger reports, from the Home for Invalids and Old People in Hanover that 58 per cent. recovered out of 591 cases of tuberculosis received there for treatment. Many colleages whom I have met here are marvelous examples of what your climate has accomplished. It would seem fair to conclude that in those cases in which healed tuberculous lesions were found without previous history, the organism had furnished all the remedial agencies necessary for the cure. The modern method of managing phthisis is really an approximation of the latter, inasmuch, as it aims to place the organism in the most favorable condition to throw off disease. I hold that the chief merit of the modern successful management of phthisis lies in the adoption of the methods long so successfully pursued in acute diseases. Constant, unremitting attention to every detail of the patient's mode of life, his environment, food, drink, rest, exercise, baths, clothing, occupation are the only road to a favorable result. Even in the matter of climate, the abandonment of indefinite ideas in favor of a more methodical adaptation of conditions existing in each, has wrought favorable results. Simplicity is here as fruitful as it is in all therapeutic questions. It is now recognized that the climate which affords the patient the largest opportunity of breathing dry air free from vitiated matter—is the most useful climate. While other elements, such as altitude, freedom from winds, rains, barometric and thermometric conditions are important, absolute purity of air and the possibility of utilizing it at all times and without

*An address before the Los Angeles (Cal.) County Medical Society.

interruption are the chief points. This is the kernel of rational climato-therapy.

In my student days most phthisical patients were sent to the South; semi-arctic regions like the Adirondacks or Davos, were regarded by our forefathers as absolutely detrimental, if not fatal. To-day many consumptives find relief and cure in the cold dry air of mountainous New York and distant Colorado, in the dry and yet bracing air of Southern California, in the moist and warm atmosphere of Florida, or in the arid deserts of Arizona.

Just as in surgery, the discussions of the comparative merits of sublimate, iodoform, and carbolic acid has become of secondary interest, since we recognize that the triumphs of modern surgery are due to strict asepsis, so has the contention about climate become of secondary interest, since we realize that methodical treatment under conditions which afford the patient the best opportunity for out-door life and air that is free from contamination and excessive moisture, are the curative factors. After all, the chief benefit of a climate lies in its judicious adaptation to each case. The celebrated health resorts of Germany, which attract a multitude of people, more or less afflicted with chronic diseases, do not owe their well-earned reputation so much to the climate and chemical composition of the waters or other local conditions, as is generally supposed. These useful therapeutic elements would be absolutely inefficient if their application were not directed by the medical men residing in these resorts, who have made it a life study to investigate the climatic and balneological advantages of their respective springs, and have convinced their confrères in all parts of the world, by conscientious striving for the welfare of the patients committed to their care and by the intelligent application of their respective local advantages, and by close attention to and guarding of the sanitary arrangements of the springs. It is really more important for the physician who sends his patient to health resorts or springs to know the mental composition of the doctor than to know the barometric characteristics of the climate or the chemical composition of the waters. As an example, let me cite the recent marvelous growth of Nauheim as a resort for cardiac cases, which is due to the studies of Dr. Theodore Schott, and his conscientious selection of cases adapted for the Nauheim waters. By scorning mercenary methods, unfortunately prevalent at many resorts, he has builded better than he knew, for the town of Nauheim has since his death become the Mecca of patients from all parts of the world. It will retain its well-earned reputation so long as its physicians will utilize it judiciously, select the patients with care and firmly decline to retain cases not adapted, though the material interests of the resort may seem to suffer.

Permit me to apply this example to Southern California. My observations since my visit here convince me that Southern California possesses in the highest degree every element for the successful management of phthisical patients. You have, according to Dr. Norman Bridge and others, low altitudes and high altitudes, dry bracing air with a mild atmosphere, and small relative humidity, a larger number of clear days than are recorded of any other health resort in my knowledge. You have much to interest and occupy the patient and thus divert his mind. Your beautiful orange groves, tropical palms, your orchards and vineyards, your cañons, your mountain scenery, the social and educational facilities—all conspire to woo the sick man to health, and, unlike more rigorous climates, to furnish pleasant and profitable occupation after he is restored and needs a favorable environment to prevent relapse. The air sweeping over desert and ocean must be pure and free of all contamination; even high atmospheric temperature appears to be free from that relaxing effect which is observed in the more humid regions of the South and East. I had, a few days ago, a personal experience which is more convincing than would be all the barometric and thermometric data I could obtain. With the temperature at 80° F. and clad in a warm suit, I was compelled to rush from street to street, in order to find some reliable information about the medical school at which I was to lecture at eleven o'clock. If I had been subjected to the same amount of mental and physical exercise in the sun of New York City, my heavy clothing would have been saturated, and I would have been exhausted. The fact that I was free from the latter was a pleasant surprise. It was a clinical demonstration of the inocuity of high temperature, in this climate. May I venture to suggest to you that you emulate the example of Schott of Nauheim, that you continue to study and investigate the grand facilities at your command in this favored section, and that you apply them with wisdom and with a conscientious regard for the patients entrusted to your care by colleagues from the North and East. Thus and thus only will the climate of Southern California attain the high repute to which it is entitled as a health resort.

It was a pleasant surprise to me to note that you have in your midst a small but model institution for phthisiotherapy which deserves to be developed into enormous proportions, if the lines upon which it has been inaugurated can be continued. It is the only private eleemosynary institution in which I have enjoyed the satisfaction of seeing hydrotherapy scientifically, judiciously, and successfully applied in phthisis, and which may be taken as a model of perfect construction.

I had been somewhat prejudiced against the climate of Southern California by statements of the tremendous fogs which are said to infest this section. Personal investigation has revealed the fact that these fogs are a blessing in that they furnish moisture to the arid soil, and at a short distance from the seashore they can do no harm to the phthisical patient, aside from the somewhat depressing effect on some patients, because of the moisture which they furnish which renders the air more tolerant to irritated lung surfaces. They also furnish moisture to the arid soil, and thus prevent dust to a great extent. Inasmuch as the fogs are usually dispersed during the early morning hours, and the air, as a rule, is entirely free from them during the remainder of the day, I cannot conceive any harm from them. The slightest precaution of covering the open resting places of the patients during the fogs will preclude any danger in acute cases, and avoidance of exercise during their brief existence will protect others.

Colleagues of Los Angeles, permit me to direct your attention to a serious responsibility which rests upon you. To you, more than to any other of its citizens, is entrusted the future prosperity and development of this garden spot of the earth. If this section is ever to attain its grand destiny, not only as a life-giving refuge for the invalid, a haven of rest for the weary, the infirm, and the aged, also as the home of enterprising men and women, who will surely discover its vast agricultural, horticultural, and other resources, *you* must see to it that strict sanitation is maintained in the

country districts as well as in the towns, but especially in the latter. I need not remind you of the patent truth, that the drainage, sewerage, water, milk, and food supply need to be watched assiduously, and with jealous care. The enormous population which is certain to be attracted at no distant day to this land of eternal spring, unlimited fertility, and inexhaustible material resources, will surely contaminate this dry and porous soil with disease germs, which the rains will as surely pour into your springs, wells, and water-courses, unless the sewerage is carefully watched and guarded from its source to its discharge, step by step, without interruption. Only in this manner will it be possible, as you are well aware, to segregate it from contact with the drinking water. There must not be a shadow of doubt or suspicion. Eternal vigilance is the price of health and prosperity as it is of liberty. To the physician and sanitarian is committed the unappreciated but noble task of safeguarding the priceless treasure of health of every community, against the rapacity of political jobbers and others whose soul is encased in their bank accounts, and who would fain diminish the tax levy by penurious appropriations to the health department. You and I know that no expenditure of public funds is more economical and profitable to a community than the money spent for sanitary purposes.

Hydrotherapy.—Any doubt that the subject of hydrotherapy demands more frequent discussion would be removed by the interest with which my humble labors on this subject have been received by the wideawake, intelligent, and progressive colleagues whom I have met here. The eagerness and earnest attention with which the subject has been discussed at the various functions at which I have had the honor to be entertained, and the evident desire for more exact information which the requests of the officers of your medical societies and of the faculty of your school have evinced, have been a delightful revelation to me, and will stimulate me to renewed effort. In addition, a glance at the Transactions of the American Climatological Society for 1901, which I happened to see in the office of my friend Dr. Barlow, assured me that I would be recreant to my duty if I failed to respond to the several requests for addresses on hydrotherapy, which have been made since my advent in this community. The president of the American Climatological Association for 1901, Dr. Babcock, deplores the absence of papers on hydrotherapy, and pleads for deeper interest. "Water," he says, justly, "in its various forms of administration is so powerful an agency for good in a large number of chronic disorders, that a series of contributions upon the subject ought to prove both edifying and interesting. So numerous have been contributions to the subject of tuberculosis that it has been said, with some show of truth, that we are in danger of becoming a society of tuberculosis rather than of the broader scope originally intended. This is natural, owing to the absorbing interest and universal importance of this class of diseases. Is it not singular that we have had no discussion upon the use of cold in the treatment of pneumonia and pleurisy, for instance? To my mind cold in the form of baths or ice is so valuable in these affections, both for the antipyretic and analgesic, and for the tonic effect on the nervous system, that its employment by the rank and file of the profession is altogether too much neglected."

In an excellent article on "home treatment" in the same number of the transactions I find precise directions given for the dose, preparation, mode of administration of creosote, of acetanilid, phenacetin, antipyrin, codeine, and other medicinal agents. When, however, the author, who evidently understands well the principles of hydrotherapy, writes of the latter, he becomes vague, and the confidence he expresses in his medicinal therapy vanishes. He says, "In the acute febrile stage the patient is sponged with alcohol and water three times daily, and his linen changed as often as required; when he has improved and become convalescent, he is advised to take a cool sponge bath every morning, standing in a rubber tub before the washstand that has a large basin full of cold water on it ready for use, and a big linen sheet for drying by the side of it. Time allowed for this procedure, from two to five minutes." He fails to state the proportion and temperature (dose?) of alcohol and water; and allows the reader to guess the temperature of the "cool" sponge bath. He errs too, in ignoring the fact that when a patient with feeble reaction stands in a tub and has "cool water" running over him, he will soon stand in a puddle of cool water, he will be chilled, and have his reaction lowered.

I am glad to find in another article on "home treatment" in the same volume that this point is recognized by the author, who I am proud to acknowledge as one of my earliest disciples.

Before proceeding to the technique of hydrotherapy in pulmonary tuberculosis it is meet that we consider briefly the principles upon which water of a temperature below that of the skin (and this is my standard for cool and cold water) acts on the human organism. It would be an insult to your intelligence to presume to offer you formulæ without pointing out the reasons underlying them. The principal effects of cold water externally applied are traceable to reaction which follows the shock to the minute nerve and vessel terminals in the skin. There are many laboratory experiments to prove that the irritation produced by cold is conveyed on sensory tracts to the brain and spinal cord, and thence reflected on motor tracts upon the organs which receive functionating capacity from this central "powerhouse." This is clinically illustrated by the gasp of a still-born infant when it is sprinkled with cold water. I have termed this "nerve reaction." When cold is applied to the skin the arterioles and capillaries contract, as is well known. If the cold is continued, as in the application of the ice-bag, the arterial blood is driven into the deeper vessels, while the blood of the veins, which have no muscular support, is retained; stasis ensues, as is evident from the dark red and cyanotic hue of the skin. If the application is brief, the blood driven to the deeper parts returns quickly to the surface and the skin becomes pink. In the latter case there is a stimulation of the vasodilators, in the former there is an overstimulation, which temporarily paralyzes the vessels. To evoke a proper reaction, *i.e.* to adapt the application of cold to each case, demands care and judgment. But the latter may be guided to a sure and definite course by observing the principles here rather briefly enumerated. Brief applications of cold stimulate, longer applications depress, and prolonged applications destroy vitality (frostbite). Moreover, we have four methods of dosage in the application of water, whereas we have only one for medicinal agents. (1) The temperature, (2) duration, (3) force, and (4) technique. These are well illustrated in the management of the still-born baby. In a mild case simple sprinkling with water, about 75° F., suffices; in a severe case the "dose"

is increased by a brief dip of the whole body into water, and may be intensified, as you know, by alternately dipping into warm and cold water. The sprinkling is a miniature douche, the dip is a miniature bath, the alternate use of hot and cold is often adopted in feeble phthisical cases, as I shall show. The principle involved (peripheral irritation) is the same in all procedures.

You will perceive, therefore, how irrational it is to order a patient to take a cold wash or a cold bath without stating temperature, duration, and mode of procedure. Sprinkling with cold water may suffice to restore an asphyxiated infant; it will be ineffectual in a case of typhoid fever, which requires a more prolonged application (a larger dose)—a cold bath. The latter would be as much too large a dose of hydrotherapy for the infant as the former would be too small a "dose" for the typhoid case. Let us be precise, then, in our directions. Inasmuch as the object of all cold procedures is to evoke reaction, in proportion to the reactive capacity of the patient, the nature and stage of the disease, etc., it follows that he who best understands the principles of hydrotherapy will succeed best in the application.

What are the indications for hydrotherapy in phthisis? (1) To increase blood cells and hæmatosis, (2) to deepen inspiration, (3) to enhance nutrition, (4) to eliminate excretory products, (5) to remove stasis, (6) to reduce temperature.

1. It is the vaunted merit of altitude that it increases blood-cells and enhances hæmatosis. It has been clearly proved also that all judicious general cold applications to the skin increase the white and red cells and hæmoglobin from 10 to 25 per cent., and that this is due to the tonic dilatation of the cutaneous (and all peripheral) arterioles, which aids in propelling the blood more actively onward, and at the same time offers a more normal resistance to the blood driven forward to the heart and reduces a rapid to a more nearly normal pulse. The cause of corpuscular increase due to altitudes is quite different, as shown by the experiments of Mosso, who, in "Life of Man on High Alps," p. 187, concludes correctly that "The rapid changes in the pulse observed during ascents, and more especially during mountain sickness, are due to the state of the blood-vessels. When these dilate, the resistance opposed to the circulation of the blood is diminished, and the heart beats more rapidly." You will perceive the vast superiority of hydrotherapy over altitude for purposes of blood-cell improvement—a superiority which is emphasized by the accessibility of the one and difficulty of attainment of the other. Without entering into more details to which I am tempted, it may be held that the daily exercise of the cutaneous blood-vessels and nerves, during and subsequent to a judicious cold procedure, is really a neurovascular training, which affords the patient the same physiological benefits that muscular exercise offers, and the same advantage that altitude offers without the occasional defects of either in many cases.

2. The deepening of the respiration is a legitimate effect of all cold procedures, as Winternitz, myself, and others have demonstrated by experiment. That the larger surface for oxygenation of the blood and elimination of CO_2 thus afforded, which is increased by the greater dilatation of the peripheral vessels in the air cells, must redound to the patient's benefit, need not be impressed upon you.

3. In the enhancement of the nutrition, the improvement of the circulation and respiration is, as you are aware, a potent factor, but there is an additional factor that comes into play in the effect of stimulation of the skin nerves upon the brain and sympathetic. The refreshment of the latter serves to heighten the appetite, improve the digestion and assimilation, and thus to increase nutrition as no other agent is capable of doing. In the Montefiore Home the increase of weight and improvement in the appearance of patients has been striking.

4. In all infectious diseases there is an increase retrograde tissue change, and owing to the sluggish circulation in the glands there is a defective oxidation and consequent retention of the products of tissue change. The enormous increase of well-oxygenated blood, resulting from cold procedures, enhances glandular action and serves to diminish and often entirely to remove this serious condition which slowly conduces to a fatal issue.

5. Removal of stasis. In all infectious diseases the brunt of the disease falls upon the circulation, to the failure of which the final issue is often due. Stasis in the vital organs cripples the secretory, excretory, and assimilative functions by which life is sustained. We have no medicinal agent which even temporarily removes capillary stasis, except from valvular insufficiency. By the judicious adoption of the cold procedures, which I shall refer to, stases are removed, by reason of the tonic effect upon the cutaneous and consequently also upon all peripheral vessels. Dr. Barlow can doubtless show you, in his sanatorium, how the cyanotic finger nails and lips of phthisical patients assume a pink and ruddy hue after one of his properly applied cold plunges. If you witness this once only you will require no further argument to convince you that stases are readily removed by hydrotherapy, judiciously applied for reaction.

6. Reduction of temperature. I have intentionally placed this action of cold water last, because, contrary to the generally accepted view, it is the least potent of all the effects. Nevertheless it is more valuable for the relief of this distressing symptom than the highly vaunted coal-tar products, whose chief advantage appears to be that they enable the patient to die with a nearly normal temperature. An ablution or bath with water below the temperature of the skin may not reduce temperature so readily or efficiently, but it accomplishes the result less violently, not only without cardiac depression, but with cardiac invigoration and general refreshment.

Though these general therapeutic truths have necessarily been briefly stated, their application in phthisis will, I trust, be clear. The flexibility of hydrotherapy enables us to devise procedures for every stage of phthisis pulmonalis. Nevertheless the most useful general method will prove to be that which aids in gradually accustoming the skin to lower temperature, greater pressure or mechanical force, and larger quantities of water—in all stages.

The most useful method* in subacute cases will be attained by gradually accustoming the skin to lower temperatures and larger quantities of water, always bearing in mind that reaction, indicated by a feeling of comfort and absence of chilling effect, must be obtained. In febrile cases low temperature applications are contraindicated. Here the ablution, or a half bath with water not below 80, is indicated. When temperature reduction is desired in febrile conditions, the absence of reactive capacity in these patients forbids procedure of low temperature or long duration—a fact too often disregarded to the discouragement of the physician.

My observations at the Montefiore Home and Hospital for Consumptives, in which cases of the

*"Principles and Practice of Hydrotheraphy" (p. 383). Wm. Wood & Co., 1904.

most forlorn types are received, have led me to adopt the following mild and graduated course:

After a thorough cleansing with soap and warm water, a day is allowed to elapse. The patient is wrapped snugly in a thin blanket like a mummy (unless rectal temperature is above 100°). He is allowed to lie for half an hour or longer unless he perspires. In afebrile cases it may be necessary to cover with additional blankets, the object being to fill the cutaneous arterioles, preparatory to being treated with water. The face is bathed with water at 50° F. Now the blanket is opened over the chest and abdomen, and these parts are rapidly and well rubbed with water at 75° F. After drying, the patient is turned on the abdomen and the back is similarly treated. The extremities are not treated. Patient is gently dried, dressed, and if afebrile, ordered into the open air for a gentle walk. Febrile cases are returned to bed. This treatment is repeated daily with reduction of two degrees of water temperature at each ablution until 60° F. are reached. Now the ablution is performed just as the patient emerges warm from the bed, as follows: Standing in a foot-tub, containing sufficient water at 100° F. to cover the feet to the malleoli, he receives a rapid friction bath with water at 90°, omitting the upper extremities, after which he is dried and sent into the open air, if his rectal temperature is below 100° F. The water temperature is reduced daily two or five degrees until 60° F. are reached. Now the ablution is replaced by affusion, which consists of pouring of four basinfuls of water at 90° F., previously held in readiness, over the body. The patient standing in a foot-tub, having the feet covered with water at 100°, water is dipped from a vessel previously in readiness and poured with force over each shoulder and back and chest. Rapid drying while standing on a warm towel completes the procedure. Beginning with a water temperature at 90, it is daily reduced a few degrees until 60° or even 50° are reached. This refreshing process may be repeated daily. In febrile cases the water temperature should not go below 65°.

Other methods, as chest compresses in febrile conditions, and fan douches in subacute cases, are described in works on hydrotherapy, so that I need not here refer to them at length.

The principle involved in all applications of water below the skin temperature is the sudden (so-called) shock, the reaction and subsequent refreshment due to the reflex effects arising from the excitation of the sensory terminals and arterioles of the skin.

I shall not weary you with clinical demonstrations of the value of these simple procedures. The records of the Montefiore Home and of my private clientele abound in them.

In conclusion, let me urge upon you to become more familiar with hydrotherapy in phthisis and other chronic diseases through the gentle, mild, and harmless procedures here briefly indicated.

Hotel Majestic.

Bathing in Japan.—Clarence Ludlow Brownell, in his recently published book, "The Heart of Japan," says that the death rate for children is lower in Japan than it is in Europe and in America. This is as it should be, in a country where the houses are off the ground a foot or two, and have no cellars, and the air inside is as fresh as it is out; where, too, in such places at least as Tokio, every one bathes and has a good scrubbing every day. From 800,000 to 1,000,000 persons go to the public baths of the capital daily, and there are tens of thousands of private baths besides. That is a good showing for a city with a population of less than 2,000,000.

CEREBROSPINAL MENINGITIS, WITH REMARKS ON ITS DIAGNOSIS, PROGNOSIS, AND TREATMENT.*

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The recent epidemic of cerebrospinal meningitis, which began in the early winter and which has continued throughout the spring, has afforded a large field for study.

I shall give a résumé of cases seen in my own practice and of those seen in consultation practice, for they cover the most important diagnostic and therapeutic points.

This disease was first described in America in 1809, although we owe its first clinical description to Vieusseaux of Geneva, in 1805. The disease exists in the beast as well as in the human being. It is caused by the entrance of the diplococcus meningitidis. The systemic symptoms, such as spasms of the muscles of the head and neck, are undoubtedly caused by a virulent poison or toxin generated in the body by the diplococcus. The paralytic symptoms compare very favorably with that serious toxæmia with which we are well acquainted, associated with diphtheria.

Bacteriology.—The presence of the meningococcus intracellularis, also called the diplococcus meningitidis, has been demonstrated by Jaeger[1] and Weichselbaum in 1887. Their results have been corroborated by Heubner[2] and by Finkelstein,[3] and by Baginsky of Berlin. In this country by Councilman.[4]

The diplococcus is found within the cells (intracellularis) chiefly in the polynuclear leucocytes. It is seen in pairs and tetrads. The arrangement of the germ under the microscope resembles that of the gonococcus. In some cases there is an infection by the pneumococcus and by the streptococcus. These cases are usually fatal.

The presence of the pneumococcus easily explains why pneumonia is so frequently associated as a complication.

The purulent discharge from the eyes and the nasal secretions from the patients so affected have been found to contain the diplococcus. It should be borne in mind that under normal conditions the nose harbors a germ which resembles morphologically the diplococcus meningitidis. Heubner demonstrated the diplococcus to me from the nasal discharge of a child so affected at the Children's Hospital of Berlin in 1899. A smear taken from the pharynx and tonsils in two of my recent cases suffering from this disease did not show the presence of the diplococcus.

It is quite possible that the germ enters the body through the various lymph channels, in addition to entering directly through the circulation. The diplococcus meningitidis is usually found in the spinal fluid taken from a case of meningitis during life. It has also been found in the pia mater, and other portions of the brain, post mortem.

The bacteriological examination should be made by the examination of the spinal fluid, by means of a lumbar puncture. Councilman says: "Too much cannot be said of the importance of spinal puncture in making the diagnosis. As a diagnostic measure it ranks in value with the examination of the sputum. A microscopical and bacteriological examination of the fluid should always be obtained in order to ascertain what organism is present. In no other way would it be possible to arrive at certainty with regard to the nature of the sporadic cases. We believe that all infections of the meninges other

*Paper read before the Harlem Medical Association.

than by the diplococcus are fatal, but this can only be determined by microscopical and bacteriological examination of the exudation obtained during life by spinal puncture. If tubercle bacilli, pneumococci, or streptococci are found with the evidence of meningitis in a case which recovers, it would settle the

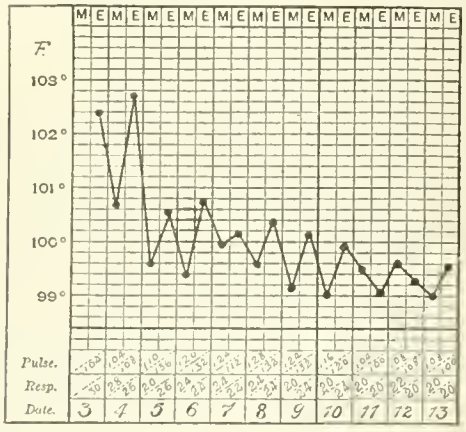

Chart 1.—Cerebrospinal meningitis; Case I, recovery.

point. Clinical evidence without a spinal puncture will not."

The space between the third and fifth lumbar vertebræ is usually chosen as the site of the puncture. The child is placed on its right side with the spinal curve toward the operator, in this way spreading the vertebræ so that the greater angle formed by the vertebræ is toward the operator. In this manner the vertebræ are approximated on the anterior surface, and are separated on the posterior border. When inserting the needle in this position there is less risk of introducing the point into the vertebræ or into the side of the canal. In making a puncture we should use a needle such as would be required in making a puncture for empyema. The needle should be pushed a little upward and forward, then the stilet should be withdrawn. If the fluid does not escape through the needle, withdraw it slightly and reintroduce the stilet to dislodge any obstruction in the caliber of the needle. A dry tap may result from the needle being obstructed with fibrin. Make the puncture as simple as possible, rather than lacerate the tissue around the vertebral column, and cause bleeding by lateral movements of the needle.

Locally, ethyl chloride, in the form of a spray or ether, might be used in a very sensitive child. It is not necessary to have a profound general anæsthesia during this procedure. General rules of asepsis must be strictly applied to the child's skin, the operator's hands, and the needle used.

In most cases in which lumbar puncture was made 20 to 30 c.c. of fluid is withdrawn. When fluid is withdrawn for diagnostic purposes then a small quantity, 10 to 15 c.c. will suffice.

When tapping the cerebrospinal canal the usual method of strict asepsis must be employed. In spite of this, various writers have reported severe hemorrhages. In two of my cases severe vomiting was produced after the puncture was made.

Symptoms.—A sudden onset occurs with acute manifestations. In young infants this disease is usually ushered in with convulsions, in older children a chill may precede the attack. Later on we have vomiting, pain in the head, frontal or occipital, at the base of the brain and back of neck, moaning, delirium, and opisthotonos. The kidneys functionate properly, sometimes there is enuresis. Retention of urine is a frequent symptom. The tendons are very sensitive on the slightest pressure. The skin feels hot and frequently is covered with a rash of a dark bluish color, resembling purpuric spots. From the presence of the rash the disease is called "spotted fever."

The temperature ranges between 100° and 105°. Some authors report temperatures as high as 107° and 108°. The pulse varies. It may be slow, or very rapid. The breathing is regular in some cases, while in others there is a distinct Cheyne-Stokes respiration. Constipation or diarrhœa may exist. The appetite is invariably poor. Vasomotor disturbances, such as the flushing of one ear or cheek, are occasionally seen.

On stroking the chest with the finger nail, a red mark is frequently noted, the tache cérébrale. The patellar reflexes are usually absent; the plantar reflex is occasionally seen.

When the sole of the foot is irritated, there is a strong hyperextension of the big toe (Babinski's symptom). This symptom is not always present. It is found more frequently in tuberculous meningitis. It is also frequently noted in perfectly healthy children. I have found it in forty out of fifty healthy children in my clinic.

When the thigh is flexed on the abdomen and we try to extend the leg, there exists considerable latent contraction, the so-called Kernig's sign. This symptom cannot be depended upon. Lumbar puncture reveals an *opalescent* fluid containing the meningococcus. The piercing cry described by the French as the cri hydrocephalique is never present in epidemic cerebrospinal meningitis.

In a case of mine recently seen, a purulent conjunctivitis was followed by opisthotonos, spasm of the sternomastoid, general rigidity of the extremities, and high fever.

Flexner and Barker studied the blood in fatal cases and found a marked leucocytosis. Neither the Babinski nor the Kernig sign nor the blood should be relied upon alone in making a diagnosis.

The Joints: The joints are frequently swollen and simulate rheumatism, but the presence of the meningeal symptoms will easily differentiate this condition from rheumatism.

Eye Symptoms: Strabismus is frequently present. In some cases there is nystagmus. The pupils are unequally dilated, and there is marked photophobia. Photophobia is frequently present. In one of my cases the child cried whenever the light was brought

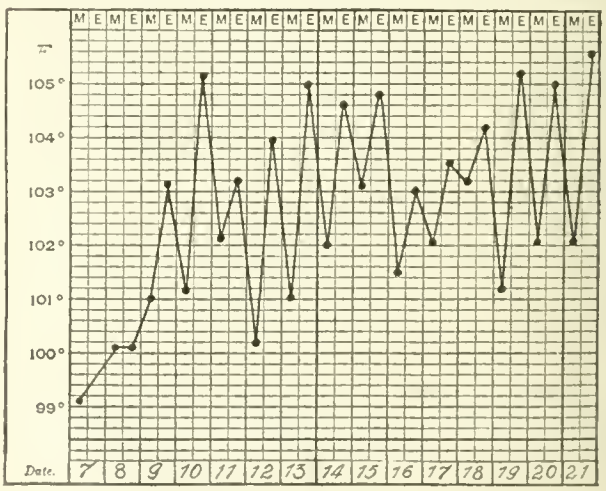

Chart 2.—Malignant cerebrospinal meningitis; Case III.

near it. The above case occurred in the practice of Dr. E. D. Lederman.

Mortality.—The mortality has been exceptionally high this winter. It has ranged between 40 and 70 per cent. in some of the larger hospitals of this city. The mortality in private practice has been equally

high. Out of twenty-one cases seen by me there were fourteen deaths. In one case death occurred twelve hours after the first symptom was noted. Other cases were comatose and lasted as long as fourteen days.

There are two types of this disease most frequently seen first, the mild type, also known as the abortive type; second, the malignant type, also called fulminating type.

Case I.—Malignant type; recovery. Sequela, deafness. Albert E. S., aged three years two months, had been in perfect health until March 18, 1904, when fever developed, with headache and explosive vomiting. The child was placed in bed and given a cathartic. The symptoms increased in severity and the mother sent for Dr. H. Frank. He found the child unconscious, delirious, and moaning. There was opisthotonos and dilated pupils. The convulsions continued, and on the second day a purpuric eruption appeared on the chest and back, but not on the face. I saw this case in consultation with Dr. Frank on the third day of illness. The child was rigid and the symptoms previously described were increased in severity.

A lumbar puncture was made and about 45 c.c. of a turbid (milky) spinal fluid was withdrawn. This fluid showed the characteristic meningococcus. The child convalesced. A very unfortunate sequela —namely, total deafness remains since this illness. The child was referred to Dr. H. Jarecky for an examination of the condition of the ears. He reports the prognosis hopeless, saying, "in all probability the inflammation has spread along the acusticus or through the aqueducts of the labyrinth where the purulent process has been followed by tissue destruction. Both membrana tympana are normal." Deafness will probably be permanent.

Case II.—Malignant type, fatal. On April 3 I was called to see a child about three years old in consultation with Dr. M. Kleinman. The child was well on Saturday morning, but later complained of headache and vomited. The attending physician found a temperature of 103°, pulse 100, irregular. Several hours later he saw the boy with dilated pupils and comatose. The temperature was subnormal, the pulse 60 and irregular. Small, hemorrhagic spots appeared on the skin. When I saw this case in consultation the above symptoms were increased in severity. Marked rigidity of the sternocleidomastoids was noted and convulsions were constantly present. The case ended fatally in less than twelve hours from the beginning of the attack.

Case III.—Seen in consultation with Dr. L. F. W. Haas on April 19, 1904, to whom I am indebted for the following history: "Rosie H., aged nine years, had been well up to the time of her present illness. It began with chills and vomiting and headache. She soon became comatose. This stupor lasted for a day. The fever continued. From the history the child went through a pneumonia. On the seventh day I was called in again. Found the child in a state of collapse, pulse weak and rapid, hardly perceptible. Temperature about normal, extremities cold, lips and nose blue. Gave hypodermics of strychnine and whiskey, which revived the child. Could only find harsh breathing on right side upper lobe (harsher than normal), with a few moist râles. Cough was present."

When seen by me the body of the child was rigid, especially the sternomastoids. The child moaned continuously. The patellar reflexes responded slightly. There was a distinct Babinski phenomena. The pupils were unequally dilated. The child was in a deep coma. The pulse was small, very rapid, and at times intermittent. The breathing was labored and at times of the Cheyne-Stokes' type. The temperature was 105°. The body was extremely emaciated and had a distinct typhoidal appearance. Owing to the emaciation, decubitus (bed sores) were present. The tongue was coated. The throat was examined without difficulty. Lumbar puncture was not made. The clinical picture was very evident. The child died in the fourth week of illness.

Case IV.—Mary M., eight years old, complained of headache while at school and was sent home. She vomited and complained of her eyes. She had a slight yellowish, purulent discharge on the inner canthus of the left eye. That same night she was unconscious and had twitchings. Her mother sent for the doctor, who diagnosed meningitis. She had strabismus, uneven pupils, photophobia, spasm of the sternomastoid, and pain on palpation at the base of the skull. There was a hemorrhagic eruption visible on the chest and abdomen. A flush on one cheek (vasomotor disturbance) was visible. On the following day the temperature was 105° in the rectum. The child moaned continuously, especially when touched. She died on the fourth day of illness.

Case V.—Abortive Type. One week later Geo. M., two years old, a brother of the child just mentioned, showed signs of irritability and restlessness. He had no appetite, and when coaxed to eat he gagged and vomited. There was no cause for gastric disorder. The temperature taken in the rectum was 102°, pulse 118, respiration 30. There was a slight photophobia. The conjunctivæ were injected. A dose of calomel was administered and a mustard foot bath given. The diet was regulated and the child was apparently well in four days.

Sequelæ.—The most frequent complication is deafness. (See clinical case of Albert S.) Such cases may end in deafmutism, blindness, epilepsy, hemiplegic conditions, and typhoid fever. A case of this kind which developed symptoms of typhoid fever during the apparent convalescence of cerebrospinal meningitis was seen by me in consultation with Dr. N. Mandelstamm. This attack of typhoid fever followed sixteen days after the first sign of meningitis.

Prognosis.—The prognosis is usually very grave, and depends on the vitality at the time of the beginning of the attack. If a case recovers, deafness or some serious sequelæ may cripple the child through life.

Treatment.—Dietetic Treatment: To sustain life we must feed the child. The gastric irritability and tendency to vomit can be overcome by rectal feeding of peptonized milk or peptonized yolk of egg. Gavage should be resorted to and light nutritious food, such as whey, white of egg, soups, and broths, should be given at regular three or four-hour intervals.

Place the child in a room having a temperature of 68° to 70° if possible. If high fever is present, shave the scalp and apply an ice-bag on the top of the head and at the nape of the neck. A mustard foot bath will, in some cases, relieve the cerebral symptoms. Tub baths (tepid) may be tried. The cold pack or ice-water coil has a very soothing antithermic effect. When delirium is present, a few leeches applied over the mastoid will sometimes afford relief.

The bowels and kidneys must be carefully watched. Retention of urine requires supervision. If the urine is scanty we can stimulate the same by giving high colon flushings of normal saline solution at a temperature of 110°.

Medication: The hypodermic injection of $\frac{1}{30}$ of

a grain of morphine sulphate should be repeated three times a day or oftener until the child is quiet. In some cases five or ten drops of spirits of chloroform given with the food every three or four hours is beneficial. Ten-grain doses of sodium bromide can be given every three or four hours until the cerebral symptoms are modified and the child is quiet. As most of the antispasmodics are cardiac depressants, the pulse requires careful watching. The inunction of silver ointment along the spine, at least fifteen minutes at a time, can be tried and repeated several times a day. Injections of lysol into the spinal canal were not used by me. If stimulants are indicated then tr. of musk or the hypodermic injections of camphorated oil or black coffee are indicated. Hyoscyamia tablets of one-hundredth of a grain are useful when active delirium is present.

Suppositories containing 10 grains of chloralamid, with or without small doses ($\frac{1}{8}$ grain) of belladonna, is a useful sedative and promotes sleep.

Large doses of iodide of potassium or sodium iodide 1 to 4 gms. (15 to 60 grains), or even more daily, may be tried. I have tried iodoform collodion, 10 per cent., over the scalp and nape of the neck in three cases of the recent epidemic without any appreciable result. Mercurial ointment, rubbed into the scalp and nape of the neck morning and evening, was used in a case that recovered.

Corning recently devised an instrument for injecting medication into the spinal canal. The tube is to be inserted through an incision made along the side of the spinal process of the fourth lumbar vertebra. The tube is left permanently in place for days or weeks. Through this silver tube a fine needle, attached to a glass syringe, can be pushed through the membranes (the dura and the arachnoid). In this manner the subarachnoid space can be medicated.

Browning of Brooklyn reports a case sent to the Bushwick Hospital, in which an operation was performed at the occipital site. It was believed that more prolonged and effective drainage could be obtained by this method. Following surgical teachings, he drained off as much infectious material as possible. The reason for selecting the occipital site for the operation is because it lies directly opposite the foramen of Magendie, which is the ventricular outlet of the fluid. Here also there is less chance of return infection.

Brain surgery has not yet given anything but temporary relief. Our only hope lies in the discovery of an anti-meningoeoccus serum.

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Suprapubic Prostatectomy.—Wiener concludes that (1) Suprapubic prostatectomy can be rapidly and safely performed under laughing gas. (2) Any patient who can stand laughing gas for ten or twelve minutes can have the operation performed. (3) Old age, diabetes, and cystitis are no contraindications. (4) All of the contraindications usually mentioned are contraindications not for the operation but for the administration of ether or chloroform. The value of laughing gas and of rapid work in these old prostatic cases cannot be overestimated. These two factors are, we believe, the keystone to success in suprapubic prostatectomy. Few, indeed, are the patients, even though eighty years of age, or suffering from diabetes or sepsis, that cannot be entirely cured.—*Journal of the American Medical Association.*

ASSOCIATED MOVEMENTS OF THE UPPER EYELID AND LOWER JAW.

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Movements of the upper eyelid associated with movements of the lower jaw are of great interest both to the neurologist and to the ophthalmologist, and because of the unpleasant curiosity which these cases excite in the public mind they usually come to the attention of the physician at an early date.

For this latter reason I was consulted for the relief of certain symptoms which are detailed in the report of the following case:

J. S., aged six, is a well-nourished boy of fair size, who presents a marked ptosis of the left upper eyelid (Fig. 1). By no effort of the will is he able to raise the lid, though by puckering his lips as though about to whistle or blow and raising his eyebrows, the eyelid is slightly raised. While simply whistling the lid is not raised. It may be raised by simple elevation of the eyebrows (Fig. 2). However, when the mouth is opened the lid is immediately raised to its maximum height (Fig. 3). In chewing, the lid opens and closes with synchronous movements of the lower jaw and reminds one of a chopping machine. When chewing food in the left side of the mouth the lid is only slightly raised; while chewing in the right side (opposite) the eyelid is as fully elevated as when the mouth is opened. So, also, movements of the jaw to the right (opposite) side cause the lid to be raised. Biting on any substance placed between the front teeth causes no change in the position of lid. The boy masticates his food very slightly before swallowing it, as he claims that his jaws get tired in the region of the masseter and pterygoid muscles. The act of swallowing is not associated with any motion of the eyelid. When yawning the lid raises. With the mouth open, protrusion of the tongue does not cause further elevation of the lid. No movement of the lid is caused by movements of the tongue in the closed mouth. The patient is not able to protrude the lower jaw very well, but in attempting to do so the eyelid is slightly elevated. Slight trembling of the lid is observed when the boy is speaking. If the right eyelid is held shut, then the left can be partially opened, and by the action of the frontalis muscle can be still further raised. When the mouth is opened the eyelid appears to be raised higher if the patient is looking down than when he is looking directly forward. He is able to overcome almost completely the opening of the eyelid by a forceful contraction of the orbicularis muscle. There is probably no motion of the eyeball during the movement of the eyelid. At times, however, the eyeball seems to move slightly downward when the jaw is lowered, but this may be more apparent than real and simply an illusion due to the motion of the eyelid. The mobility of the eye is apparently good except that the eye does not go upward as far as the fellow eye.

When the head is turned toward the affected side (left) the lid is partly raised, but remains entirely closed when the head is turned to the right. If the right lid is held shut the left can be fairly well opened, but not so well as when the mouth is opened. There is slight elevation of the lid when the chin is raised.

With Graefe's test, the left eye being covered the left eye is seen to look down and in. With right eye covered and looking with the left, the

right eye stands higher. On examining for double images they are found on the left side of the field of vision with the image of the affected eye standing higher and to the left of the image of the sound eye. The images increase in height when the eye is turned toward the left upper field. The pupils

Fig. 1. Usual appearance with ptosis and mouth closed.

are similar in size, and their reaction and consensual relations are normal.

There is no epicanthus and no apparent abnormality of the face (as facial paralysis) or marked asymmetry of the head.

Vision is R. $\frac{20}{20}$ and L. $\frac{20}{30}$. Under homatropine retinoscopy reveals R. + 4D, L. + 6D.

This condition was noticed at or about the time of birth and has continued unchanged ever since.

The boy was the third child and was born without medical or other assistance, so the lesion cannot be ascribed to traumatism other than the natural traumatism of labor. How much this factor is responsible for many congenital defects is as yet unknown. The first child had measles and died later of spinal meningitis. The second child has perfectly good eyes and is still living. The paternal grandmother and the paternal uncle were both "cross-eyed." There is no evidence of hereditary syphilis.

From this description it is seen there is correlation between the nervous impulses conveyed to the levator palpebræ (actuated by the third nerve on the one hand) and the digastric and external pterygoid muscles (supplied by the fifth nerve on the other).

Opening of the mouth is largely accomplished by the anterior part of the digastric, which is actuated by the mylohyoid branch of the inferior dental nerve, a branch of the inferior maxillary division of the 5th. The lateral movement of the jaw is caused by the action of the external pterygoid muscle, which is innervated by either the pterygoid or buccal branch of the inferior maxillary nerve. Perhaps other muscles supplied by the fifth nerve are involved, but if so their action is supplementary to the muscles already named. The slight elevation of the lid, as shown in Fig. 2, is due to the action of the occipitofrontalis muscle.

A study of the double images shows an involvement of the superior rectus and the inferior oblique, for if the superior rectus alone were involved the eye would be directed downward, whereas if the inferior oblique were the only one affected the patient would be able to elevate the eye.

Thus we see an intimate relation between the action of the trigeminus and the motor-oculi nerve, the affection involving only the digastric and pterygoid portions of the fifth pair of nerves and that portion of the third nerve which supplies the levator palpebræ, the superior rectus and the inferior oblique, leaving untouched the ciliary branches and the branch to the internal rectus muscle.

Another peculiarity of this affection is that the commissural fibers are also affected, as the levators do not act consensually.

In 1895 Sinclair attempted to collect all of the cases of this kind then reported, but evidently overlooked some. The author has been able to find others (some, however, reported since that date), but as it is extremely difficult to obtain certain foreign medical journals, dissertations, reports of societies, etc., it is not impossible that other cases have been reported which are not included in the accompanying list.

This list is made up from Sinclair's article, with cases added by the present writer. Sinclair's cases are marked. In addition to the cases mentioned above there are references in the literature to cases of Hoyges and Neiden, but the details of the cases I have been unable to obtain for classification and so are omitted.

General Description.—Upward movement of the upper eyelid associated with movement of the lower jaw. The upper lid is raised when the lower jaw is moved, but the eyelid alone cannot be raised voluntarily. The movement is limited to the upper lid (action of the levator palpebræ muscle).

Group 1.—Movement of the upper eyelid when the jaw is opened (digastric), and when it is moved to the opposite side (external pterygoid): Ptosis. *(1) Becker. *(2) Bloch. *(3) Bloch. *(4) Proskauer. *(5) Goldzieher. *(6) Schapringer. *(7) Snell. *(8) McIntosh. *(9, 10, 11, 12, 13)

Fig. 2. Attempted opening of the eye by the action of the occipitofrontalis.

Sinclair. (14) Coppez; man, aged twenty, ptosis right. Lid opens also when swallowing. (15) Coppez; girl, aged eleven, ptosis right. Operation of Gillet de Grandmont cured the ptosis. (16) Laqueur; ptosis right. Suggests Panas operation for ptosis. (17) Miller; boy, aged nine, ptosis

left. Paralysis of left superior rectus. Left pupil larger than the right. (18) Bernhardt; boy, aged nine, ptosis left. By chewing, but no change noticed when biting with mouth closed. (19) Hilleman; patient, aged eighteen. Drooping of left eyelid; also by projecting jaw. (20) Uhthoff; girl, aged nineteen. Eye (left). Diplopia looking to the opposite side. (21) Von Reuss; patient, aged eighteen, ptosis left. Affected eye opened when sound eye was closed. (22) De Wecker; woman, aged twenty-three, right ptosis. (23) Coburn (case reported herewith).

Group 2.—Movement of the upper eyelid when the jaw is opened, but not by lateral movements: Ptosis. *(24) Helferich. *(25) Helfreich. *(26) Bull. *(27, 28, 29) Kraus. *(30) Bull. *(31) Vossius. *(32) Hubbell. *(33) Bernhardt. *(34) Bocci. *(35) Sinclair. *(36) Spicer. (37) Lebrun; young woman, ptosis left. (38) Higier; man, aged thirty-two, ptosis, right; on eating, right opened and left closed. On the right side, no face or eye muscles otherwise affected, but the whole mimic musculature of left side is. While the right ptosis is since childhood, left paresis has developed in

Fig. 3. Eyelid raised with mouth open.

the last nine months. By protrusion of the chin, eyelid (right) is raised. When turning left eye down or attempting to close it the right eyelid is raised. (39) Beaumont; child, aged two and one-half, epicanthus and double ptosis. Apparently cured by plastic operation for ptosis. (40) Bernhardt; patient, aged nineteen, ptosis right.

Group 3.—Eyelid raised with lateral movement of the jaw, but not with the simple opening of the mouth: Ptosis. *(41) Gunn. *(42) Schapringer. (43) Müller-Kannberg; girl, aged twelve, ptosis left. Left pupil smaller. (44) Hirschberg; child, one year old.

Group 4.—Movements of the lid with movements of the jaw, but no ptosis. *(45) Fuchs. *(46, 47) Fraenkel. *(48) Eales. (49) Aldor; boy, aged twelve, right lid moved when jaw moved to one side and on chewing and during speaking; paresis of superior rectus. (50) Adamuk; woman, aged forty. On eating, eyelid and eyeball were drawn up. (51) Just; girl, aged thirteen. Left eye; both by loud speaking and on opening jaw and by lateral movements. (52) Elschnig; man. When swallowing or chewing; greater when looking down than when looking up. (53) Friedenwald; girl, aged nine. Right lid drawn up when jaw is moved to same side as affected lid. (54) Friedenwald; woman, aged twenty. Slight droop of right eyelid; only began six years ago: during lateral movements of the jaw; crossed diplopia in left field with vertical displacement; image of right eye higher.

A further group may be formed to include such cases as were reported by Meyer. A father and daughter had ptosis of the upper lid, which raised consensually with the act of swallowing but not by mastication.

An analysis of the above list shows that this affection is found about equally in both sexes. Of 25 cases reviewed by Sinclair the affection was 18 times on the left side and 7 on the right, while in the cases which I have collected the affection is about equally divided between the two sides. Ptosis was present in 27 out of 32 cases in Sinclair's list, and of these 27 cases 10 had paresis of the superior rectus.

In the 22 cases added to this list, 19 had ptosis while 4 had weakness of the superior rectus. In several cases there is apparent weakness of the inferior oblique, though it is not definitely pointed out by the writers. The internal rectus was affected in 2 cases. The pupil was affected in 5 cases. Asymmetry of the face is noted twice.

Some Peculiarities of the Cases.—In Goldzieher's case there was apparently involvement of all the external ocular muscles supplied by the third nerve.

"Almost complete ophthalmoplegia from birth" is the description of Vossius' case. The ptosis was double, but only one side could be raised. His brother also had double ptosis and external ophthalmoplegia but could not raise his lids.

Beaumont's case had double ptosis.

In the cases, mentioned by Bull, von Reuss, and Higier, when the sound eye was closed the affected eye was opened as well as by opening the mouth. In Higier's case with right ptosis, the right lid raises and the left drops when chewing.

The movement of the eyelid was caused by projecting the jaw in the cases of Hilleman and Higier.

The movements of the eyelid could be checked by the action of the orbicularis in the cases of Bull, Hubbell, and Coburn.

Bull's patient could open the eye when the head was thrown back and when the other eye was closed.

Elschnig's case had greater elevation of the lid when the eye was directed downward, and one of Fraenkel's cases had no ptosis and the movement was only perceptible when the eye was looking down. Another of Fraenkel's cases had no ptosis at first and it only developed after some time, the lid movement becoming less marked. In one of Friedenwald's cases the symptoms only developed during the preceding six years.

The paresis of the muscles of the opposite eye was only noticed nine months before examination in the case of Higier.

Kraus had two cases, in one of which the movements of the eyelid became less marked and in the other they ceased altogether in time. One of Bloch's cases, however, increased with age.

Uhthoff's cases had diplopia when looking to the opposite side, as did also Higier's and one of Friedenwald's. The author's case also showed diplopia under proper tests.

Adamuk's case had associated movement of the eyelid, eyeball, and jaw.

An apparent anomaly is one of Friedenwald's cases, in which the lid moved upward when the jaw is moved to the same side as the affected lid. The

only explanation of this is that either the external pterygoid muscle of the opposite side was connected with the motoroculi nerve of the same side or that certain of the muscles (temporal, masseter, or internal pterygoid) of the same side which close the mouth were affected.

Coppez did a successful operation for the ptosis by the method of Gillet de Grandmont.

Beaumont also relieved the ptosis by a plastic operation.

Lacqueur suggested Panas' operation.

Etiology.—When Gunn's case was first reported a committee was appointed to consider the cause of this phenomenon, and they decided that an unusual relation existed between the levator portion of the nucleus of the third nerve and the pterygoid portion of the nucleus of the fifth nerve. Rosenmeyer, Nieden, Ole Bull, and others believe that it is a reflex condition. Sinclair opposes this view because it is one-sided, that cases occur with no ptosis and that it occurs also with lateral movements. Coppez speaks of an irradiation of nervous impulse communicated from one nucleus to the other. Because of the peculiarities observed in some cases, Helfreich has suggested that in such there is abnormal communication between the third and the seventh nerves. Hubbell, Helfreich, and others share the opinion that the oculomotor nucleus is imperfectly developed.

Near the aqueduct of Sylvius the descending root of the fifth nerve passes close to the nucleus of the third nerve, and any communication or abnormal commingling of the fibers could easily occur at this point. The writer shares the opinion with others that there is an abnormal relationship and association between the third and the fifth nerves, but the actual condition will never be known until a thorough post-mortem examination can be made of the brain of some person afflicted with this condition.

The similarity of this affection to chronic nuclear palsy or chronic poliencephalitis superior must not be forgotten—while simple misplacement of the nerve fibers may explain this condition, its relationship to chronic nuclear palsy is suggested by the following facts: (1) This condition is not always congenital—cases have been reported in which it appeared somewhat late in life. (2) This disease is not always stationary—in some it has increased, in others diminished. (3) while usually unilateral, it is sometimes double, especially the ptosis. (4) The lack of development of the face in some cases points to trophic disturbances in the seventh nerve—a condition often accompanying the infantile form of nuclear palsy.

This condition of nervous or muscular association seems to indicate that each ocular muscle in the group governing mastication has its individual nucleus in the base of the brain. A review of these cases suggests the intimate relation of these third nerve nuclei in the following order: Levator palpebræ, rectus superior, sphincter iridis, inferior oblique and rectus inferior. The masseter portion of the nerve fibers of the fifth nerve which supply the masticating group of muscles seems to be more closely related to the third nerve than do the other fibers of that group.

Treatment.—There seems to be very little that can be done to relieve this condition. Operations for ptosis have been successfully performed on these cases, and there seems to be no objection to them so long as the operation is not so radical as to cause permanent exposure of the eyeball

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ACUTE CHOLECYSTITIS SIMULATING APPENDICITIS—TWO ILLUSTRATIVE CASES.

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The striking similarity which acute cholecystitis may bear to acute appendicitis has been frequently observed and reported. This similarity seems to occur in two well-defined groups of cases, in which the anatomical conditions differ and in which the difficulty in diagnosis arises from different causes.

The greater number of instances comes in that group of cases in which the inflamed gall-bladder is in its normal position, but in which pain and tenderness, in the presence of distention and rigidity, are referred to the appendix region. The second group of cases is made up of those in which an inflamed gall-bladder reaches into the iliac fossa, either through great enlargement or through displacement. Here the error in diagnosis is the result of finding a painful, tender mass in the region of the appendix. This type is less common than the first.

Both cases which I report belong to the first type. Case I occurred in the practice of Dr. J. W. Elliot, and has been previously referred to by me (*Boston Medical and Surgical Journal*, 1899, Vol. CXL, p. 230). The patient was a woman of fifty-eight, with the history of an illness some months before, similar to the one for which she was operated upon. This illness was considered as appendicitis at the time. When seen she had been suffering for four days from an attack which had resembled appendicitis, in that the pain and tenderness had been referred to the right iliac region. She had vomited, but this had not been a very prominent symptom. She had had several chills, mild, with the exception of one the night before she was seen, after which her temperature rose to 106.2°, her pulse to 110°. In the intervals between these chills her temperature had been moderate, but with a pulse-rate which had impressed her physician as being disproportionately slow.

Examination showed her abdomen distended and generally tender. Although nothing could be definitely felt through the rigid muscles of the

right side of the abdomen, the point of greatest tenderness seemed over the appendix region. An incision showed that the appendix was not the seat of the trouble. The gall-bladder was found tensely distended, dusky, and with one or two beginning gangrenous spots on its fundus. There were only very slight omental adhesions, to protect the abdominal cavity from the rupture which seemed imminent. The gall-bladder contained several ounces of purulent fluid and two large stones, one of which was dislodged from its neck. Because of its necrotic appearance a portion of the gall-bladder was resected and the remainder attached to the lower layers of the abdominal incision. The convalescence was uneventful. This patient had never been jaundiced.

Case II.—A man of sixty, seen in October, 1902. For a good many years digestive distress with occasional attacks of pain referred to the epigastrium. At no time jaundice. Five days before he was seen he was taken with a sudden attack of abdominal pain, which was attended with vomiting. The pain was acute and at first rather diffuse; later it was referred more to the appendix region, and there was marked tenderness at this point. In the few days which intervened between the beginning of the attack and the operation the patient vomited from time to time; he also had mild chills. For the three days previous to operation he ran a temperature varying from 101°-104°, with the pulse ranging from 80 to 90. In the twenty-four hours just previous to operation, his general condition became much worse, though his pulse did not go above 90.

When seen, his abdomen was distended and tympanitic. Muscular spasm prevented any deep palpation. As soon as he was etherized his gall-bladder region was palpated and a large mass found there, while nothing abnormal could be felt in the appendix region. Operation showed a much distended gall-bladder with a spot which was almost necrotic on its fundus. There was neither exudate nor adhesions. The gall-bladder contained several ounces of purulent fluid and seventy-five small stones. It was attached to the lower layers of the abdominal incision and drained. During his convalescence, which was uneventful, several stones were washed out of the gall-bladder.

The misleading factors in both these patients were the referring of pain and tenderness to the region of the appendix, combined with so much distention and muscular spasm, as to make satisfactory palpation impossible.

The recollection of the combination of marked distention and a disproportionately slow pulse in the first case, led in the second instance to careful palpation under ether, and the recognition of the distended gall-bladder.

The greater number of cases, in which acute cholecystitis is mistaken for appendicitis, and the most important ones to recognize are of this type. As in patients of this degree of illness most surgeons are not likely to advise non-operative treatment, the particular importance of accurate diagnosis lies in the fact that it allows one to make his incision at the proper place. The low incision over the appendix does not permit one to deal with the gall-bladder without greatly increasing its length. The increasing use of the Ochsner treatment of acute appendicitis makes accurate diagnosis of great importance. It has happened that a slightly diseased appendix has been removed, and a fatally diseased gall-bladder left.

A consideration of the pain, tenderness, and distention, as shown by some of these cases of acute cholecystitis, is of interest. In some cases the pain has been, in the beginning, in the right hypochondrium, and then has been referred to the appendix region, as in a case reported by La Fort. More often the pain at the onset has been general, as in the two cases which I have reported, or it has been referred to the general region of the umbilicus. Later its greatest intensity has been referred to the region of the appendix, instead of to the right hypochondrium, there being at no time any suggestion of the real lesion so far as the location of the pain was concerned. Regarding the location of the pain in the iliac fossa, Adenot cites Potain as having pointed out the frequency with which patients with acute cholecystitis have pain radiating down the ascending colon into the cæcal region. Potain thinks this occurs rather more often in elderly people, in whom appendicitis is, relatively speaking, rare. It appears from my cases, and similar reported instances, that it is not necessary that the gall-bladder be adherent to the colon to cause this type of pain.

As to the tenderness, it is probable that if palpated early the greatest tenderness will always be found in the gall-bladder region. In the two reported cases, which were seen after several days illness, tenderness was found over the appendix, but I think it probable that the tenderness was at least no greater at this point than at other points in the right side of the abdomen, and that careful palpation, unbiased by the history of localized pain, would have shown that the appendix region, although tender, was not the point of maximum tenderness. Merk reports a case of acute cholecystitis in which he found great tenderness in both the right hypochondrium and at McBurney's point. Kennedy describes a case in which general abdominal pain finally became localized in the right iliac fossa, and in which rectal examination showed tenderness there. Under ether a distended gall-bladder, in its normal position, was made out; operation proved this to have been the cause of the iliac pain and tenderness. It is easily understood why cases such as Hotchkiss and Adenot have reported should present a tenderness in the cæcal region greater than that over the rest of the right side of the abdomen. In these cases pus from a gangrenous gall-bladder had trickled down along the colon and set up a peritonitis in the appendix region. These instances of perforation, however, do not properly belong in the cases under consideration. In most cases of this type I believe it is doubtful if the tenderness is really greater over the appendix than at other points in the right side of the abdomen, that its combination with localized pain, influences one's findings.

Due to the proximity of the gall-bladder to the transverse colon, cholecystitis is often attended with very marked abdominal distention. Czerny has recently called attention to two marked examples of this. Richardson, Körte, and others have cited instances in which, because of this marked distention, intestinal obstruction has been suspected. This very marked distention is in many cases the result of adhesions uniting the gall-bladder to the colon; sometimes as Riedel has reported, the colon is rotated by these adhesions, even through 180 degrees. In a certain number of instances this distention seems to be not so much mechanical as reflex, due sometimes to an exudate about the gall-bladder, not infrequently simply to the presence of a tensely stretched, inflamed gall-bladder. This latter was the condition in the two cases I have reported. This distention is enough

in itself to make palpation difficult; when attended with much spasm or rigidity, it may make the palpation of even a considerable mass impossible before the patient is etherized. It will thus be seen that in some cases it is impossible, before ether, to decide between acute cholecystitis and appendicitis. The pain, tenderness, and spasm of the abdominal muscles is such as would apply to either. The distinguishing feature, the presence of a mass in the gall-bladder region, or the absence of one in the appendix region, cannot be determined because of the distention and rigidity of the abdominal muscles. Kehr has called attention to the impossibility of making a diagnosis in some of these cases before the patient is etherized. Körte, Gibbon, Kennedy, and others give cases illustrative of this. Under ether there should be little difficulty in arriving at the correct diagnosis in nearly all cases of this sort. This may not be possible, however, if one has to do with a shrunken gall-bladder which is inflamed.

Adenot says that any case of supposed appendicitis, that is not perfectly typical, should make one consider carefully the possibility of an inflamed gall-bladder. While the finding of a distended gall-bladder is the only point on which one can definitely base a diagnosis in doubtful cases, yet there are several things which should lead one to consider cholecystitis especially carefully. Two symptoms, by no means constantly seen in acute cholecystitis, have, I feel, when present, a good deal of suggestive value. One is the presence of marked distention, which is common, and to which reference has already been made. The other is the occurrence of a pulse-rate which is disproportionately slow when compared with the temperature. This last is well shown in Case II, in which instance it led me first to suspect a cholecystitis. Richardson has spoken of the pulse in acute cholecystitis as rarely being above 100, and he has reported a case presenting symptoms of appendicitis in which the pulse varied from 70 to 100 for five days, while the temperature was about 103°. This disproportion between the pulse and temperature is not present in any considerable proportion of cases, but when it is, I believe it is of a good deal of suggestive value, especially if it has existed some days.

There are some other things which are also of value in the consideration of these cases. Deaver has found that the vomiting is more marked and persistent in cholecystitis. The age of the patient is of some aid, extreme youth decreasing the probability of cholecystitis, while middle or advanced age increases it. It must, however, be borne in mind that either disease may occur at any time of life. A previous attack of jaundice may be of suggestive value; the absence of a history of jaundice, on the other hand, means nothing, as jaundice is relatively rare in cholecystitis, being absent in from 80 per cent. (Kehr) to 90 per cent. (Riedel) of the cases.

There are some cases, with the gall-bladder in its normal position, in which cholecystitis simulates appendicitis so perfectly that the point on which the diagnosis has to depend is the discovery after etherization of an enlarged gall-bladder, which up to that time could not be made out. In a few instances when the gall-bladder is shrunken, the absence of a mass in the iliac region may be the point on which the diagnosis must rest, if indeed it can be made.

The second type of case is that in which one has to do with an inflamed gall-bladder, which, either through great enlargement or through great displacement, reaches into the iliac fossa. It is less common than the first. In these patients the diagnosis between acute cholecystitis and appendicitis is difficult, in many cases impossible before the abdomen is opened. The disadvantage of incorrect diagnosis is less than in the first type, as an incision in the appendix region is adapted to the treatment of the trouble. This condition, in which the gall-bladder reaches into the iliac fossa, may come about through a sinking of the liver and gall-bladder, usually as part of a general enteroptosis, or may be due to the elongation of an atonic gall-bladder. The cases which are the result of an enteroptosis are said to have a peculiar liability to trouble, as accompanying the displacement of the gall-bladder downward, there is said to be a rotation on its vertical axis. The gall-bladder in this type of case may be free or it may be adherent in the iliac fossa. When a gall-bladder of this sort becomes inflamed, there is not only pain in the right iliac fossa, but also a mass which is tender and which is protected to a greater or less degree, by rigid abdominal muscles, making its similarity to appendicitis very real. Adenot, in his paper, has collected a number of cases of this sort. Kehr, Morestin, and Mouchet and Hallopeau report cases belonging to this type.

A correct diagnosis is possible in some of these instances, especially when the gall-bladder is not adherent. If the condition is due to ptosis, the sinking of the lower edge of the liver may give a suggestion. Adenot thinks the lateral mobility of the displaced gall-bladder in those cases in which it is not held by adhesions, should lead to a recognition of the nature of the mass. He also says the nearness of the mass to the surface is a valuable help in distinguishing between an inflamed and displaced gall-bladder and the mass about an inflamed appendix. In cases in which the enlarged or dislocated gall-bladder is adherent in the iliac fossa the correct diagnosis will rarely be made.

Of interest in connection with this subject, and adding still further to the confusion which exists between cholecystitis and appendicitis, are the cases in which both cholecystitis and appendicitis occur at the same time, and those in which an inflamed appendix, or an appendix abscess, is found in the region of the liver or gall-bladder. La Place and Merk have reported cases in which both the gall-bladder and the appendix have been in a state of active suppuration at the same time. Ochsner has commented on the frequency with which he has found both organs simultaneously diseased. Kehr speaks of the cases in which he has found a diseased appendix accompanying gall-bladder trouble. Becker collected, mostly from the German literature, the cases reported up to 1902 in which both cholecystitis and appendicitis had been found together; to these he added five personal instances. When a chronic recurring appendicitis accompanies cholecystitis it may bring about confusion in the diagnosis in two ways, by the history of typical and recurring attacks of appendicitis or by the presence of a mass of tender adhesions in the iliac fossa.

Analogous to the cases in which the gall-bladder is found in the iliac fossa, are those in which an inflamed appendix, or an appendix abscess, is found in the region of the liver. These conditions are the result of a rudimentary ascending colon, or of an unusual length and upward direction of an appendix. Typical instances of this have been reported by Curschmann and Naunyn. Disease of a normally placed appendix is, however, rarely mistaken for cholecystitis.

A review of the literature of this subject shows that there is not infrequently a great similarity between the picture of acute cholecystitis and that of acute appendicitis. It is much more common for acute cholecystitis to be mistaken for appendicitis than the reverse. The correct diagnosis can usually be made by careful palpation after the patient is etherized. In a few cases a correct diagnosis cannot be made before the abdomen is opened; this occurs most often in the cases in which there is an appendix abscess in the region of the liver, or an inflamed adherent gall-bladder in the appendix region. An additional complication in the diagnosis of these cases is the fact that both cholecystitis and appendicitis, may occasionally occur at the same time. Cases have been reported in which both diseases were in an acute stage; this is very unusual. The combination of an acute cholecystitis with a chronic appendicitis is not very uncommon; the reversed condition of affairs has been reported less frequently; both are especially misleading through the history.

In dealing with supposed cases of either of those two most common intraabdominal inflammations, one should always bear in mind the closeness with which they may simulate each other. When at operation the state of the organ investigated does not satisfactorily account for the patient's condition the other organ should always be examined. The lack of this precaution has, in at least one recorded case, led to the removal of a slightly diseased appendix, while, as the autopsy showed, the symptoms had been caused by a gangrenous gall-bladder which had not been discovered.

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THE TREATMENT OF SYPHILIS BY HYPODERMIC INJECTION OF MERCURY.

A PRELIMINARY REPORT.

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The treatment of syphilis has varied so little in its essential features during the past century that I shall not attempt to discuss the changes that have taken place, but will give merely an outline of my own management of this very interesting disease. No man should ever attempt to diagnose syphilis from the initial lesion alone, for although we may feel reasonably assured that we have a chancre to deal with, yet there is no absolute certainty, and the physician who commences treatment before the appearance of the eruption, does himself great injustice and his patient irreparable wrong.

The management of syphilis resolves itself into two stages (1) before and (2) after the appearance of the eruption.

I shall not discuss the management of the late manifestations, as I am dealing more particularly with the acute stage.

1. Before the appearance of the eruption: When a patient comes to me with a probable chancre, only mildly antiseptic treatment, such as boric acid wash, is used. This is all I do for the sore so long as there is ground for the belief in the syphilitic nature of the lesion. During this period of waiting, however, I instruct the patient in cleanliness and the care of himself.

After carefully explaining to him the exact nature of the disease he has probably contracted, and what a menace he is to the health of those around him, not in such terms as to make him feel that he is a leper, yet strong enough to impress him with the importance of care, I send him to a dentist to have his teeth thoroughly overhauled. Tartar must be removed, cavities filled, and snags drawn. I then have the dentist run his scarifier up between the gum and the teeth and get at whatever tartar may be concealed there.

This is imperative because a foul and dirty mouth is in constant danger of salivation. The mouth had better be attended to early, because it will then have time to recover from the soreness caused by scarification before the commencement of mercury administration; and also during the early stage the dentist is in less danger of infection. A good mouth wash, slightly astringent, is advisable, as long as he is under treatment.

Mercury has two very important incompatibles, viz., whiskey and tobacco, and the more of either of these a man is taking, the less mercury can he take; so I take advantage of the primary stage to cut off these two articles completely and entirely. If the patient is run down or recovering from illness of another kind, I usually administer some form of tonic treatment which is with benefit kept up well into the eruptive stage.

2. After the appearance of eruption. During the initial stage I have the patient report to me as often as possible—every day, or at least every second day—at which visits I examine him from head to foot for eruption and glandular enlargement. On the appearance of the eruption and my satisfaction of

its specific nature, I institute anti-syphilitic treatment. Briefly this consists in the exhibition of (1) mercury in one form or another, and (2) iodides, either alone or with mercury.

I will leave the iodides out of consideration and confine myself to the important portion of our discussion, viz., What is the best form and manner of administering the all-important remedy—mercury? Mercury is administered to syphilitic patients in two general ways; by the mouth and by the skin. I never give mercury by the mouth if it is possible to give it in any other way. The objections to this mode of administration are these:

Mercury in any form by mouth is almost necessarily going to upset some portion of the alimentary canal. In case of the bowels when there is griping or diarrhœa, or both, it shows a non-absorption of the drug. We are told that we must overcome this griping by the administration of opium. Now there is a great question in my mind that such procedure is logical. Does opium promote absorption or merely stop the griping? And if the latter be true we gain nothing, but on the contrary are groping absolutely in the dark, and the patient is not getting sufficient dosage, and is therefore losing valuable time. Another objection is that it is such an easy thing for the patient to forget to take his medicine and after a short time to neglect it altogether, and then his symptoms recur. Mercury by mouth also acts very slowly. So as between the mouth and skin, the mouth is hardly worthy of second consideration.

Mercury is administered by the skin in two ways—by inunction and by hypodermic injection.

The method of mercurilization by inunction is time-honored and tried, and is endorsed by many of the world's most eminent syphilographers, and is worthy of all the confidence which has been placed in it. It is effective, quick in action, and sure. It does not cause digestive disturbances and does not require the same frequency and amount of attention from the patient as does the mouth method, but it has the disadvantage of being very troublesome, and being easily neglected, and to most people it is a rather disagreeable method of treatment. But when it can be administered by an expert rubber, such as at institutions and resorts devoted to its use, it is an excellent form of treatment. It is especially useful in congenital cases, though I see in the more recent foreign literature that the needle is being used with good effect in these cases also.

The other way of administering mercury by the skin is by hypodermic injection. This method was introduced many years ago by Lewin in Germany, but although used by him for some time, and with some success, he finally abandoned the method as too irritating. From that time on other investigators have used this method with varying degrees of satisfaction. So far as I am able to find, the majority of these men used salts of mercury which were either slightly soluble or totally insoluble. Using the former in aqueous solution and the latter suspended in oil. Recently in this country there has been used a soluble salt of mercury in oil. I have tried all of these methods and after something over one thousand injections, I am now confining myself to an aqueous solution of the bichloride.

The great advantages of this method are that as a rule it does not cause any digestive disturbances; the patient gets rapidly under its influence; the trouble to both patient and doctor is a minimum; the exact amount of the drug that the patient is receiving is known at all times, and what is above all other considerations the physician administers the injection himself, thus largely preventing the usual neglect in taking the mercury, and also keeping the patient under his eye constantly during the active stage of the disease. During the late stage of the disease the great infrequency of the treatment necessary is a great help. The only possible objections to the mode of treatment are the irritation that it causes some patients and the induration at the seat of injection. As will be seen later, I think both of these objections have been largely overcome.

The necessary articles are a graduated glass hypodermic syringe, platinum needle three-quarters to one inch long exclusive of the shank, and an aqueous solution of bichloride of mercury. I have the solution made up with an equal amount of common salt, as I thus secure a better solution and quicker absorption.

As to the mode of administration, I do not think it necessary to exercise any more care in this than in giving an ordinary hypodermic injection. The mercury is antiseptic and I have never had an abscess.

The technique of injection is important. It is best to inject into a fleshy portion of the body. Some use the muscles of the back, others the thigh, and still others the buttocks. I prefer the last. I sit and have the patient stand in front of me with bared buttocks; he is then instructed to tighten them (by contracting the gluteus); the needle is then stuck quickly straight in; he is told to loosen the buttocks and the injection is made quite slowly, taking fully a minute to complete the operation. I then withdraw the needle quickly, and placing a wad of absorbent cotton on the sight of injection, rub with this in a sort of rotary massage for another minute, and the injection is complete. The injections are made into each buttock alternately.

The dose employed in this method is the most important feature of the subject. When I first employed these injections I adopted the exact routine used by other observers, viz., commence with 10 minims of one-per-cent solution, and increase one minim each day up to 30 minims, then change to 15 minims of two-per-cent solution every other day, increasing to 30 minims; keep at this amount and gradually increase the time between the injections until by the end of one year the injections are made only once a week.

I found this method eminently satisfactory with the exception of two features; some patients suffered considerable smarting at the seat of injection for an hour or more, and the induration was disagreeably large. I observed that both of these phenomena were more marked as I gave the larger number of minims, and were less with 15 minims of a two-per-cent solution than with 30 minims of a one-per-cent. solution, although the same amount of mercury was injected, so I concluded that both the pain and induration were probably due to the quantity of fluid rather than the amount of mercury injected. I began to use a more concentrated solution of the mercury, employing a four-per-cent solution, and varying my routine as follows: Commence with 5 minims of a two-per-cent solution and increase up to 10 or 12 minims, and then change to 5 minims of a four-per-cent solution and increase up to about 10 minims and make this the maximum dose. The use of this concentrated solution has reduced both pain and induration to a minimum, and to my mind leaves this the most satisfactory method of treatment.

If a patient comes to me with the eruption well out, I still use an injection every day until the eruption has disappeared; but when the eruption is slight or seen very early, every other day usually suffices. The intervals are gradually lengthened

until, by the end of about ten months, I am administering only one injection each week, and this is maintained until the end of two and one-half or three years. Of course it must be remembered that every case is a law unto itself and needs different handling according to circumstances, but this, in brief, is the outline of hypodermic treatment of syphilis.

A NEW PATHOGENIC THROAT ORGANISM.

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THE winter of 1903-04 has been characterized by a more or less general appearance throughout this State (Vermont) of cases of an acute inflammatory condition of the throat, accompanied by a severe but not fatal toxæmia lasting from twenty-four to forty-eight hours and then subsiding. The cases are usually ushered in with chilliness, pain in head and limbs, and a coryza, often accompanied with an unusual amount of sneezing. In nearly all of these cases, the tonsils have been more or less swollen, the soft palate and uvula œdematous, and in many there has been a distinct false membrane, white in color and very tenacious.

Of eighty-one of these cases which have been studied bacteriologically, forty-four have shown a membrane, but this percentage is probably too high, for the reason that the throats of most of these cases were cultured for suspected diphtheria. Of the cases which have been under personal observations the percentage of membranes have been much lower. The toxic symptoms subsiding in two days leave, in most cases, an irritable condition of the mucous membrane, which persists for some time, and in some instances the acute symptoms have been followed by great weakness. The attacks are not, as far as can be noticed at present, confined to any particular age, affecting both old and young.

These cases have been variously diagnosed diphtheria, grippe, and simple cold, accordingly as the symptoms have been of varying severity, and the cases with or without false membrane production.

That they are not cases of true grippe is proven by the fact that the period of toxæmia is much shorter and that in none of them is there found the presence of Pfeiffer's bacillus.

That they are not cases of diphtheria is clear from the entire absence of any organism resembling the true diphtheria bacillus in the false membrane.

The remarkable fact about these cases has been the severe toxæmia coming on suddenly and lasting only a short time, and the universal appearance in the throat of a peculiar diplococcus.

The organism was first noticed by the writer during the winter previous to this one in the routine examination of cultures from suspected diphtheritic throats. It first gave rise to some confusion, owing to its resemblance to certain very short granular forms of the diphtheria bacillus. When first noted it was confined to the cultures received from a certain locality.

The following case histories, for which I am indebted to Dr. C. H. Beecher, are fairly characteristic:

CASE I.—Student: when first seen complained of feeling chilly, slight pain in limbs, back, and head, and some nasal discharge and considerable soreness of the throat. He had felt chilly for the past twenty-four hours, but had had no definite chill. The pain in limbs, back, and head had appeared in the last few hours, as had the nasal discharge, which was accompanied by excessive sneezing. The throat had felt dry and gave some pain on swallowing. Temperature 102 and pulse 110. On examination the mucous membrane in throat, especially over the pillars of the fauces, tonsils, and uvula, was of dusky red, considerably darker than the surrounding membrane, and appeared œdematous or gelatinous. This condition was especially noticeable on the uvula. The inflammatory area was coated with a tenacious whitish mucus. Cultures made at this time showed the presence of a peculiar diplococcus in almost pure culture. The temperature, chilliness, and the pain only lasted two or three days, gradually disappearing, but the soreness of the throat and the depression, which was considerable, lasted about a week. Repeated cultures of the throat showed the same organism as above.

CASE II.—Miss C.: Came into the office complaining only of feeling "mean" (weakness and muscular pain) and of a sore throat. On examination, the throat was congested and œdematous. There were six or eight whitish patches of adherent exudate on the tonsils and pharynx. Bacteriological examination of the throat secretions showed the same diplococcus as was found in Case I. Temperature at this time was 103, pulse 120. The next night the patient slept poorly, and the following day the throat was more painful and more œdematous, but the patches of exudate were practically the same size as on the previous examination. Temperature and pulse as on the preceding day. The throat was again cultured with the same results as before. After the second day the symptoms gradually improved. The patches disappeared and the patient felt well enough to resume work on the fifth day from the first examination. Cultures taken then still showed the pure culture of the diplococcus.

In addition to many cases of this sort, which are apparently the typical manifestations of the pathogenic effect of the diplococcus mentioned, the same organism has been met with in several cases of typical follicular tonsillitis, and in the throats of three cases of scarlet fever and in many cases of irritable throats following diphtheria. In one case of purulent meningitis, following middle-ear disease, the diplococcus was found in the meningeal pus.

The organism occurs in the secretions and exudations of the inflamed mucous membrane. It is diplococcus with its adjacent sides slightly flattened. When stained by Loeffler's stain, one or both of nearly every pair has a distinct metachromatic granule which stains very intensely. When stained with fuchsin the granule does not show. One of the pair is often smaller than the other. In preparations made from bouillon or blood serum cultures, the pairs are clumped in irregular bunches, apparently held together by some gelatinous material which does not stain. They vary from one-half to one micron in diameter, and the flattening on adjacent sides is sufficient, so that the combined diameter of the pair is but little greater than the opposite diameter of the single member.

They stain readily by Loeffler's and fuchsin, and by Gram's method, although the clear space between the members of the pair and the polar granules are best seen with the first stain. They possess no flagella, spores, or demonstrable capsule. Almost no growth occurs in gelatin and there is no liquefaction.

On an agar plate grown at 37° C. for twenty-four hours round regular colonies appear. They are white raised (pulvinate), and very tenacious, so that it is impossible to take up any of the colony without taking it all. They grow very little larger than the head of a shawl pin.

On agar streak cultures the character of the

growth is similar to that on plates. The white colonies are first discrete, regular in outline and pulvinate, but gradually they coalesce along the line of the needle tract, and the result is a more or less continuous nodular growth. Growth is never luxuriant, however, and does not spread laterally far from the needle tract.

On blood serum growth is quite luxuriant, appearing first as moist, glistening, white colonies, which soon coalesce, forming a viscid, extremely tenacious skin over the whole surface of the medium. The medium is not liquefied.

On potato, growth is similar to that on serum, only less luxuriant. The potato is not discolored. In bouillon its growth forms a white stringy sediment, sticking tightly to the bottom of the tube. There may be a slight general turbidity. In litmus agar it produces no change in color. It produces nitrites in nitrate broth, does not form indol or gas or acid in glucose, lactose, or saccharose solution.

For all of these growths it requires oxygen and a temperature near 37°C. The thermal death point is between 60° and 70°.

Animal inoculations were made with the following results:

Animal No. I.—An intraperitoneal inoculation of a young guinea-pig proved fatal to the animal in five days. A seventy-two hour bouillon culture was used. The animal showed few symptoms of infection until the fifth day, when symptoms of profound toxæmia commenced and increased very rapidly, resulting in death in a few hours. An autopsy showed a slight subcutaneous œdema, with a collection of white, viscid, tenacious pus around the peritoneal wound. Peritoneal cavity containing much semi-solid tenacious exudate, which microscopically showed fibrin, pus cells, and diplococci. Mesenteric glands were all enlarged, and showed the presence of the same organism. Blood serum cultures made from the peritoneal exudate resulted in a growth of a pure culture of this diplococcus.

Animal No. II.—Rabbit. Inoculated intravenously with an old bouillon culture. This animal died in convulsions within twelve hours of inoculation. An autopsy showed a general congestion of the viscera, especially noticeable in the kidneys and liver. The bladder was filled with dark colored, apparently bloody, fluid. Smears of liver and splenic pulp were negative. Five cultures taken from heart's blood all showed pure growth of the diplococcus.

Animal No. III.—Guinea-pig inoculated with the filtrate after passing an old seven-day bouillon culture through a Berkfield filter. This animal on the second day showed an irregular pulse, and on the next day was unable to walk, staggering and finally falling over. Spasms developed, and the animal finally died in forty-eight hours from the time of inoculation, presumably as a result of the soluble poison produced by the organism in its growth in the bouillon.

Animal No. IV.—Guinea-pig inoculated subcutaneously with a young bouillon culture failed to respond.

Animal No. V.—A guinea-pig was inoculated by slightly abrading the mucous membrane of its lips and rubbing in a young culture. This experiment was negative.

Other animal experiments have been confirmatory of the results obtained from the above described inoculations, showing that the organism is variably pathogenic for laboratory animals.

The fact that the poison produced by this diplococcus in its growth is soluble, and that an attempt to isolate ptomains by Breiger's method was negative, renders it fairly certain that the poison is a true toxin.

The writer is thoroughly convinced that this organism stands as the etiological factor in the above described throat cases, even though efforts to reproduce its peculiar lesions on the mucous membrane of laboratory animals have been so far unsuccessful.

1. Because it has been found constantly present in these cases in almost pure cultures and isolated while no other organisms are constantly found.

2. Because it is not generally found in healthy throats. An examination of over two hundred cultures, made from healthy throats, have failed to show this diplococcus in hardly any case in which it could not be explained as persisting after an acute attack.

3. Because it is toxic for laboratory animals producing on serous membrane an exudate analogous to that produced in the throat, from which exudate it has been recovered in pure culture.

4. Because it produces a soluble toxin sufficiently virulent to kill animals.

5. Because its blood serum growth has a peculiar viscid character, suggesting the extreme viscidity of its exudate in the throat.

On Black Urine.—Archibald E. Garrod gives a brief account of the importance which has been attached to this phenomenon from ancient times, citing cases in which the condition existed in healthy persons. He then gives a list of diseases which may produce black or dark urine. The first disease discussed is jaundice. It is not common for urines containing bile pigment to approach to blackness, but when there is a large amount of biliverdin, together with bilirubin and other varieties of bile pigment, they may appear black. Black urines of this kind are more common in cases of long-standing jaundice in which the skin has become a dirty greenish hue. The writer thinks that it is probable that many of the black urines described in the earlier literature owed their blackness to the admixture of blood or of hæmoglobin. The term "black water fever," the writer states, bears witness to the character of the urine which may result from the presence of hæmoglobin. In cases of poisoning by certain drugs the urine may appear opaque and practically black. In hæmatoporphyrinuria the color of the urine usually resembles that of port wine, but various degrees of tint are met with. True melanuria associated with melanotic sarcoma is a rare condition. In melanuria the urine has usually a normal color when passed, although it may have a brown tint, but after being exposed to air it quickly becomes brown, and finally as black as ink. In alkaptonuria as in melanuria the urine is of normal color when fresh but darkens on standing. In the condition of ochronosis—a term given to a blackening of the cartilages and of some other tissues—the urine has been observed in a few cases to blacken on standing.

Any morbid process which leads to abundant excretion of indican may give rise to dark urine—intestinal obstruction from any cause, excessive bacterial activity in the intestine, or putrefactive changes in collections of pus. Indicanuria is not nearly so well recognized as it should be. It has been noted in some cases of phthisis that urine became black on long keeping. The writer mentions several instances of uncertain nature in which the urine has been discolored. He also gives a list of articles of diet and drugs which have the same effect. As to prognosis, it may be grave, as in the case of true melanuria; or as in alkaptonuria the condition may be harmless. Between these extremes of morbid conditions are various degrees of gravity.—*The Practitioner.*

MEDICAL RECORD:

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THE NERVOUS COMPLICATIONS OF INFLUENZA.

THE complications and sequelæ of influenza are so numerous that the literature on the subject is voluminous to a degree. Indeed there is probably no disease which has been more widely dealt with during the past twenty years by the medical scribe than influenza in all its manifestations and ramifications. Grippe has a peculiarly sinister influence upon the nervous system. It seems to have a special predilection for the nervous centers, and the person who gets over an attack without serious damage to or grave organic and functional disturbance of the nervous system may deem himself exceptionally fortunate. The health of many an individual has been completely wrecked by this insidious malady.

Dr. Charles Louis Mix, in *Medicine*, for May, 1904, discusses the nervous complications of influenza at considerable length. The nervous complications of the prodromal period are of great variety and of protean form, ranging from headaches and backaches to delirium, catalepsy, katatonia, hysteria, and many other psychoses, varying in intensity in proportion to the extent of the toxæmia

The nervous complications of the fastigium and period of lysis are both toxic and bacteriæmic, or degenerative and inflammatory. Inflammatory complications are encephalitis, both hemorrhagic and purulent, cerebrospinal meningitis, and myelitis. Toxic complications are various psychoses and meningitic-like forms, to which the term meningism is applicable.

The diagnosis of grippal meningitis is at times most difficult. Cases affecting chiefly the base may so resemble epidemic cerebrospinal meningitis as to be indistinguishable from it by symptomatology alone, since both begin suddenly with a chill followed by fever and cervical rigidity, and herpes is characteristic of both; although the latter symptom is possibly more prevalent in the epidemic form. Only the differentiation by lumbar puncture is absolutely reliable, though prevalence of epidemic influenza or of epidemic cerebrospinal meningitis may accurately indicate the correct diagnosis. There is also allied to true grippal meningitis the form named by the French pseudomeningitis or meningism, cases of which have been reported by Lépine and others, and the differential diagnosis between grippal meningitis and these cases is extremely difficult. Many of them begin in a foudroyant manner, the symptomatology of the case of Hagerstedt answering well as a typical example. Post mortem no true meningitis is found, and no organisms; there is nothing except possibly a hyperæmia of questionable nature, and possibly an increase of serum. The conclusion is that these cases are due to an intense toxæmia.

The nervous complications of influenza occurring during convalescence are entirely toxic. They therefore, in Dr. Mix's opinion, resemble closely in a way the nervous complications of diphtheria.

That influenza exerts a severe poisonous effect upon the nervous system was suspected and confirmed by Leichtenstern three years before Pfeiffer discovered the influenza bacillus. This nerve poison is capable of bringing on degenerative processes, especially in the peripheral nerves. If the toxins are not sufficiently virulent, or if the resistance of the organism invaded is sufficiently strong, functional rather than degenerative changes may result. In general, Dr. Mix states that the convalescent toxic effects of influenza may be subdivided as follows: (1) neuralgia, functional; (2) myalgia, functional; (3) multiple neuritis, organic; (4) focal neuritis, organic.

Referring to focal neuritis in connection with influenza and as a causative factor of deafness, not secondary to disease of the middle ear, Dr. Mix holds the view that just as the optic nerve is susceptible to the toxins of influenza, so also is the trunk of the auditory nerve, which in its anatomy closely resembles the optic nerve. The writer then goes on to declare his disbelief in the existence of the ninth nerve. He revises, according to his views, the generally accepted opinions on this matter as follows: "I am of the opinion, from anatomical and pathological reasons, that the glossopharyngeal, the pneumogastric, and the spinal accessory nerve form one nerve-complex, the sensory fibers being received into the sensory vagus and so-called glossopharyngeal nucleus situated at the anterior end of the vagus nucleus, and also into the accessory sensory nucleus, the nucleus of the fasciculus teres; the motor fibers coming wholly from the nucleus ambiguus and the nucleus of the spinal accessory. The supply of these three nerves in one is the upper portion of the alimentary canal and the viscera, the motor supply extending as low as the heart, the sensory supply still lower. The pharyngeal plexus receives all of its motor fibers from the spinal accessory and none from the glossopharyngeal, the latter containing no motor fibers, despite the statement to the contrary in Gray's Anatomy, to the effect that the stylopharyngeus muscle is supplied by the glossopharyngeal nerve." We wonder what Sir William Gowers would have to say to this statement.

The writer says, in reference to the para-grippal or meta-grippal diseases, that the onset of these is, as a rule, after the subsidence of the influenza, but not in every instance. Thus epilepsy may almost immediately follow influenza. Neurasthenia is undoubtedly the most prominent of the meta-grippal affections. This condition, it would seem, occurs when the toxins are less virulent or the organism more resistant. The leading feature of the neurasthenia is hypochondria and motor weakness. A third post-grippal disease is hysteria, all its symptoms manifesting themselves. In addition to the more common post-grippal conditions, other diseases

have been reported occasionally. Tabes dorsalis, paralysis agitans, spastic spinal paralysis, multiple sclerosis, Basedow's disease, and progressive paralysis of the insane have all followed influenza. In all of the above mentioned maladies influenza has only acted as the exciting cause. Again tetany has sometimes been observed after influenza, while chorea as a post-grippal disease has been repeatedly seen, cases having been reported by Rosenstein, Leyden, Van Deventer, Demme, Villard, Eichorst, and Leichtenstern.

The psychoses of influenza develop at any stage, even preceding it; according to Kraepelin the majority of cases occur during convalescense. Of all the epidemic diseases influenza is the one most frequently followed by psychoses. These, moreover, are not exhaustion-psychoses, but belong rather to the toxic group, being due to the special neurotoxin of influenza. Leichtenstern states that the psychoses often are found in those showing no hereditary or neuropathic involvement. Bossers and Althaus concur in this view. On the other hand, Kraepelin, Mispelbaum, and others hold that the psychoses of influenza develop upon an inherited or acquired neuropsychopathic tendency. Psychoses develop both during the prodromal stage and the febrile stage. A third group is made up of those coming on during the period of convalescence. The explanation of these psychoses is not to be found in the toxins themselves, but in the after-effects of the toxins upon cortical nutrition. The fourth group of cases is the post-grippal or meta-grippal psychoses, and fortunately these are very rare. In the meta-grippal cases the prognosis is not good; in general paralysis of the insane, of course, it is absolutely bad; and in the psychoses it is likely to be poor. It will depend upon the previous history of the patient, the family history, and the hereditary taints.

Influenza has an extraordinary aptitude for discovering the weak points in the armor of health. If an individual, through the sins or misfortunes of his fathers, inherits a predisposition to any disease, an attack of influenza will in most instances develop this disease. This statement is especially true of affections of the nervous system, and renders, in these times, influenza a malady to be greatly dreaded. Owing to the mode of life of modern civilized nations, nervous instability is frequent, and influenza brings out into active prominence latent flaws which otherwise might lie dormant. Considered from almost all points of view, influenza is perhaps the most deadly disease to which the modern individual is subject. When it does not kill, it either cripples or leaves the victim of its onslaughts a worse man physically and mentally than he was before the attack.

SPECIALLY PREPARED IMMUNE SERA.

One of the puzzling and sometimes discouraging facts connected with serum therapy is the uncertainty in the results, a brilliant success in one case being followed perhaps by absolute failure in a seemingly perfectly similar case. This is especially noticeable in pyæmic and septicæmic infections, in which the best results have been obtained by, or at least claimed for, immune sera. Yet it is also in these forms of infection that the greatest uncertainty in results is noted. One of the most active causes of failure in these cases is doubtless that the serum employed is not bactericidal in relation to the particular species of microbe causing the disease. In the case of the streptococcus, for example, a serum fatal to one species may have little or no repressive influence on another species. To obviate this objection to specific treatment, the attempt has been made to obtain a universally immune serum by employing a mixture of streptococcal forms. But until we know how many species of streptococci there are having each its specific pathogenic action, and can prepare a serum from all, the use of the multivalent sera is suggestive of the shotgun prescriptions of our fathers in medicine.

In a discussion of this point in *The Lancet*, of July 16, 1904, T. J. Horder says very truly that "the ideal serum for the treatment of any particular patient suffering from streptococcus infection must be one obtained by the use of the organism actually causing the disease in that patient, for this serum can alone be guaranteed to be specifically associated with the causal agent of the disease. To obtain this ideal serum we have but two alternatives open to us —either we must possess certain trustworthy tests whereby we can recognize the particular streptococcus obtained from the patient, so that we may choose a serum already at hand and produced by the use of that organism, or we must specially prepare the serum by the use of the very streptococcus which we have obtained in the course of our bacteriological diagnosis of the case." It is possible that the first of these alternatives may be available some day, but it will require a well-developed technique to diagnose promptly and with absolute certainty the species of streptococcus present in any case; but when our methods are so perfected that this can be done the next difficulty will be always to be armed with the specific serum for instant use. The second alternative is not so hopeless looking, but, as Dr. Horder observes, it is practicable only when the duration of the disease extends over at least eight weeks, since this interval would seem to be necessary before the serum of a horse inoculated with a streptococcus is likely to contain antibodies of sufficient strength to make it of therapeutic value.

Cases of general streptococcus infection of sufficiently long duration to promise any success from this method of treatment are not common, but they are sometimes encountered. Dr. Horder reports one of the kind—a case of ulcerative endocarditis of streptococcal origin lasting over six months. When the nature of the infection was discovered by means of a blood culture, all the various antistreptococcus sera on the market were tried one after the other, but without success. A specific immunized serum was then obtained from two animals by the use of the patient's particular streptococcus, and this serum was freely used for a period of over two months, during which time more than 550 c.c. was injected. The failure with this serum was as marked as had been that following the use of the commercial sera, and at no time did the temperature chart suggest that the treatment had influenced the course of the disease in the slightest degree.

The experiment was therefore altogether inconclusive in its results, but the case is nevertheless worthy of record and of comment. It was one of

the first of the kind, if not the first of any kind in which treatment was by a serum prepared from the patient's own microbes, and the failure might have been influenced by other factors, such as that of a mixed infection. The idea is worthy of further development before being abandoned as impracticable.

Military Medical Journalism in the Present Day.

At the annual meeting of the American Medical Editors' Association, held in Atlantic City, June 6, Major J. E. Pilcher read a paper on the above subject. According to the facts gathered by Dr. Pilcher, there are in existence to-day twenty-six military medical journals, which may be divided into three classes: (1) Official medico-military journals, published by the governments of the countries in which they are issued. (2) Private military medical journals, published by individuals or private firms and supported by subscriptions and advertisements as are other medical journals. (3) Periodical publications of associations of military medical officers. The first class contains nine publications —including those published by the governments of Belgium, France, Germany, Italy, Norway, and Spain.

Of the second class—journals published by private enterprise—there are three in Austria-Hungary and one each in Argentina, Finland, France, Germany, Holland, Roumania, Russia, and Spain. In the third class are numbered the journals published by the Danish Military Medical Society, the Japanese Association of Military Surgeons, the Swedish Association of Military Surgeons, the Central Committee of the International Red Cross Society, and the Association of Military Surgeons of the United States.

Of all these journals the *Archives de Médecine et de Pharmacie Militaires* of Paris is the oldest, having been in existence for ninety years and being itself the successor of a series of military medical periodicals dating back to the year 1767.

The *Deutsche militararztliche Zeitschrift* has almost reached the age of thirty-two years.

The Russian military medical journal, the *Boyennо Meditsinski Journal* of St. Petersburg, has been published continuously for eighty-one years.

Up to 1903 Great Britain possessed no military medical journal, but in that year the Royal Army Medical Corps inaugurated the publication of the *Journal of the Royal Army Medical Corps*. Japan has an up-to-date medical military journal, while the *Journal of the Association of Military Surgeons of the United States*, from the July issue of which we gather the facts mentioned, covers a broader field than that of any other country, as it combines in its clientele, the Medical Department of the Army, the Medical Corps of the Navy, the Public Health and Marine Hospital Service of the United States, and the Medical Departments of the National Guard, Militia and State Forces of the several commonwealths comprising the Union.

Cancer Research in Tropical Countries.

The inquiries into all that concerns cancer, which are being prosecuted in almost all the civilized countries of the world, have resulted thus far in no startling and definite discoveries as to the origin of malignant growths. Nevertheless, some progress has been made toward this end, and our knowledge of cancer generally is continually increasing. The assertion has often been made that cancer is extremely rare in tropical climates, and some observers have stated that the disease does not attack many native races of lands situated in the torrid zone. These statements may be true; and that there may be countries whose inhabitants are free from cancer is by no means unlikely, but until the question has been decided by exhaustive inquiry, it would be absurd to regard the matter as proven.

The *Journal of Tropical Medicine*, June 15, deals with this phase of the cancer problem editorially, and points out that it is imperative to gather information as to the presence or absence of malignant diseases in tropical countries if the present investigation of cancer is to attain scientific value. If a specific disease be absent from a country, there must be some reason for its absence, and if this reason can be traced to a purely local cause, then a valuable means of prevention may be at hand. Therefore, medical men who live in tropical countries, should be keenly on the lookout for all signs of malignant disease, even where no cases have been found. The solution of the cancer problem is one of the most difficult that has ever been placed before scientific men. To bring its investigation to a successful issue requires that advantage be taken of every opportunity to gain knowledge. Every point must be considered, and every detail in connection with cancer must be thoroughly probed in order finally to triumph in laying bare the unknown features of this disease.

Plea for Federal Control of Quarantine Regulations.

The Texas quarantine against Mexico, imposed last spring, and still existing in a modified form, has given rise to a considerable amount of dissatisfaction in Mexico. Of course it is not denied that the health authorities of Texas had every right to endeavor to protect their State against yellow fever, but the view is held by many that the measures adopted were altogether too sweeping. Indeed the fact has been recognized by the executive of Texas, the Governor, it is said, having served an order upon the health officer to recede from his position. At any rate the action of the Texas official has caused a certain amount of resentment on the part of the inhabitants of Mexico, and it is considered that it would be desirable to have our quarantine relations, at least when they concern foreign nations, in the hands of the Federal Government.

A special correspondent of the *Evening Post* in Mexico upholds such a course, and points out that an important reason for Federal regulation of international quarantine lies in the question of the validity of consular certificates. "In one sense," says the writer, "the Texas authorities are reasonable in refusing to accept them. The consuls of the United States in Mexico are officers only of the Federal Government, and the Texas authorities have no official relations with them, and no right to issue to them instructions with regard to what proofs they shall require before issuing certificates of health. Of course, a consul will ordinarily be willing to do anything reasonable in this regard, but it is entirely within his discretion as to what requirements he shall make before issuing certificates of this sort. On the other hand, if a quarantine is imposed by the Federal Government the State Department at once issues instructions to him as to proof of travelers' whereabouts, etc., with which he is sworn to comply faithfully."

Neuropathology and Internal Medicine.

The relation of nervous diseases to psychiatry and to internal medicine has hitherto been regarded as a subject of discussion for psychiatrists alone. It seems opportune, therefore, to consider the question

from the viewpoint of the general practitioner. Friedrich Schultze of Bonn contributes a most interesting discussion on this topic to the *Munchener medizinische Wochenschrift*, of July 19, 1904, in which he regards the subject from the standpoint of university instruction, the principal aim of which should be to develop physicians and not specialists. He fears that in many universities there has been a tendency to separate the field of internal medicine into a number of isolated studies, which in the course of time are gradually relegated to specialists, so that very little remains with which to carry on a clinic on what were formerly termed the "internal diseases." Thus we have departments in acute infectious diseases, pulmonary diseases, children's diseases, diseases of the digestive organs and metabolism, and numerous others, and nothing is left as material for the clinician who must educate the general practitioner, except perhaps bronchitis, pleuritis, or diseases of the suprarenal glands. But his special cause of complaint seems to be that now the psychiatrists have arrogated to themselves all forms of nervous diseases. It seems perfectly proper, perhaps, to assign the consideration of mental disturbances to this department, which is all that in reality it can be made to include, but this should not include the right to claim and treat every case of hysteria, epilepsy, or nervous lesion, and in this way to exclude them from other clinics. Schultze thinks they are as little justified in taking up this subject as the general surgeon would be in claiming every variety of arthritis for consideration and treatment by his methods.

The Pure Waters of the Drainage Canal.

The Illinois State Board of Health, in a recent report, summarizes the results of the investigations made to determine the sanitary effect of the new flow southward from Lake Michigan, through the Chicago drainage canal. The board holds that not only do the waters of the canal in no wise contaminate the water supply of towns along the Illinois and Missisippi rivers, but that the waters of those streams are actually rendered more potable by the added flow coming down from Chicago. Concerning the alleged contamination of the St. Louis water supply by Chicago sewage, the report asserts that it would be well for that city did it drink the Chicago water. St. Louis, it says, takes its water from a point on the west side of the Mississippi but a short distance below the mouth of the Missouri, so that the great bulk of the supply is taken from the Missouri river water. But the water of the Missouri river above its mouth shows evidence of more serious sewage contamination than does the water of the Illinois river above its mouth. A great part of the contamination of rivers comes from the drainage from farms and villages, the sewage from cities and refuse from manufacturing industries along their banks. In the case of the Illinois river, the water of the drainage canal actually improves that of the river by the dilution of this original contamination, and the same improvement would be effected in the Missouri water—the true source of St. Louis' supply—could it be diluted with the water of the drainage canal. All of which will be of great comfort to the citizens of St. Louis, if they will accept the argument and the statements upon which it is based.

A Village Quarantined.—The entire village of Dresden, N. Y., was placed under quarantine last week on account of an epidemic of varioloid, and nearly 500 inhabitants were isolated. The State Board of Health had charge of the quarantine.

News of the Week.

American Medical Editors' Association.—The thirty-fifth annual meeting of this association was held at Atlantic City, in connection with that of the American Medical Association, under the presidency of Dr. C. E. de M. Sajous. A number of papers were read and discussed; a resolution was adopted commending the editor of the *Ladies' Home Journal* for his action in publishing the alcoholic strength of many of the most popular patent medicines; a resolution of regret for the death of Dr. I. N. Love was passed; a committee was appointed to prepare a draft of a new constitution and by-laws to be presented at the next annual meeting, and twenty-eight new members were admitted. The following officers were elected: *President*, Harold N. Moyer, Chicago, Ill.; *Vice-Presidents*, C. Evelyn Pilcher, Carlisle, Pa., and O. F. Ball, St. Louis, Mo.; *Secretary* and *Treasurer*, J. MacDonald, Jr., New York; *Executive Committee*, C. E. de M. Sajous, chairman; John Punton, W. A. Young, W. C. Abbott, H. M. Simmons, C. F. Taylor, and Chas Wood Fassett. The association now numbers over one hundred members.

Sir Felix Semon, who is to deliver the address on Laryngology at the St. Louis Congress of Arts and Sciences, will arrive at New York early in September. He will be the guest, while in this city, of Dr. George M. Lefferts, and also of Dr. Emil Mayer, who is associated with Dr. Lefferts as co-editor of the *Internationales Centrablatt fur Laryngologie*, and of which Sir Felix has been editor in chief since its beginning twenty years ago. The American tour, which has been arranged by Dr. Mayer, will include stops at Niagara Falls, Chicago, St. Louis, Washington, Philadelphia, and Montreal, in each of which places Sir Felix and Lady Semon will be entertained by the leading laryngologists. In Canada Dr. Semon will take a four weeks' hunting trip, returning to New York City October 31 to remain a week before sailing for home. This last week will be a busy one, as the program includes a dinner under the auspices of the Laryngological Section of the New York Academy of Medicine, an address on Malignant Diseases of the Larynx at Hoosack Hall, by invitation of the same section, and receptions on different evenings to both Sir Felix and Lady Semon by Dr. Lefferts, Dr. Emil Mayer, and Dr. Thos. R. French of Brooklyn.

Directory of Institutions for the Care of the Tuberculous.—The National Association for the Study and Prevention of Tuberculosis, in coöperation with the Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York City, is preparing a directory of the various agencies, existing and projected, in the United States and Canada which care for persons suffering from any form of tuberculosis or which work in any way for the restriction of the disease. This directory will include information in regard to hospitals, sanatoria, dispensaries, and camps especially designed for tuberculous patients or with especial provision for them, whether public or private; insane hospitals and prisons in which special provision is made for the tuberculous inmates; State commissions and private societies formed for the purpose of investigation or of diffusing information; and a summary of the efforts being made by the boards of health in the principal cities. A tentative list of institutions has been made which includes 102 sanatoria, 18 special clinics for the treatment of tuberculosis, and 12 insane hospitals and prisons with special provision for the treatment of tuberculous inmates. As it is desired to make this directory as complete and accurate as

possible, any additional addresses, or any reasons why institutions that are included should be omitted, will be welcomed. Communications should be addressed to the Committee on the Prevention of Tuberculosis, 105 East Twenty-second Street, New York City.

The Cook County, Ill., Institutions at Dunning.—Four of the buildings authorized by the people of Cook County when they approved the recent bond issue of $500,000 have been completed. They are, the Home for the Cure of Tuberculosis, which has taken the place of the old consumptive hospital, and three cottages for the treatment of insane persons. The Home for the Cure of Tuberculosis was built after a careful investigation along the newest lines for the treatment of the disease. The cottages for the insane represent the newest type of hospital treatment. They are large, sunny and airy, and are without prison-like bars on the outside of the windows. The living rooms are separate from the dormitories, and in all respects the cottages look and are conducted much like private residences. These three cottages are connected by an ornamental colonnade. They are of pleasing architecture, and they make an ornate head for the avenue of cottages at the Dunning Institutions. In addition to the three new cottages, the large farm cottage is now nearing completion. This is designed for patients who are able to work on the farms. It is supplied with all modern facilities, including shower baths, and offers facilities for the new treatment for the insane by providing employment for mind and body, instead of forcing the sufferers to remain idle. Still another building is now under erection, the foundation already being in, to provide adequate morgue facilities and room for the pathological laboratory and for clinical lectures. The lectures will be conducted in an amphitheater. The facilities afforded in this building will attract students of medicine, and will also cause experts in various diseases treated there to visit the institutions to lecture to doctors, internes and attendants, and in that way improve the medical service to the poor. Work has also been begun on the Children's Building at the County Hospital. This will be a large, roomy, fireproof structure, built on the most modern lines.

A New Ophthalmological Journal.—A new quarterly journal is announced to appear October 1, 1904, entitled *Ophthalmology*. It will be a periodical of about 250 pages, devoted to original essays, abstracts of original articles appearing in domestic and foreign literature, and book reviews. The following well-known ophthalmologists and editors are in charge of the various departments: Dr. H. V. Wurdemann of Milwaukee will be managing editor and publisher, and Dr. Nelson M. Black of Milwaukee, assistant editor. In charge of special departments will be: Drs. Chas. H. May, New York City; Casey A. Wood, Chicago; Chas. A. Oliver, Philadelphia; Blencowe E. Fryer, Kansas City; Albert B. Hale, Chicago; Edmond E. Blaauw, Buffalo; Chas. Zimmermann, Milwaukee; Dr. Wm. Zentmayer, Philadelphia; J. Guttman, New York City; Frank Allport, Chicago; M. Wicherkiewica, Cracow, Austria; Mitsiyasu Inouye, Tokio, Japan; Claud Worth, F.R.C.S., London, England.

Examiners of the State Board of Alienists.—At the session of the New York State Legislature last winter a law was passed creating a State Board of Alienists to act in concert with the United States examiners at the port of New York in the inspection and return to their own country of all immigrants suspected of insanity, epilepsy, or imbecility. Under this law Dr. Sidney D. Wilgus of Brooklyn has been appointed by the State Commission in Lunacy as chief examiner, at a salary of $5,000. The Lunacy Commission also appointed as assistant examiners and members of this board Dr. George D. Campbell and Dr. W. E. Sylvester of Manhattan, at a salary of $3,000 each.

Deaths in New York State During June.—The monthly bulletin of the State Department of Health reports 10,997 deaths in June, which is about 1,500 in excess of the average for the month during the past five years. The excess is, however, accounted for in great part by 1,362 deaths from accident in New York City, most of them occurring in the burning of the *Gen. Slocum*. There were 150 more deaths from tuberculosis than in the same month a year ago, and the number from pneumonia and other acute diseases of the respiratory organs was large, though not more than half as many as in May. Among epidemic diseases cerebrospinal fever was the only one showing an increase, the number of deaths from this disease during June being the same as in April.

Sir William Mitchell Banks, F.R.C.S., whose death on August 9 is announced by cable, was born in Edinburgh in 1842, and took his degree of M. D. at the university in that city. He was for a short time demonstrator of anatomy at the University of Glasgow, but in 1866 removed to Liverpool. Many in this country will remember meeting him in 1897 at Montreal, which city he visited in the summer of that year as chairman of the surgical section of the British Medical Association. He was knighted in 1899.

Cholera in St. Petersburg.—The woes of Russia are endless, and now it is reported that St. Petersburg is threatened with an epidemic of Asiatic cholera. The disease appeared some days ago, and thus far the number of deaths is believed not to have been great, though the authorities have not published any official figures.

Typhoid Fever in the Bronx.—Twenty-five cases of typhoid fever have been discovered in the colony of Italian laborers employed in constructing the Jerome Park reservoir. The source of the outbreak is not known.

Large Bequest to Tulane University.—The will of the late Alexander C. Hutchinson, who died in New Orleans December 7, 1902, provides for the payment of annuities to sisters of the testator during their life, and the residue of the estate is set aside for the medical department of Tulane University, Louisiana, after three bequests of $20,000 each are paid to New Orleans institutions. The appraisement shows the testator left a personal estate amounting to $1,020,000 and considerable real estate, the value of which is unknown.

Associated Meetings of the Northern New York Medical Association and the St. Lawrence County Medical Society.—It has been decided to hold the meeting of these two bodies on October 18, 1904, at Ogdensburg, N. Y., the Northern New York Medical Association holding session under the presidency of Dr. M. D. Briggs, during the afternoon, and the County Society, under the presidency of Dr. E. M. Somers, during the evening of the same day. The afternoon session will be held at the St. Lawrence State Hospital, upon the invitation of the Superintendent, Dr. R. H. Hutchings. The evening session will take place in the City Hall. Following the evening meeting a banquet will be held under charge of both societies. This arrangement will permit members of either society to attend both meetings, and it is hoped that the members will coöperate as far as possible to make the meeting both pleasant and profitable.

Enforcing the Illinois Pure Food Law.—State Commissioner Jones of Illinois has been unusually vigorous in prosecuting manufacturers of food products, and it is said that already suits have been brought against two hundred dealers and manufacturers for alleged violations of the pure food law. Many of the suits charge false labeling, while the bulk of them allege adulterations of the most injurious character. Among the adulterations found are artificial butter, impure maple syrup, and spurious vinegar. The belief is prevalent that Illinois affords a rich picking for dealers in and manufacturers of food frauds. That this belief is well-founded is shown by the fact that one hundred of these suits are against Cook County dealers, showing that the city with its two million consumers offers a market for food adulteration and misbranded food products so large as almost to defy the efforts of the most watchful and energetic food commissioner and food inspectors.

Dr. William T. Jenkins, ex-Health Officer of the Port of New York, has been appointed Sanitary Engineer in the Health Department at $2,400 a year. Dr. Jenkins was a coroner's physician for ten years until, in 1892, he was placed in charge of the New York quarantine station by Governor Flower. In the summer of that year cholera was epidemic in Hamburg, and the new health officer gained a name for himself by his active efforts to keep the disease out of this country.

Smallpox in Chicago.—Three patients with smallpox were sent to the Isolation Hospital during the week ended July 23, and a fourth one was found, who had recovered at home, without the nature of the disease being recognized by the attending physician. From this unrecognized case many exposures resulted, and some of the patients now in the hospital contracted the disease from this source. Three had never been vaccinated; one had a mark made in childhood, twenty-three years ago. One death occurred at the hospital during the week—that of an unvaccinated man twenty-six years old; his unvaccinated child, three months old, was in the hospital with smallpox, and his vaccinated wife was also in the hospital nursing the child.

More Filtered Water in Philadelphia.—The promise is made by the Chief of the Filtration Bureau that every part of West Philadelphia will be supplied with filtered water by the middle of August.

License Required to Dispense Liquors.—Complaint having been made that a number of druggists and physicians were dispensing liquor in contravention of the statutes, the Collector of Internal Revenue at Philadelphia has received instructions to the effect that a practising physician who, without holding the special tax stamp of a retail liquor dealer under the United States Internal Revenue laws, furnishes his patients with distilled spirits, wine, or malt liquors under conditions constituting sales of these liquors, directly or indirectly, involves himself in liability to criminal prosecution under these laws, unless he shows that the liquors thus furnished have been compounded into medicines by the addition of some drug or medicinal ingredient. If the liquors are not so compounded he cannot sell them even for medicinal purposes without involving himself in special tax liability.

Obituary Notes.—Dr. Romeo F. Chabert of Hoboken, N. J., died at Asbury Park on August 1, at the age of seventy-six years. He was born in London, but came to this country in early life and studied medicine here, receiving his degree from the New York University Medical School in 1856. He was a member of the New Jersey State Medical Society; founder and consulting surgeon of St. Mary's Hospital, Hoboken; consulting physician of the Bayonne Hospital, and for many years a member of the board of managers of the State Asylum at Morris Plains.

Dr. Robert Milbank of this city died of apoplexy at the home of a relative in Port Chester on August 4. He was born in 1838, and was graduated from the New York University Medical School in the class of 1878. He was a member of the New York Academy of Medicine, of the Medical Society of the County of New York, and of the Society of the Alumni of Bellevue Hospital.

Dr. Orlando Brown died at his home in Washington, Conn., on August 4, at the age of seventy-seven years. He was graduated from the Medical Department of Yale University in 1861, and at once entered the army as assistant surgeon of the Eighteenth Massachusetts Volunteers. He served throughout the war, in which he distinguished himself in hospital organization and management. In 1865 he was made colonel of a regiment of colored troops, and later retired with the rank of brigadier-general. He had practised medicine at Washington for many years, and was one of the most widely known physicians of Litchfield County. He was a member of the Connecticut State Medical Society.

Dr. A. Carter Webber died on August 5 at the home of his son, Dr. George A. Webber, at Manchester-by-the-Sea, Mass. Dr. Webber was born in Boston seventy-eight years ago, and was graduated from the Harvard Medical School in the class of 1849. He retired a few years ago, after having rounded out fifty years of active medical practice.

Dr. J. Converse Rising, a retired physician, formerly of this city, died at the home of his son in Greenwich, Conn., on August 3, at the age of eighty-six years. He was born in Suffield, Conn.

Dr. Francis F. Cassaday died in Philadelphia of cerebral hemorrhage on August 3, at the age of sixty-three years. He was graduated from Jefferson Medical College in the class of 1863.

Dr. O. W. Lounsbury of Wyoming, Ohio, was found dead in his stable on August 6. He had been suffering from an acute stomach trouble for several days, but had recovered sufficiently to be able to be about.

Dr. Ferdinand Hasbrouck, a well-known dentist of this city, died on Sunday after an illness of eight months from cancer of the stomach. He was seventy years old. Dr. Hasbrouck was one of the first to take up, thirty years ago, the use of nitrous oxide as an anæsthetic in the extraction of teeth. In the early days of "laughing gas," before it was thoroughly understood, patients came to Dr. Hasbrouck from all over the United States and from Europe. For years he lectured in the New York College of Dentistry on nitrous oxide gas. His son, Dr. James F. Hasbrouck of New York, and a daughter survive him.

Dr. Charles Newton Thompson of this city died at Nantucket, Mass., on August 7, after a lingering illness. He was born in Somersworth, N. H., on March 6, 1850, and was graduated from the Bellevue Hospital Medical School in 1884. He was for many years surgeon of the Ninth Infantry, N. G. S. N. Y.

Dr. Albert W. Warden of Union Hill, N. J. died on August 9 at the Presbyterian Hospital of septicæmia. Three weeks ago, while performing a slight operation, he scratched his hand, and in a few days signs of infection appeared. Amputation was advised but he would not consent, being confident of ultimate recovery. He was a graduate of the New York University Medical School in the class of 1880, and was a member of the New Jersey State Medical Society.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE QUEEN AT HOSPITALS—THE KING'S HOSPITAL FOR OFFICERS—THE WIGHTMAN LECTURE—THE OPHTHALMOLOGICAL SOCIETY AND THE SPECTACLE-MAKERS' COMPANY—HOSPITAL FOR GENTLEWOMEN—PRIZES AT BART'S.

LONDON, July 22, 1904.

On Saturday the Queen, accompanied by Princess Victoria, paid a visit to the Hospital and Home for Incurables. Her Majesty was conducted over the institution by Dr. Scamra and spoke a few words to each of the patients, eighty in number, and gave each a bunch of flowers from the gardens of Buckingham Palace. Her Majesty has sent £50 to the East End Horticultural Society which she visited last week, as I told you, and which gives surplus receipts to the London Hospital. Her Majesty has also sent £25 for the poor of the parish of St. George's in the East, the flower show of which she visited on her way to the Horticultural Society. This afternoon the Queen distributed certificates to members of the Royal Pension Fund for Nurses, of whom 2,000 were entitled to attend, but many were engaged on cases and could not come. Nevertheless this is the largest review of nurses ever held by Her Majesty, who has taken keen interest in the Fund from its foundation.

King Edward VII's Hospital for Officers will not be wanting for medical and surgical aid, for the Prince of Wales, president, and the Duke of Connaught, vice-president, have appointed for a period of five years a staff of two dozen eminent physicians and surgeons and two consultants.

Heredity has been for some time rather at a discount as a cause of disease. The discovery of the tubercle bacillus gave a shock to the holders of the theory of hereditary disease, and the advance since in our knowledge of parasitic disease has gone far to eliminate notions once considered axioms. Mr. Clement Lucas has taken a more moderate view if he has not in some degree endeavored to rehabilitate the hereditary theory. Last week he delivered the Wightman Lecture before one of our youngest societies, the "Society for the Study of Disease in Children," established about four years ago. His subject was "Hereditary Bias and Early Environment in Relation to the Diseases and Defects of Children." After some general remarks he admitted as a truth that the child must resemble its parents, and said the variations in the appearance of offspring are often due to the relative vigor of the parents. He went on to state that when he first became connected with a children's hospital he inquired into the family history of every tuberculous patient and found that in nearly every case one or other parent had suffered from phthisis. Can we then throw over altogether diathesis as a factor? The so-called types of consumption may rather be considered as an effect of heredity than a cause. If Cohnheim's theory be true, that the bacilli can penetrate the germ or sperm cells, the outlook of the offspring of consumptives is hopeless from the earliest period. Up to the time of Hansen's discovery of the bacillus lepræ (1871), the hereditary nature of leprosy was generally believed in, and even now it is held in some places, though the Indian Commission failed to find any evidence of heredity in more than 5 or 6 per cent. of the cases. Syphilis, we know, descends from parent to offspring but very seldom affects the third generation. Neither Mr. Hutchinson nor the lecturer had met with more than one doubtful instance of transmission to the third generation. If both parents are syphilitic the result to the offspring is doubly disastrous. The later children of syphilitics are less affected than the earlier.

Rickets, so common in large cities, is responsible for much of the degeneration of which we hear so much, but it is purely a dietetic disease and may be induced in any child by bad feeding. Rheumatism can no longer be regarded as purely hereditary, as the diplococcus has been discovered. The antithetic counterpart, gout, can be induced in successive generations. The children of gouty parents are likely to be brought up under the conditions in which the parents live. It is probable that this disease may be found to be of an infective nature. Dr. Shuttleworth found in 20 per cent. of cases of idiocy a history of mental disease in one or other parent. Other researches show that certain neuroses are transmitted in definite proportions to sons and daughters. Both psychical tendencies and physical qualities are, in fact, transmissible. Hæmophilia is peculiar, as it selects the males and is transmitted by the females. Other abnormal conditions appear to follow the same rule. Coloboma, nyctalopia, and other ocular defects are distinctly hereditary. It is in external defects that heredity is most marked. Ichthyosis is seen in several members of a family for several generations. Psoriasis similarly runs in families. Supernumerary digits have been observed through five generations. With regard to hare-lip, the lecturer has previously recorded the fact that absence of the lateral incisor tooth in the mother is frequently the precursor of this deformity in her offspring, and on this occasion he announced further that a feebly developed incisor may foreshadow hare-lip.

The occurrence of intrauterine amputations has been attributed to constriction by the cord, but there are many arguments against such a view. Mr. Lucas suggested that such deformities are due to errors far back in the process of development. The influence of the parents upon the physical deterioration of the present day was declared by the lecturer to be more important than the effects of bad food and surroundings upon the children.

The Ophthalmological Society has at length woke up to its responsibility and has issued a report on sight-testing by spectacle-makers. For some time a member of that society was an examiner for the Diploma of the Worshipful Company of Spectacle-makers—a city guild with no authority whatever to issue such documents. That gentleman has only lately resigned the honorable (?) office of examiner to the trade guilds' attempt to palm off its members as qualified to advise the public. It is to be hoped no other member will accept the position or that anyone who does will be expelled from the society which has at last given a warning signed by the president—Mr. John Tweedy—that "it would be misleading and dangerous to the public to countenance any proposal to certify as competent to advise and prescribe for defects of vision any one who has not had an efficient medical and surgical training." It is obvious that a company of mechanics ought, in the interests of the public, to be prevented from issuing to other mechanics certificates which will lead to the belief among the less enlightened that the holder is competent to advise on diseases. But quackery here is so rampant, the protection of the profession so absent, and the public so ready to follow any pretender, that only mere protests like the Ophthalmological Society's can be employed against the encroachments which are a disgrace to our law. This protest mentions that spectacles may in some cases destroy the sight or put the life of the patient in danger. But what is that to a legislature which fears to forfeit the votes of those engaged in such dangerous doings?

Lord Lister, Sir Thomas Barlow, Sir Wm. Church, and others have joined in an appeal on behalf of the Hospital for Invalid Gentlewomen. The object of the institution is to give ladies of small means a home where medical and surgical treatment can be carried out at a minimum cost. The payments to be made range from 25s. to 50s. a week and a few patients are admitted free. The ordinary expenditure exceeds the income by £500. The home is to be shortly removed to a new site and £4,000 will be needed for equipments and removal.

The Bishop of London distributed the prizes at St. Bartholomew's Hospital, and took occasion to say the clerical and medical professions should work harmoniously. True enough, but the bishop should instruct the lower clergy in the same sense and reprove their continual advocacy of quackery.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

ABSORPTION OF LIME IN RACHITIS—ACUPUNCTURE—ETHYLCHLORIDE SPRAY FOR X-RAY BURNS—ANGIOMA RACEMOSUM OF THE NOSE—A LUNG SEQUESTRUM—INJURY OF THE TRANSVERSE SINUS—INHALATION OF TUBERCULIN—NEW VIENNA HOSPITAL.

VIENNA, July 10, 1904.

Dr. M. PFAUNDLER spoke as guest at a recent meeting of the Vienna Pediatric Society, on the absorption of lime in rachitis, a field in which he has worked successfully for several years. He said that the most certain sign of rachitis is the softness of the bones, which, if burned, give almost no ash. Especially are the lime and phosphoric acid diminished. Bone and cartilage of healthy individuals possess the specific power of depositing lime salts within themselves, and his power in rachitic individuals appears to be reduced. According to some authors, the chief place for the deposition of lime is the immediate neighborhood of the cells, and, according to others, the cells themselves. The component parts of the bone salts are derived from the blood, but it is not entirely clear in what form the salts circulate in the blood, nor yet whether the salt is deposited from solution or in the form of very fine granules. The chemical constitution of bone substance is almost the same among all vertebrate animals, and the relative proportions are not changed in pathological conditions. A peculiar change precedes the calcification of the cartilage and of the bony tissue, metaplasia, which goes along with a higher grade of basophilia. The changed tissue has the property of depositing in itself metal salts and color substance, and is even described as a true cell degeneration. The speaker

had placed dead and living tissues in a solution of gelatin with calcium chloride and asserted that they took the calcium out of the solution. This was especially noticeable in the bones of dogs which by special feeding had been deprived of more or less calcium. In rachitis the molecular taking in of calcium appears to be disturbed. The cause of this must lie in the bone substance—that is, the receivers of the calcium salts appear to have suffered change.

A very interesting address was delivered before the Society for Psychology and Neurology in Vienna by Dr. E. Okada of Tokio. He spoke, and at the same time gave a demonstration of "hari," acupuncture, and "kju," the moxa, as employed in Japan. Okada gave, first, an historical survey of the treatment, in which he called attention to the fact that it had been used 1350 years ago in an institution, but was first well developed about 300 years ago. He showed different types of the common and the so-called pressure moxa, which is burned over the determined places of the skin (called "points" or "holes") and then extinguished. For acupuncture, Okada showed a gold and a silver needle, and compared the effects and method of working, together with the moxa. As indications for their use he enumerated neuralgia, cramps, paralysis, stomach, and intestinal diseases, etc. In conclusion, Okada gave a review of the topographical relations of the so-called "points" and "holes," and also of this particular treatment.

Professor Riehl showed a girl with cicatricial atrophy of the skin of the lower half of the face, and numerous telangiectases in the same place, and also on the neck, the anterior part of the breast, and extending down to the epigastric region. The cause was *x*-ray treatment, which had been used for hypertrichosis. Stiff hairs could still be seen, especially on the chin. The treatment was conducted with imperfect protection, each separate place receiving the rays about seven times, and was followed in the now atrophied part by an intense reaction. Riehl showed the patient, for the reason that one of the therapeutic measures employed for counteracting the disfiguring redness appeared to be successful. Scarification was of no avail. Electrolytic treatment had been used in two places and had yielded, up to the present time, but slightly satisfactory results. On the other hand, two other red spots upon which, the one for one minute, the other on two different days for one minute each time, ethyl-chloride spray had been applied until the part was white, appeared now decidedly whiter than the surrounding skin, and in both, the vessel ramifications had nearly disappeared. The portions of skin experimentally and cautiously treated with cold, on the next day were somewhat swollen and tender on pressure, and desquamated after about three days.

At Eiselberg's clinic, a patient presented himself because of a very disfiguring swelling of the nose. The patient said that when two years old he had fallen on the street, striking the root of the nose. A short time afterward, the skin there and on the bridge of the nose became red, and remained so until he was eight years old. In that year a soft swelling, about as big as a pea, appeared at the root of the nose, and slowly increased in size. Since then the nose, the upper lip, and the right cheek had gradually become swollen. The disfiguring form of the swelling, which suggested the snout of a tapir, included the nose, the right half of the upper lip, and the right cheek. The prominence on the left could be recognized as nose, while the whole remaining part of the swelling belonged to the right ala nasi. The right nostril was larger than the left. The whole swelling was very soft, elastic, compressible, and clearly showed a pulsation, which disappeared on compression of the right carotid. If the patient leaned forward, the swelling was larger and harder. In the skin could be seen numerous dilated vessels. It seemed like an angioma racemosum, possibly of traumatic origin. In the bony and cartilaginous framework of the nose, were slight elevations and depressions which could be reduced by pressure on the swollen blood-vessels. There the patient felt pain. The treatment consisted in a wedged-shaped excision of the tumor, by which, in several sittings, little by little the swelling was reduced and the nose and lips were given a less disfiguring appearance.

Dr. Budinger, in the Society of Physicians, showed a lung sequestrum, the size of a child's fist, found in an operation for lung abscess. The patient, a civil officer, forty years old, was seized with a chill, after which a fever developed which was supposed to be typhoid. He first began to cough in the fifth week, after this the lung abscess became evident, and its extent could be clearly seen in the Röntgen picture. When the abscess was opened, with rib resection, there was found a sequestrum of the right middle lobe. In an angle of this lay a piece of an ear of grain, 3 cm. long, concerning the entrance of which the patient could give no information. The lack of symptoms during the course, and the absence of all lung symptoms in the beginning, were striking. The sequestrum was characterized on two sides by a smooth surface which had probably been connected with the lung surface, and it was necessary to seek an explanation of the occurrence in the fact that the suppuration from the foreign body spread out slowly, and extended in a plane having on one side the base, and on the other the anterior part of the lung, which caused a circumscribed empyema. In this way, a piece of the lobe was bathed in pus, and only remained in connection with the rest of the lung tissue by a thin pedicle, which included a bronchus. The sequestrum contained air.

Dr. Haberer presented from the surgical clinic a cured case of injury to the transverse sinus. The patient, fifty-five years old, had received a stab wound on the back of his head, by which a piece of the tabular part of the occipital bone, the size of a crownpiece, was broken off. Immediately on the removal of this piece of bone with the dressing forceps, the blood flowed freely from the transverse sinus through the wound in the dura. The hemorrhage was stopped by packing. This wound, as also a stab wound perforating the right upper arm, on the posterior aspect, close to the bone, healed without complication.

Dr. Alois Monti has recently attempted the cure of whooping-cough in children by an entirely new method. The children were brought once a day into a room where they sat for three-quarters of an hour to an hour in the midst of camphor and naphthalin vapor. No bad results have as yet occurred, but on the contrary the lighter cases have been entirely healed in from three to four weeks, and the more severe ones in from four to six weeks.

In Schotter's clinic attempts have been made on a series of patients to accomplish the cure of tuberculosis by the inhalation of vaporized Koch's tuberculin. The patient breathes through the mouth, and in such a way that none of the vapor can enter the nose. He breathes quietly and deeply, the inhalation lasting from five to ten minutes. The observations extended to twenty-eight patients of different ages and sexes, and it appeared that the inhalation of tuberculin gave the same results as its injection.

On June 21, in the presence of the emperor, the ministers, the entire staff professors and "docenten," the cornerstone of the new general hospital was laid. The celebration took place in the grounds of the present hospital. In his address to the emperor, the minister of education gave the plan of the hospital and clinic in Vienna, and characterized the proposed new building as an institution "which, with all the equipments of modern times, should contribute to the blessing and honor of the State and of the city, an institution which will offer to suffering humanity efficient help, and, moreover, to science, which is so cramped in the present quarters as to suffer serious injury, it secures a new and enduring life." After Professor von Escherich had sketched the history of the new university institution, the emperor expressed his pleasure at being present for the celebration saying that "the remarkable successes which had been obtained in the art of healing in recent times through tireless investigators, justify the demand of these workers for greater facilities and the aid of every technical appliance in the prosecution of their studies. Much more will thus be accomplished for the welfare of suffering humanity and for the honor and glory of science.

The new hospital will be erected on a site of more than 40,000 square meters. Seventeen clinics and a dispensary will be built on the pavilion system. Further, there will be an institution for the study of pathological anatomy, and administration buildings. Each pavilion will be 120 to 130 meters long and two to three stories high, and, with its wards, operating and lecture rooms, and small laboratories will form a kind of special hospital. Also isolation pavilions are planned. Thus the new hospital will contain about forty buildings, separated from one another by paths and gardens. There will be two obstetrical and gynecological clinics with isolation and reception buildings (four buildings); children's clinic with six isolation buildings for the different infectious diseases (seven buildings); laryngological clinic (one building); three medical clinics and dispensaries, with three isolation buildings (seven buildings); ear clinic (one building); two dermatological clinics (two buildings); orthopedic clinic (one building); two eye clinics (two buildings); two surgical clinics (two buildings); two clinics for mental diseases with isolation buildings (three buildings); pathological anatomy, legal medicine, medical chemistry, and the chapel with the morgue (one building); and the institute for dentistry, radiotherapy, photography, etc. (one building). There will also be in different parts of the park eight administration and work buildings, namely, the porter's lodge, the reception building, the building

for administration and direction, the dwelling house for the director, the large work building with a great kitchen, a conservatory, and the Sisters' house, for the nuns consecrated to the care of the sick. On the ground floor of each clinical pavilion are to be the out-patient departments, where clinical instruction will be given to students. On the first floor are situated the lecture and operating rooms; further, in two or three wings, the wards. The new hospital will be finished in about eight years. It will be, as was the Josephine, 120 years ago, the most complete of its time, and serve as pattern to other cities which still have old hospitals and clinics.

Progress of Medical Science.

Boston Medical and Surgical Journal, August 4, 1904.

Operations upon Benign Diseases of the Stomach at Boston City Hospital and Massachusetts General Hospital, 1898-1903 Inclusive.—F. B. Lund, E. P. Joslyn, and F. T. Murphy report 43 operations for chronic gastric ulcer, pyloric obstruction, and acute gastric dilatation, 18 operations for perforation of gastric ulcer, and 10 operations for gastric hemorrhage. In the first class of operations there were 11 deaths, 16 entire recoveries, 7 relieved, 9 not relieved, and 10 secondary operations required. Of the 18 operations, 13 died, 5 recovered, and 2 secondary operations were required. The 10 cases of hemorrhage all terminated fatally. They conclude that (1) Surgical intervention in gastric hemorrhage should be considered at once in consultation of physician and surgeon. In females under thirty years conservatism is desirable. In cases in which life is threatened gastroenterostomy should be done at once. (2) Mortality in operations for perforation is chiefly dependent on the length of time after the perforation occurs when operation is undertaken, and the virulence of the infection. (3) In chronic ulcers or strictures of the pylorus, postponement of operation when indicated is dangerous, owing to the possibility of hemorrhage, perforation, and exhaustion. (4) Errors in surgical technique and the choice of operations now known to be unsuitable account for about half the deaths. The 71 cases were operated on by 25 different surgeons. If done by one surgeon better results would be expected.

Journal of the American Medical Association, August 6, 1904.

The Physiology of the Middle Ear.—J. Holinger considers the theories of Helmholtz on the function of the middle-ear apparatus as well as the very simple and clear theory of Zimmermann of Dresden. It rests with physiologists and otologists to decide which theory shall stand or fall; whether in the future we shall consider the whole middle ear as an important adjuvant in hearing, or as a secondary regulating mechanism without which we may very well get along. It has been his conviction that a large number of otologists belong to the latter category, inasmuch as the rule has been made, and widely followed, to remove the mallet and incus and, if possible, the stirrup in radical operations in all cases of chronic suppuration of the middle ear that do not readily yield to treatment.

Another Member of the Dysentery Group.—C. W. Duval gives a brief description of a bacillus in all probability another member of the *B. dysenteriæ* group. The organism differs from all hitherto described stains of the dysentery group in its action on lactose and litmus milk. These distinctions in cultural features are in conformity with the variations in agglutination reaction. The bacillus is identical in morphology and in its action on mannite, dextrose, dextrin, and the more common culture media with the Flexner-Harris strain of *B. dysenteriæ*. The bacillus is agglutinated in high dilution with the blood of typhoid-fever patients, also with the blood of rabbits immunized against typhoid. Likewise, *B. typhosus* is agglutinated with the blood of rabbits immunized to this organism. The production of common agglutins show a close relationship between this organism and the typhoid bacillus. Though this bacillus possesses properties in common with the typhoid bacillus it has, however, more in common with the dysentery. Therefore, in his opinion, it is rightly considered another member of the dysentery group.

Hyperidrosis Pedum and Its Treatment by Baths of Permanganate of Potassium.—Ludwig Weiss advocates a treatment devoid of all dangers and which lacks the unpleasantness of many remedies he enumerates. Irrespective of the severity of the case, he starts with a one-per-cent. solution of permanganate of potassium heated to 104° F. The foot should be immersed in this solution for fifteen minutes, and it is then placed on some dry toweling and allowed to drain. Upon going to bed the foot should be lightly covered. Next morning the whole foot is slightly dusted with the following powder: Permanganate of potassium, 13.0; alum, 1.0; talcum, 50.0; oxide of zinc and calcium, each, 18.0. A daily change of shoes and stockings is desirable. The baths are repeated each night and the average duration of treatment is two weeks. After the third bath the strength of the solution is increased to 2 per cent. At the beginning of the second week, the foot baths should be taken as hot as can be borne. The last three baths should be taken full strength, 60 gr. to 1,000 or two ounces to a quart of water. The advantages of this treatment are: (1) The remedy employed is absolutely devoid of any danger, is painless, and heals the dreaded fissures without the previous painful application of silver nitrate. (2) It can be employed in every stage and form of sweating feet. (3) Relapses are less common than with any other method and rarely appear before the third month. (4) The use of the dusting powder has, in some cases, made the interval even longer. (5) Its action consists in its reducing power and consequent keratization of the epidermis. It stands to reason that it penetrates into the secretory cells of the coil glands, inhibiting or decreasing their physiological overactivity. (6) After desquamation the new epidermis is not sensitive, and walking is not impaired as after the use of chromic acid. (7) The mode of employment—medicated footbaths—is a pleasant one.

Medical News, August 6, 1904.

Conservatism in Otology.—Gorham Bacon advocates conservatism in otological operations, especially in the treatment of chronic purulent otitis media. When an operation is necessary to relieve a condition dangerous to life, it should be done without delay. On the other hand, many cases of otitis media may be relieved by treatment, and never need come to the operating table. If the opening in the membrane is large enough for free drainage, and there is not much dead bone there is little chance of the disease extending to the brain, if properly treated. For this he uses solutions of bichloride of mercury, 1-3000, followed by boracic-acid injections, or iodoform and alcohol. Peroxide of hydrogen should not be used. Exuberant granulations should be removed and free drainage established. In a case with frequent pain, much carious bone, fetid discharge, cholesteatomatous masses, especially if the attic be carious, operation is imperative. Other indications for operation are mastoid inflammation, headache, nausea, vomiting, and vertigo.

Dipsomania and Its Treatment.—William Lee Howard considers dipsomania a functional neurosis, due to autointoxication from faulty metabolism, the result of an unstable nervous system. There is no scientific basis for the idea that it is a disease directly inherited. The author considers the following the rational treatment: He first places the patient on a diet free from proteids, to avoid the formation of excessive quantities of soluble peptones and albumoses, which excite the nervous system. He then institutes an eliminative treatment, giving a daily mild natural water purgative and a Turkish bath twice weekly. After a time these measures may be used less frequently. He uses nitrate of strychnine continuously for a month, and renews it after a rest, continuing the administration for two years or more. At the time of an attack of dipsomania the strychnine is taken in doses of $\frac{1}{60}$ gr. every four hours. Breathing exercises are used to lessen suboxidation. There is no specific for the attacks; it is a physiological question purely, and under the control of the patient. Elimination is the watchword in the treatment.

New York Medical Journal, August 6, 1904.

Appendicitis Associated with Disease of the Tubes and Ovaries.—H. C. Coe touches upon the following points in a brief résumé: Appendicitis is a frequent complication of inflammatory disease of the adnexa. In most cases it is secondary to adnexal trouble, a long appendix in contact with, or adherent to, the right tube or ovary being infected by extension through its wall, or through the lymphatics. The inflammation of the appendix is usually of the subacute type. In a small proportion of cases the infection extends from the appendix to an adherent tube or ovary, or cystoma. The symptoms of the associated conditions are usually determined by the more prominent lesion, but these are referable principally to the diseased adnexa. The diagnosis is made from the history, the location of the pain (above, as well as below, the pelvic brim), and the presence of an induration which can be traced from the appendicular region downward into the pelvis. In acute cases, with an extrapelvic mass, the lateral incision is preferable, with subsequent exploration of the pelvis and vaginal drainage if possible. If the abscess is mainly intrapelvic and easily accessible, vaginal section is indicated. In subacute and recurrent cases a median incision is to be elected. The appendix should be removed whenever the abdomen is opened for pelvic disease, with the exceptions noted.

American Medicine, August 6, 1904.

Treatment of Chronic Internal Hydrocephalus by Lumbar Puncture.—H. Lowenberg reports a case of chronic internal hydrocephalus in which he drew off, by lumbar puncture, 50 c.c. to 60 c.c. of cerebrospinal fluid about once a week, with apparent improvement mentally and physically and some reduction in the size of the head. The treatment covered two months, the child dying of bronchopneumonia complicating measles. He says the following conditions must be present in any case to render lumbar puncture useful: (1) Free communication must exist between the ventricles and the subdural spinal space; (2) the head must be compressible; and (3) the bones must be flexible and there must be no evidence of ossification in the fontanel or the sutures. Ossification is usually well advanced after the second year, therefore treatment must be instituted before this period. Lumbar puncture is preferable to direct tapping of the ventricles, as there is an entire absence of all danger of the untoward complications following the latter.

Occurrence of Framboesia in Natives of the Philippine Islands.—Paul G. Woolley observed a number of cases of framboesia or yaws while on a trip through northern Luzon. They were characterized by sluggish ulcers on the legs, neck, or body, and anæmia. The sores were itchy, but not painful. He excised the ulcer in one case and preserved it for histological examination. The ulcer was shallow, with a firm gray base, a well-defined margin, slight yellowish secretion, and no induration. It was situated below the angle of the jaw and was not painful. The scars of earlier lesions were pigmented, not thickened, and not anæsthetic. There seemed to be no evidence of syphilis or leprosy among the people. Microscopical examination showed a marked hyperplastic acanthosis, with an underlying round-celled infiltration of the perivascular connective tissues. The acanthous layer of the skin was thickened and prolonged in strands or columns. There were islands of connective tissue representing blood-vessels, surrounded by small round cells and plasma cells. The small-celled infiltration was most marked in the submalpighian connective tissue. The layers of skin were not distorted. There were no giant cells, tubercle bacilli, lepra bacilli, or cell inclusions. Normally yaws do not ulcerate, but they may break down and form ulcerations that last for years.

The Recognition and Treatment of Chronic Myocardial Disease.—A. A. Stevens regards fatty degeneration and fibroid induration of the heart muscle as the most important chronic affections of the heart wall. Both may be due to stenosis of the coronary arteries from atheroma, while fatty degeneration may also result from acute infections, cachectic states, and mineral poisoning. In fibroid induration there is a diffuse or circumscribed overgrowth of fibrous tissue in the heart wall. The circumscribed form results from the occlusion of an artery, forming an area of anæmic necrosis, and gradually replaced by fibrous tissue. The diffuse form is more common and results from a slowly developing endarteritis. Fibrous myocarditis may be secondary to chronic endocarditis or pericarditis; it may also result from the action of the poison of rheumatism, gout, syphilis, or alcohol circulating in the blood. Fatty and fibroid changes are often combined in the same heart. The symptoms may come on suddenly or insidiously. Slight dyspnœa on exertion, and paroxysms of cardiac asthma, or angina pectoris are the chief ones. Others are precordial uneasiness and hyperæsthesia of the neck, breast, axilla, and inner side of the left arm, progressive pallor and weakness, and attacks of syncope associated with indigestion. The pulse may become irregular or intermittent, and tachycardia and bradycardia are common. There may be no change on percussion, or there may be dilatation; the common auscultatory changes are feeble apex sound, and accentuated aortic second sound. The treatment consists in regulating the patient's muscular exertion, so as not to overtax the heart—in some cases the Nauheim treatment and adapting the diet to the digestive powers, somewhat restricting the amount of liquids taken, and forbidding tea, coffee, alcohol, and tobacco. The bowels must be carefully regulated. Strychnine is the most generally useful drug, $\frac{1}{60}$ to $\frac{1}{30}$ gr. three times a day. Arsenic is also very useful in small doses, for long periods. In robust men, with high arterial tension and anginoid pains, the nitrites and iodides are useful. Digitalis should be used with care, and strophanthus is to be preferred.

The Lancet, July 30, 1904.

The Red-light Treatment of Smallpox.—T. F. Ricketts and J. B. Byles think it worth while to publish their results to justify the apparent neglect of a remedy reputed to be of so much value. Their experiences were limited to but thirteen cases, but because their results were convincing of the inefficaciousness of the treatment, they did not feel justified in proceeding further with the treatment. They could not agree that the treatment had any of the merits which have been claimed for it. In their paper they believed that they had succeeded in showing not only that the case for this method of treatment was not proved, but that no serious evidence has been advanced in favor of it. It is their hope that the paper may have the effect of discouraging further application of the remedy, and they ventured to appeal to Dr. Finsen, who recommended this treatment some twelve years ago, and who had done so much for suffering humanity, to cease to lend the weight of his authority to support a method of treatment which, if it is inefficacious, must necessarily be inhumane.

Sleeping Sickness.—Aubrey D. P. Hodges says that sleeping sickness has been known in West Africa since 1803, but it did not become known to Europeans until 1900. One of the greatest difficulties in the study of this disease has been the extraordinary duration of the incubation period, from one to two, and even seven, years elapsing sometimes before the disease manifested itself. The disease attacks all ages and both sexes, although infants usually escape. Clinically and for convenience sake, the disease has been divided into three stages, the early stage, the pronounced stage, and the lethargic or somnolent stage. The earliest subjective symptom is a chronic or intermittent headache with lassitude and vague pains. There is a general enlargement of the lymphatic glands. One of the earliest signs noted is an arrhythmical, jerky, or twitching tremor of the tongue. Such symptoms occurring in a person who has visited an infected area is very suspicious. In the second stage the diagnosis is readily made, and dates from the characteristic facial expression and general appearance and changes in manners, habits, or disposition. This stage is not infrequently ushered in by nervous crises. The twitching of the tongue becomes more marked and the tremor spreads. The vague pains become more severe. At length the patients gradually pass into the lethargic stage. In surveying the symptoms broadly, two facts stand out fairly clear; first, they are to a great extent intermittent in character and not steadily progressive; and, secondly, on the whole the nervous symptoms are secondary to the general, a fact which points to a general infection, rather than a local disease. The two organisms which are at present being studied are the diplostreptococcus and the trypanosome; the latter occurs not only in the blood, but in the cerebrospinal fluid. The hypothesis of trypanosome causation seem to cover more of the facts. The reasons why there is a marked relative immunity for Europeans are probably: (1) Their manner of clothing leaves exposed a less area of skin than that of the natives, and only the more sensitive parts, the hands and the face. (2) They do not live, or lie asleep in the day-time, nor do they usually work in the jungle or forest.

British Medical Journal, August 4, 1904.

Some Results of Treatment by X-rays, High-frequency Currents, and Ultraviolet Rays.—J. Alfred Codd has grouped for treatment with high-frequency current myalgias and neuralgias of intractable or specially severe nature. The usual result is that pain completely leaves the patient at the first sitting, and he can move without difficulty. The pain returns after a time, but is less and of shorter duration after each treatment. In fifteen cases of refractory sciatica, lumbago, and facial neuralgia all were cured. Two cases of tinnitus aurium were much relieved. Two cases of nervous anorexia and vomiting were cured. Thirteen cases of lupus, rodent ulcer, and similar troubles have shown the marked superiority of the *x*-ray over excision and scraping. Some of these cases received ultraviolet rays at the same time with the *x*-rays.

Colitis Polyposa.—Frank Pope reports a case which presented a rare and unique condition. The symptoms consisted of pain in the abdomen for one hour and a half after food, with vomiting, bowels alternating between constipation and diarrhœa, and blood in the stools. She gradually failed and died from asthenia. The autopsy showed the walls of the colon thickened, the mucous membrane covered with pyramidal, polypoid excrescences, from the size of a shot to a pea; no ulceration; the growths were most frequent in the transverse colon, and extended into the rectum, where they were smaller. There were no secondary growths, but the lymphatics along the lumbar vertebræ were enlarged. The mucosa and submucosa were thickly infiltrated with small round cells; there were obstruction and dilatation of the gland follicles into small cysts filled with blackish fluid. It seemed to be the result of chronic inflammation rather than malignant. The author considers that this condition of hypertrophy was of slow growth.

The Present Position of Radium in Therapeutics; with a Summary of the Finsen Light and X-ray Treatment.—C. M O'Brien believes that in most cases in which these measures are indicated the Finsen light and *x*-rays should be

used in combination. He describes two cases of lupus in which radium has been used. The first had been under various treatments for thirty years for extensive lupus of the face. The application was made by means of 5 mg. of radium bromide in a vulcanite capsule; this was applied twenty times, for ten minutes at a sitting, during about three weeks. Nothing was noticed for a period of five weeks, when the edges of the patch became swollen and red, and the patient complained of stiffness of the muscles. Three weeks later the patch had assumed the appearance of a healthy scar. The second case had suffered from lupus for seven years. In about three months sixty-one applications were made. A week after treatment ceased the base of the ulcer was clean and healthy, with raised edges. The author believes that radium will not be of value in diagnosis. Lupus and rodent ulcer are benefited by the *x*-rays and the Finsen light.

Deutsche medizinische Wochenschrift, July 14, 1904.

The Diagnosis of Pathological Intoxication.—R. Kuttner calls attention to an abnormal condition of the muscle tonus and tendon reflexes in pathological intoxication which he claims differs from that found in the ordinary types of acute alcoholism. He reports five cases afflicted with transitory disturbances of consciousness, three of these suffered from typical epileptic attacks, the fourth presented symptoms which could be traced to epileptic degeneration, and the fifth phenomena which were due to the latter or to simple psychopathic weakness. A hereditary alcoholic history was present in three cases, the other two were doubtful. The points to which he calls attention are the delayed reaction to light in the pupils and the weakened muscles with absence or inhibition of the tendon reflexes. This is contrary to the conditions found in ordinary attacks of acute alcoholism.

Primary Diphtheria of the Renal Pelvis.—F. Krause reports a case in which this condition was cured by operative interference. The patient complained of pain in the region of the right kidney soon after a confinement. This grew worse and several months later was determined to be due to a pyelitis. Immediate operation was done, and on opening the pelvis of the kidney, the interior was found to be coated with a false membrane and filled with a necrotic mass. The kidney was then split open lengthwise and fastened in the wound with gauze strips after the manner already proposed by this author for suppurative processes of the kidney or its pelvis. The patient went into collapse after the operation, but eventually made a good recovery with complete return of the renal function. The microscopical examination showed the presence of a true pseudomembrane of the pelvis and a multiple acute interstitial nephritis. Gram's test was negative. The author claims to have been able to exclude all other methods of infection, and believes that the invasion was primary in this locality.

Constituents of the Blood Which Are Visible by Ultramicroscopic Methods.—E. Raehlmann examined fresh secretions derived from diseased mucous membranes, by means of the ultramicroscope recently devised, and found, aside from the emigrated white cells, numerous submicroscopic bodies derived from the epithelium and consisting of bits of protoplasm and nuclei. These gave evidences of mobility, both in shape and change of position. Further observations also showed that certain changes occurred in the blood plasma as well as in the cells, which may serve to explain the rôle which the blood-cells play in the metabolic processes of the organism. The detailed description of his findings will not bear abstracting. The conclusion reached by the author as the result of his observations is most interesting. It is well known that thousands of red blood-cells derived from the erythroblasts of the bone marrow, etc., enter the circulation constantly. The appearances revealed by the ultramicroscope lend color to the belief that the mature erythrocytes are broken up into most minute particles in order to make room for these accessions, and finally that the duty of these particles is to regulate metabolism within certain biological limits in every part of the body. The article contains a number of very convincing figures to illustrate the ultramicroscopic findings.

Diagnosis and Treatment of Azoöspermia.—Posner and Cohen comment on the failure of most methods for determining the presence of living spermatozoa where more or less obliteration of the seminal passages has taken place as a result of gonorrhœa. Fürbringer has proposed an operative measure by which the testicle is laid open and its contents examined. This is rather an extreme procedure, and in place of this the writers have employed puncture of the testicle by means of a hypodermic syringe. The advantages of such a procedure are painlessness, no necessity for an anæsthetic or confinement to bed. When the material thus secured is found to be free from spermatozoa, and consists of fatty cells and detritus, it is useless to attempt anything more. The question is what to do when spermatozoa are found. In six cases the authors have implanted the cut end of the vas deferens directly into the opened canals of the head of the epididymis, or have made an anastomosis by approximating and carefully suturing the edges of openings made in the wall of the vas and the epididymis. Thus far, however, no positive results have been obtained. The authors call attention to the necessity of instituting prophylactic measures by watching for the development of an epididymis after the acute stage of a gonorrhœa has subsided. If present, systematic massage, iodine applications; and other proven methods should at once be instituted. After the acute inflammation has disappeared, frequent examination as to the character of the spermatic fluid should also be made.

Deutsche medizinische Wochenschrift, July 21, 1904.

Rodent Ulcer.—P. Grawitz contends that there is only one epithelial form of rodent ulcer, and that those cases which have been described in literature as endothelioma of the skin have not been sufficiently traced as to their origin. He bases this statement on the study of a large series of sections in which he found that the successive stages of growth may be differentiated in serial sections, and that in this way all the forms may be demonstrated, including those which have recently been described by various authors as endotheliomata. The rodent ulcers, or as he designates them, the matrix carcinomata, may be divided into four parts: (1) the solid knobs with buds; (2) transition of the covering epithelium into the lymph spaces, which may be compared pictorially with icicles hanging from a roof; (3) a mixed proliferation dating from all the layers of the epidermis; and (4) the glandular type. All these may be found in the same small nodule. For a more complete understanding of the subject, it is necessary to consult the original paper.

The Marx-Ehrnrooth Method for Differentiating Human and Animal Blood.—H. Pfeiffer has made an extended trial of this method, which is based on the fact that the erythrocytes of one species (*a*) are agglutinated by the serum of a second, but not too closely related species (*b*), while homologous sera are not attended by this reaction. It was found that the agglutinating powers for different varieties of serum vary with respect to the human blood corpuscles. Also that in many cases in which the agglutination can be demonstrated with certainty, on account of the extreme dilution of the serum, the diagnosis may be made on the corrugated forms and the hæmolysis. Beyond certain boundaries, moreover (1:512—1024), a definite distinction cannot be made, as the preparations made with these dilute heterologous sera can scarcely be differentiated from the controls. The latter fact is of great importance in forensic practice, as a negative result does not necessarily mean an identity of the two sera. The author claims that the method is simple in application and very valuable, and in most cases serves to distinguish with certainty the specific similarity or difference of any given albuminoid solutions. It is essential, however, that the suspected material be determined with absolute certainty to be blood.

Berliner klinische Wochenschrift, July 11, 1904.

Foreign Body in the Left Ventricle.—M. Koch reports an interesting instance in which, at the autopsy examination in a man of seventy-two who died from inanition, a needle-like body about 3 cm. long was found imbedded in the wall of the left ventricle. There was no clue as to the origin of the condition to be gained fom the patient's history. The author is inclined to believe that the object was introduced suddenly from without at some remote period in the patient's life, judging from the direction of the needle, its position in the cavity and wall of the ventricle with the end fixed in the septum, and the absence of any changes in the pericardium.

Diagnosis and Treatment of Tabes.—E. Coester calls attention to the necessity of making a diagnosis of this condition as early as possible, and claims that there are many symptoms which should lead to suspicion that may be present before the classical signs in pupils and the tendons come on. He describes a number of his own cases in which doubt existed, but the test of treatment was effectual. Vague pains in different parts of the body, which are often considered to be due to gout or rheumatism, and paræsthesiæ, should lead to more careful inquiry with especial reference to luetic infection. In the so-called incipent cases a thorough course of antisyphilitic treatment was always found to result in a cure of the symptoms.

Remarks on Adenoid Vegetations.—Lublinski states that although there is little new to be said on this subject, there are still a number of important points unsettled. Among them is the question as to whether these proliferations are to be considered, as evidence of a scrofulous affection. Such a diagnosis should be well con-

sidered, especially in the presence of enlarged cervical glands. Wherever the latter are present, however, a thorough examination of the nasopharynx should be made, for adenoid vegetations may be present without causing any mechanical disturbances, and there may be no relation between the size of the glands and the degree of adenoid hypertrophy. The same applies to affections f the ear, where even small proliferations may bring about chronic ear disease. The connection between follicular conjunctivitis and adenoids has been observed by a number of authors, and here also the proliferations need not be extensive to be the cause of the eye conditions. In some cases the only thing which attracts attention is the chronic coryza with which the child seems to be afflicted. Other conditions which the author attributes to the presence of adenoid vegetations are the irritating cough of many children, which he has found in most instances to be due to the strings of mucus dropping down from these growth in disturbances of digestion, also from this secretion and the reflex irritation which results in constant gagging and retching; impaired mental conditions, marked chiefly by inability to concentration of the attention on an object on any length of time. The writer is of the opinion that operation should always be undertaken whenever conditions warrant, and is inclined to believe that operative procedures are instituted in too few, rather than in too many instances.

Berliner klinische Wochenschrift, July 18, 1904.

Congenital Anomalies in the Coccygeal Region.—T. Brugsch calls attention to the congenital anomalies of development in this region, which are comparatively rare and seldom come under observation by the physician. He reports a case in which there was a marked depression at the level of the last sacral vertebra, lined with epithelium and about 2 cm. deep. The fundus was apparently attached to the tip of the coccyx by a band. The condition was unattended by symptoms, but in some instances the epithelial lining may be lacking and the presence of mucous membrane forms a fistula with resulting inflammation of the surrounding parts. This condition must be distinguished from that due to a spina bifida, which is to be found more craniad and in connection with other anomalies in development of the vertebræ. The author traces the condition noted to atavistic remnants of a caudal appendage.

Therapeutic Value of Dreyer's Method of Photography.—The latter is based on the belief that the injection into the tissues of a solution of erythrosin renders them more sensitive to the action of the red rays, and therefore permits of greater penetration of these agents. B. Spiethof reports the results of his clinical experience with six cases of lupus, three of which had been treated with the ordinary Finsen rays without having secured a complete cure: the remainder had not been thus treated. Attention is called to the fact that the reaction after exposure to the Finsen rays is much more intense when the injection has been given than without the same. Experiments made in animals showed that the one-per-cent. solution of erythrosin was followed by a marked reaction, but none was noticed with the use of a 0.25-per-cent. solution. The reaction is therefore a combination of two factors—the injected material and the rays. As for the clinical cases, the author's experiences were practically negative, and no better results were obtained with the injections than in those in which no injections were used. He does not feel sanguine about the practical value of the method.

Münchener medizinische Wochenschrift, July 12, 1904.

Optic Neuritis in Paratyphoid Fever.—G. Flatau reports the occurrence of a double optic neuritis in a young woman in whom the diagnosis of paratyphoid had been made by bacteriological tests. This complication has been reported a number of times in pure typhoid infection and was believed to be directly due to the influence of the typhoid toxin. In connection with paratyphoid it has not been observed, however, and is here noticed to again call attention to the identity as regards the clinical course between the two diseases.

Abortive Treatment of Acute Gonorrhœa.—Bettmann calls attention to the advantages which would attend such a plan of treatment, although the results thus far obtained have led most practitioners to regard any procedures of this kind with suspicion. As it is acknowledged that the gonococci penetrate the deeper epithelial layers very quickly, the author has endeavored to find a remedy which in addition to its bactericidal power would also bring about increased transudation and cause the cocci to come to the surface. He has had excellent results with a solution of protargol, in glycerin and water, in the following proportions: 10 gms. of protargol are dissolved in 45 c.c. of cold water, without shaking the vessel, and then enough glycerin added to make up 100 c.c. The best effects were obtained by applying the solution to the interior of the urethra with a specially devised hair-brush. This is done daily, or every second day, until from six to eight applications have been made. In forty-two cases treated, positive results were found in twenty, fifteen were negative, and seven doubtful. The best results were obtained in those instances in which the treatment was begun three days or less after infection had taken place. The procedure is attended with very little discomfort on the part of the patient. A mucopurulent secretion may be present for several days, but after that the gonococci disappeared. Even in those cases which he considers negative because the secretion containing the cocci persisted there were no complications, not even a posterior urethritis.

The Administration of Morphine in Cardiac Disease.—K. Grassmann presents an extended polemical discussion on this subject, the main points of which are as follows: He does not think that we are justified in asserting that morphine is a cardiac poison in therapeutic doses, and that for this reason its employment is to be avoided in such cases. The sudden deaths which sometimes occur in patients with cardiac disease to whom morphine has been given must be placed in the same category with those resulting from chloroform narcosis, in which cardiac paralysis takes place. The reason for either remains still unexplained. The authorities vary greatly in their opinions as to the proper indications for the administration of morphine in cardiac disease, and it would be desirable to formulate more precise indications which are based on observations made on a large amount of clinical material. Where there is cardiac weakness or disease accompanied by disturbances of the respiratory organs, especially of an acute character, or where acute processes of the endo- or myocardium are present, the drug must be given with caution. In the case of pure neurotic disturbances, particularly in angina pectoris due to non-organic causes, morphine may be given without fear. It may also be administered in stenocardia and is indicated without restriction in the severer form of cardiac asthma. Another indication for the use of morphine is in those cases in which digitalis and similar drugs are inefficient or no longer produce any effect. The most important use of morphine is as a preparatory remedy (which may be compared to its injection before anæsthesia) before digitalis administration, in cases marked by restlessness and sleeplessness. This condition serves as a direct indication.

Münchener medizinische Wochenschrift, July 19, 1904.

Iodine Catgut.—H. Fuchs considers that this form of sterilized catgut is the best thus far introduced, as it is simply and easily produced and very effective. It may be depended upon to be free from germs, and its antiseptic properties counteract to a certain extent any possible contamination resulting from handling. The iodine does not produce any irritation when left as buried sutures, and does not interfere with absorption. Iodine catgut is very tough, and therefore especially well adapted for ligatures. The author does not recommend it, however, for skin sutures, as it seems to cause considerable irritation in the skin.

Prophylaxis of Yellow Fever.—E. V. Bessawitz presents certain suggestions for the prophylaxis against this disease which are based on Finley's theory of its communicability. It devolves upon the Government to destroy the breeding places of mosquitos which are to-day recognized as at least one of the intermediate hosts of the specific disease-producing factors, and also to isolate and protect the patients. In addition, it is also necessary for the individual to protect himself against the bites of these insects with proper netting, and to kill them in his dwellings. Netting is good, but not sufficient. The author has found that the ordinary insect powder (Flor. pyreth.) when rubbed into the skin was most effective in driving the insects away. He suggests that the active principles of the remedy be isolated, so that they may be incorporated in other powders or ointments which may be made to adhere better to the skin. Salves, however, are not suitable to the tropics, and better results may be obtained if the essential oils of this powder could be isolated and employed.

The Disposition of Ingested Foreign Bodies.—Appel reports an interesting case of a man of sixty-two years who was suddenly seized with an acute pain in the left inguinal region, which recurred during the next few days. The tender swelling was believed to be a hernia. The pain always subsided on lying down, but came on with great severity when standing. The "hernia" could not be reduced, but no intestinal symptoms were present. At the operation no complete hernia was found, but in the canal was a portion of the properitoneal fat, containing a bit of bone about 2 cm. long, about half of which projected into the free peritoneal cavity. The bone was extracted and the man made an uninterrupted recovery. There was nothing in the patient's history to afford any

clue as to when the bone was swallowed, and it probably entered without having caused any immediate symptoms. The author explains its arrest at this particular point, by assuming that there was a protrusion of the peritoneum at the internal inguinal ring, in which a coil of small intestine became adherent. This constituted a partial obstruction in which the bit of bone was caught and finally driven through the wall of the gut. The closure resulted in the same manner as is known to occur with other perforating wounds of the intestine by bullets or pointed instruments.

French and Italian Journals.

Hemiplegia Due to Lumbricoid Worms.—A. Sigaud was called to attend a child of six years. While the patient was eating his supper, his eyes became fixed and he fell as if in a fit. His head, although turning either to the left or to the right, remained by preference turned to the left, and the eyes were rolled up and deviated to the left, with dilated pupils. The child did not speak, but only mumbled. The right arm and leg were paralyzed. The child made a movement of contraction if it was pinched, but if it was raised, it tumbled back inert. Calomel and santonine were administered and the child passed twenty worms. Soon after it began to improve; it spoke, asked to eat; the paralysis diminished, and in five days it had entirely recovered.—*Gazette des Hôpitaux Civils et Militaires*, June 30, 1904.

On Some Special Eosinophile Formations Simulating the Bodies of Negri, in the Cells of the Cerebrospinal Ganglia of Hydrophobic Men.—Pace has examined the cerebrospinal ganglia of four cases of hydrophobia in the human subject. He has demonstrated, by the method of Mann, in the cells of the cerebrospinal ganglia, the cornu Ammonis, and the ganglia of the vagus, special formations, differing in size and shape, occurring as fine granules, corpuscles, and morula forms. The last consist of four to five small bodies fused together, or arranged around a central body, as in a rosette or mulberry, without any capsule or membrane. He suggests that these forms may be the sporulation forms of the corpuscles of Negri.—*La Riforma Medica*, June 22, 1904.

Metastatic Cancer of the Choroid.—Bailliart reports this interesting case. The patient was a woman of fifty-eight years, who for three years had had an ulcerated cancer of the right breast. In September of 1903 she began to be troubled with digestive disturbances. The treatment, lacto-vegetarian régime and purgatives, did not result in any improvement. In the first days of October the patient noted a distinct diminution in the clearness of vision in the left eye. The trouble increased slowly but constantly. Pain was slight. Two months later, paralytic disturbances developed—of the right leg and arm. The physician consulted, advised an ophthalmoscopic examination. Double myosis was noted. At the lower part of the retina a swelling was seen. Diagnosis of metastatic cancer of the choroid was made, and the paralytic symptoms were explained by the supposition that there was another metastatic focus in the vertebræ. The pain so slight at first, increased, but enucleation was not proposed on account of the cachectic condition of the patient. Other metastases occurred later, and death supervened in January, 1904. There was no autopsy.—*Recueil d'Ophthalmologie*, June, 1904.

Foreign Bodies in the Ear.—H. Grandjean calls attention to two cases which have come under his care. The first patient was a girl of eighteen who was suddenly attacked with complete deafness of the left ear. She had always heard well before. There was neither local swelling nor irritation. On examination with the speculum, the writer found the end of the canal filled with a mass of wax. The extraction by means of a syringe was accomplished with difficulty. The wax fell into the basin with a thud. It was found that a bead was in the mass. It was then remembered that fourteen years before, the girl had pushed this bead into her ear. It had given no trouble till this time. The second patient consulted the writer for and otorrhœa which had troubled him for fifteen years and from which he had never been able to obtain relief. The writer succeeded in dislodging a fragment which a playmate had thrust into the ear fifteen years before. It had caused a purulent otitis with destruction of the tympanum. After three weeks of treatment, the otorrhœa had almost completely disappeared and the patient was lost sight of. The writer advocates the use of hydrogen peroxide in the auditory canal in extracting wax or foreign bodies that are hard to dislodge.—*Revue Médicale de la Suisse Romande*, June 20, 1904.

Gaseous Gangrene in the Course of Typhoid Fever.—E. Gruet reports a case of Schmerer's of this nature. The patient, aged twenty-two years, had just passed two months in prison under the most unhappy conditions, when he was obliged to walk about 120 kilometers in five days. At the end of the route his strength was exhausted and he entered the hospital. He was found to be suffering with typhoid fever at about the twelfth day. He suffered with headache, insomnia, great lassitude, and diarrhœa, which had been preceded by constipation. An ecchymotic area as large as the palm of the hand was noted above the left knee. In two days, the patient suddenly complained of extreme pain in the left knee, which quickly swelled. Delirium, coma, asphyxia, and death followed. Autopsy disclosed deep ulcerations of Peyer's patches, gas in the femoral veins and their different branches up to the heart, in whose interior were black clots with fluid blood mixed with gas bubbles. The liver showed under its capsule fine bubbles of gas. The left knee was distended with fluid blood mixed with gas. Microscopical examination of the blood showed a considerable number of motile bacilli, some of them isolated, and some in short chains. The species was not determined, as the necessary culture media were not at hand. The lesions were identical with those observed in animals which have died of gaseous gangrene.—*Le Caducée*, July 2, 1904.

The Manifestations of Hereditary Syphilis in Earliest Infancy.—Ludovico Fini states that infants, subjects of hereditary syphilis, are born pale and ill-nourished, with dry and wrinkled skin; that they generally breathe badly from rhinitis and nurse poorly for the same reason. Some are born with the skin lesions, while in others the skin becomes affected soon after birth. Kossowitz found that in 124 cases observed the skin lesions came on during the first month of life in 66 cases; in the second month in 40 cases; in the third month in 18 cases. The manifestations of the disease may be found in all the organs and tissues. The skin eruptions are erythematous, papular, or bullous, most frequently the last. The common seat of the erythema is the neck, face, sides of the abdomen, palms of the hands and feet; this forms a point of differential diagnosis from simple erythema, which is about the anus and buttocks in ill-nourished children. The papules of syphilis may ulcerate and form deep ulcers, with grayish base. They occur on the trunk, neck, arms, and at points of irritation. The bullous form is commoner. The commonest manifestation is the so-called syphilitic pemphigus occurring on the hands. The bones are frequently attacked, especially at the junction of the epiphyses of the long bones. The pseudo-paralysis of Porro arises from the pain resulting from movement of the softened bones. Hydrocephalus is not rare. Changes in the teeth are not as common as at the second dentition, when the true Hutchinson's teeth appear. Iritis, iridochoroiditis, and interstitial keratitis are not rare. Of the internal organs, the spleen and liver are usually enlarged.—*Gazzetta Medica di Roma*, June 1, 1904.

Ankylosis of the Vertebral Column with Especial Reference to Spondylosis Rhizomelica.—Pietro Fiorentini considers the subject of vertebral ankylosis in general, and reports a case of spondylosis rhizomelica which came under his observation. Ankylosis may be complete, with fibrous union of the articular surfaces, changes in the articular surfaces, and degeneration of the muscles. It may be incomplete, with cellulofibrous union. Or it may be incomplete, with loose union. The principle causes of ankylosis of the spine are as follows: All forms of chronic spinal meningitis, especially hypertrophic cervical pachymeningitis; if of syphilitic origin, we may have hyperostosis, caries, or arthritis; Pott's disease also produces anyklosis; blenorrhagic infection may produce it; it occurs in Paget's disease; in acromegaly; in syringomyelia; in spinal rheumatism of the ordinary type, and in spondylosis rhizomelica. The last mentioned disease is of rare occurrence. It has been reported by Strümpell and by Marie and Bechterew under slightly different types. It is an affection in which there is a gradual and sometimes painless ankylosis of the vertebræ and of the articulations of the hips, while the other large articulations remain free. According to some, it is of true, rheumatic origin, while others believe it to be the result of traumatism or hereditary neuropathy. In the author's case there was first pain in the left knee with limitation of motion, then the same symptoms in the hip, lumbar region, and coccyx; rigidity of the entire spine coming on in a relatively short time, with slight limitation of the motion of the right lower extremity. The pathogenic agent was plainly rheumatism, which may have been aggravated by an attack of influenza. The trouble in the limbs began at the age of sixteen years, while at the time of the report the patient was thirty-two years old. It differed from simple rheumatism in that the articular trouble was confined to the spine and large adjacent joints. The author believes that spondylosis rhizomelica is not a variety of true rheumatism, but originates from trophic disturbances, of diathetic origin, and is probably toxo-infective.—*Rivista Critica di Clinica Medica*, July 2-9, 1904.

Book Reviews.

THE OPHTHALMIC YEAR-BOOK. A Digest of the Literature of Ophthalmology, with Index of Publication for the Year 1903. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic; President of the American Academy of Ophthalmology and Oto-laryngology; Ophthalmologist to the Denver County Hospital, St. Anthony's Hospital and Mercy Hospital, Denver, etc. Denver: The Herrick Book and Stationery Company, 1904.

THOSE who are interested, either theoretically or practically, in eye work are in all truth under great obligations to Dr. Jackson for his very compact and attractive Year-book. It contains several hundred pages and is a digest of abstracted articles covering the main original communications dealing with ophthalmology during the past year. As the author states in his announcement, it is not an easy task to cull the best out of the twenty or thirty thousand pages of ophthalmic literature, as presented to the profession each year, and yet he has given us much that is of real merit and practical worth for both the general practitioner and the specialist. For those wishing to get at a complete list of the recent writings on ophthalmology, his accurate alphabetical index of authors and their works, whether books, monographs, or journal articles, is indispensable and a saver of time and labor.

The Year-book has a well-arranged table of contents and a full index. It behooves those who are interested in this branch of medical science, and who wish to keep up with its advances, to have at their disposal this little book of reference.

ELECTRODIAGNOSIS AND ELECTROTHERAPEUTICS. By Dr. TOBY COHN, Nerve Specialist of Berlin. Translated from the Second German Edition and Edited by FRANCIS A. SCRATCHLEY, M.D., of New York. With eight plates and thirty-nine illustrations. New York and London: Funk & Wagnalls Company, 1904

As between those who make extravagant claims for the diagnostic and therapeutic utility of electricity and those who attribute principally to suggestion such effects as appear to result from the employment of this agent, the general practitioner has no little difficulty in reaching a decision in the matter. It is admitted by conservative electrotherapeutists that under many conditions electricity does exert a profound suggestive influence, but over and above this, it is capable of certain physical, chemical, and physiological effects that may be usefully directed to the treatment of the various morbid conditions. Electricity as a therapeutic agent does not differ thus essentially from other therapeutic agents, and accordingly, in order to obtain the best results from its employment, due consideration must be given to its indications and counter-indications, its dosage, and its mode of application. Likewise a knowledge of its source or method of generation, of its qualities and effects, will contribute to its more intelligent use. These several factors are given consideration in the work before us, which is divided into two parts, namely: I. Electrodiagnosis and II, Electrotherapeutics. Six chapters are devoted to the former and five to the latter, and there is an Appendix dealing with the newer applications of electricity, such as magnetic electrical treatment, the sinusoidal current, the undulating current, the Jodko current, condenser discharges, and magnetic treatment with the alternating current.

PRÉCIS DES MALADIES DES ENFANTS. Par le Dr. L. BAUMEL, Professeur de Clinique des Maladies des Enfants à l'Université de Montpellier, Médecin en chef a l'Hôpital Suburbain. Paris: F. R. de Rudeval, 1904.

THE author divides this book into two general parts, which are again divided into sections or chapters. In the first part he deals with general affections, such as rickets, scurvy, anæmia, chlorosis, diabetes, cretinism, malaria, typhoid fever, syphilis, and the exanthemata. In the second part, special diseases are discussed—diseases of the skin, of the eye and ear, of the digestive, respiratory, and genitourinary apparatus, of the heart and liver, and of the nervous system. The general treatment of subjects is much like that found in the ordinary book on Practice; the definition, etiology, symptoms, complications, diagnosis, prognosis, and treatment of the various diseases being considered The volume is a veritable résumé of Pediatrics. The author calls attention to the fact that the majority of physicians, if not all, are obliged at times to care for sick children. This volume will prove of great value to the general practitioner as well as to those especially interested in children's diseases.

STUDIES FROM THE DEPARTMENT OF NEUROLOGY of Cornell University Medical College. Vol. I. New York, 1904.

THE series of publications of the Cornell Medical School is inaugurated by this volume of studies from Prof. Charles L. Dana's department of neurology. The volume contains nineteen papers on the clinical and pathological studies completed in the department during the year, seven of which are published here for the first time, the others being in the form of reprints from various medical journals. The authors of the papers are Drs. C. L. Dana, J. Ramsay Hunt, Joseph Fraenkel, and F. W. Hastings. Apart from the scientific merit of the several articles, the volume is interesting by reason of the epitome, written in Latin, which precedes each paper. It is pleasing to the reader, several decades out of college, to find that (knowing previously what the article is about) he can understand the epitome. Perhaps another, less remote from his Juvenal and his Livy, might grasp the sense of the epitome without a previous acquaintance with the article in English. It is an interesting experiment, however, and any educated foreigner, ignorant of English, would doubtless, with little difficulty, be able to inform himself of the value of the article and determine whether the subject was of sufficient interest to him to make it worth his while to have it translated. The plan is one that might profitably be adopted generally in scientific publications.

A COMPENDIUM OF CHEMISTRY, INCLUDING GENERAL, INORGANIC, AND ORGANIC CHEMISTRY. By Dr. CARL ARNOLD, Professor of Chemistry in the Royal Veterinary School of Hanover. Authorized Translation from the Eleventh Enlarged and Revised German Edition. By JOHN A. MANDEL, Sc.D., Professor of Chemistry, Physics, and Physiological Chemistry in the University and Bellevue Hospital Medical College. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1904.

AMONG German students Arnold's "Repetitorium der Chemie" has for two decades or more held its place as the most popular of all chemical textbooks, and that it is now accessible to English-speaking students of chemistry is a cause for congratulation. The work has been issued in new editions about every second year, and it is from the eleventh German edition that this translation is made. This, the latest edition, "contains concise but clear statements of the most important theories and facts, especially in the recently developed domain of physical chemistry, as well as a classified review of the most important inorganic and organic compounds, including statements of the constitution and derivation of these substances." An index of over fifty pages, so unusual a feature in a German book that we suspect Dr. Mandel is guilty of its perpetration, adds greatly to the value of the book as a work of reference. The difficult task of translating a German scientific work has been so well done as to call for special comment.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Dr. CARL VON NOORDEN. Translated by BOARDMAN REED, M.D. Part V. Concerning the effects of Saline Waters (Kissingen, Homburg) on Metabolism. New York: E. B. Treat & Co., 1904.

THIS monograph of von Noorden contains a great many practical points of much value, especially with regard to the therapeutic use of saline waters. According to this clinician, the following points deserve attention:

1. In numerous cases of gastric disorder, particularly in gastric catarrh, the use of saline mineral waters leads to an active and permanent increase in the production of hydrochloric acid.

2. In numerous cases of gastric disorder accompanied by hyperacidity (particularly in nervous dyspepsia) the moderate use of saline mineral waters leads to a decrease of the hydrochloric acid production and a decrease of the subjective symptoms.

3. The administration of saline mineral waters does not call for any particular diet. To adhere to such dietetic schemes as the ones arranged in the different watering places is an antiquated procedure, and one that must be considered a dogmatic method of treatment that may be deleterious to the patient. There is above all no reason why large quantities of fat should not be given in suitable cases to patients who are drinking certain mineral waters. Nor is there any urgent reason for forbidding the use of raw fruits, vinegar, salads, etc., in specified cases.

4. The ingestion of large quantities of saline mineral waters does not interfere with the absorption of the food; in particular, the absorption of the fats; this is demonstrated by numerous investigations on patients.

5. The metabolism of the proteids is not increased by saline mineral waters, so that these waters can be employed even in those cases in which it is important to maintain the albumin content of the body—that is, in patients undergoing a reduction cure.

6. The excretion of uric acid is slightly increased when dilute saline mineral waters are taken. This increase in the uric-acid excretion is sufficiently marked to justify the use of such waters in the treatment of uric-acid retention.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Seventy-second Annual Meeting, Held at Oxford, July 26, 27, 28, and 29, 1904.

(Special Report to the MEDICAL RECORD.)

THE seventy-second annual meeting of the British Medical Association was held at Oxford the last week in July, beginning on Tuesday. At 10.30 in the morning of that day there was a special service in the Cathedral, Christ Church, the large building being crowded. Rev. Dr. Franck Bright, Master of University College, preached the sermon from John v. 17: "My father worketh hitherto and I work." At the same hour mass was celebrated in the Catholic Church of St. Aloysius.

GENERAL SESSIONS.

First Day—Tuesday, July 26.

The meeting was held at noon, in the Examination Schools, the retiring president, Dr. Thomas Dryslwyn Griffiths of Swansea, occupying the chair, and about 600 delegates were present.

Address of the Retiring President.—Dr. THOMAS D. GRIFFITH of Swansea, in his address, first referred to the death of Sir John Simon, the pioneer of modern sanitary science. They revered his name and they owed a great debt of gratitude to his memory for the services he had rendered to the profession and the incalculable benefit he had conferred on the community and, indeed, on the whole civilized world. They might safely say that Sir John Simon saved far more lives during the last fifty years than all the armies of the world had destroyed during the same period. He did for sanitation what Lord Lister had done for surgery and what Pasteur had done for bacteriology.

They had now come to the close of the first year of the new constitution, and it was very gratifying to find that it was fully realizing their anticipations. The changes and alterations were now practically complete. The divisions were all arranged, the boundaries were fixed, and they had their own rules and regulations, which had been sanctioned by the Central Council. One great advantage of the new constitution was the formation of divisions which were well calculated to answer the purpose of local medical societies, and, in addition, to form part of the British Medical Association. A great many of those local societies were being amalgamated with the divisions and for the sake of economy, convenience, and policy. These divisions, which were about 300 in number, covered the whole of the United Kingdom and most of the colonies.

One other great advantage gained by a reconstruction was the additional power to promote the interests of the profession, greater power to improve public health and the well-being of the community, greater power to guide and influence Parliament in legislating for the health of the people.

It was his belief that the association could not fail, under a new democratic organization, to enlist, within a very few years, the sympathy and the active coöperation of all the qualified medical men in the British Empire, a consummation devoutly to be wished. He felt he would fail in his duty if he were to have the chair without referring to the kindness which he had received during his year of office. He wished to offer his best thanks to Mr. Andrew Clark, Chairman of the Council, to Dr. Dawson Williams, the able editor of the association journal, to Mr. Guy Elliston, the General Secretary, and to Dr. Whitehead, Medical Secretary, for their courtesy and the invariable kindness and assistance they had given him. The first duty he had had to perform as their president was one of very great pleasure to him and one he considered a great honor as a native of the principality. It was to propose his Royal Highness, the Prince of Wales, as an honorary member of the association. His Royal Highness, like His Majesty, the King, a patron of the British Medical Association had always shown very great interest in all questions relating to public health and the well-being of the community.

The speaker's last duty was also one which gave him great pleasure, and this was to introduce Dr. Collier to them. Dr. Collier might not be known to some of them, but the speaker was sure he was well known to them as an able and accomplished physician, and as a lecturer in the medical school of this great university whose hospitality they were then enjoying. Dr. Collier had, without any influence except his own ability, perseverance, and force of character, advanced at a very early age to the first rank of the profession, a position which older men might envy.

Induction of the New President.—Dr. WILLIAM COLLIER then took the chair amid applause. He said he would like, first of all, to thank the members very heartily indeed for the very great honor they had done him in putting him into the position of President of the Association. He thoroughly realized the honor, and his only hope was that he should be able in some degree to prove worthy of it. He knew quite well how valuable their time was, and he would only ask them to allow him to trespass for a very few minutes on it. There was one thing he wished to do. He wished first to disarm criticism and to elicit their sympathy. When the Oxford Division ventured to invite the Association to meet at Oxford they had not the faintest conception that Oxford would prove such a very pleasant and popular rendezvous. They also had no idea that so many wives and daughters would absolutely refuse to allow their husbands to come to Oxford unaccompanied by themselves. They were very soon agreeably undeceived, because a week or two ago when the names began to come in they found in the first 200 that no less than twenty-one gentlemen signified their intention of making altogether eighty-six visitors. They saw that would be absolutely overwhelming, and so they were compelled to put all kinds of stop notices in the *British Medical Journal*. He hoped they would not for one moment take this as an indication of their want of hospitality. They realized quite well that they could not increase their college gardens, and that they could not put up new buildings, and therefore that it was absolutely necessary to warn them in the way they had done. They also recognized this fact, that it was one of the characteristics of the British nation when they met together in crowds to be cheerful and good-natured, and it was one of the most characteristic things of the medical profession that they were perfectly prepared to be cheerful and to put up with certain discomforts. He was sure they would live up to that reputation. For weeks past their executive, and especially their secretaries, had been talking and thinking and dreaming of nothing but how to make the meeting a great success. They certainly hoped they would be able to do so.

Dr. GALTON of Norwood then moved a vote of thanks to Dr. Griffiths, the retiring president, for his very able conduct in the chair during the past twelve months, and, in accordance with By-law 36 that he be elected a vice-president of the Association for life. The motion was seconded by Mr. Morris of Portmadoc, and unanimously carried.

The President then proposed that the Vice-Chancellor of the University, Dr D. B. Monro, the Dean of Christ Church, the Very Rev. T. B. Strong, and the Master of University College, Dr. Bright, be elected honorary members of the Association, for their valuable services rendered in connection with the Oxford meeting. The Oxford Division was a small one, and when a question of issuing the invitation came up they felt they could not feasibly do it without some begging from the University, but they had had no idea that the University would behave in such an extraordinarily generous manner. He had never asked the University to do anything for them which had been refused, and he thought that was saying a great deal. When they looked at those magnificent schools he thought

they would say it was very generous of them to allow the Association to hold its meetings there. It was a very happy thing that they were enabled to name these three gentlemen, because two of them were associated with the medical profession in a very close and peculiar fashion. The Vice-Chancellor was the grandson of the third Monro of the family of Monros who founded the great medical school at Edinburgh, while Dr. Bright was the son of that Dr. Bright whom they all so well knew as the great physician of Guy's Hospital.

The proposition was unanimously adopted.

Sir Victor Horsley then moved that Professor A. G. V. Harcourt, M.A., F.R.S., be elected an honorary member of the Association for the valuable services he had rendered to the Association through the Special Chloroform Committee. He said it was one of the privileges the Association owed to the University that three years ago the then Lee's Reader in chemistry at Christ Church came forward with his valuable assistance in the matter of chloroform research. What Mr. Harcourt had done for the Association could not be said in a few moments, and he would therefore simply content himself with moving the resolution in order that the Association might in some sense express its gratitude to Professor Harcourt

Dr. Skerritt seconded, and the resolution was heartily adopted

Evening Meeting.—In the evening the Sheldonian Theater was crowded, The Vice-Chancellor, Dr. Monro, presiding. The meeting was held for the purpose of receiving a large number of distinguished foreign and colonial guests, and for the delivery of the presidential address.

Addresses of Welcome.—The Vice-Chancellor, on behalf of the University, gave a hearty welcome to the Association, remarking that the meeting was what their young friends would call a "record" in point of attendance, and evidently the interest taken in these meetings was greater than ever.

The Mayor, Mr. E. A. Bevers, on behalf of the city, also gave a cordial welcome to the Association, and said the corporation had paid the greatest compliment in its power to the medical profession by appointing one of its members to the mayoralty on the occasion of the visit of the Association.

The President, on behalf of the Oxford Division, also extended a warm welcome to the Association and to the distinguished foreign guests and colonial delegates. He wished particularly to call their attention to the pathological exhibit which had been provided. So good was it that he quite expected many of his hearers would cut off a few days of their holiday for the purpose of staying a while to examine it at greater leisure.

The various foreign and colonial guests were then presented to the President by Dr. Drew, who also presented to Dr. Collier, on behalf of the executive committee, the official badge of the Association.

The Middlemore Prize.—The President announced that the adjudicators had awarded the Middlemore Prize of a certificate and a check for £50 for the best original work on ophthalmology brought out during the past three years to Mr. John Herbert Parsons, M.B., B.S., D.Sc., F.R.C.S., of University College Hospital, London.

The Presidential Address was then delivered by Dr. William Collier (see p. 223). He was most cordially received on rising, and at the close of the address received a vote of thanks, as did also the Vice-Chancellor for presiding.

Second Day—Wednesday, July 27.

This morning services were held in the chapels of Mansfield College and Manchester College at nine o'clock, and sittings of the various scientific sections took place in the University Museum from ten to one o'clock.

Conferment of Honorary Degrees.—A convocation was held at two o'clock in the Sheldonian Theater for the purpose of conferring the degree of Doctor of Science, *honoris causa*, upon the following: Dr. T. C. Allbutt, F.R.S., Regius Professor of Physic at Cambridge; Mr. Andrew Clark, F.R.C.S., Vice-President and Chairman of the Council of the British Medical Association; Dr. T. D. Griffiths, late President of the Association; Mr. Jonathan Hutchinson, F.R.S., late President of the Royal College of Surgeons; Sir Wm. Macewen, F.R.S., Regius Professor of Surgery in Glasgow University; Sir Patrick Manson, K.C., M.G., F.R.S.; Sir John W. Moore, late President of the Royal College of Physicians of Ireland; Dr. Wm. Osler, F.R.S., Professor of Medicine at Johns Hopkins University, Baltimore. Owing to the illness of a near relative, Dr. T. G. Roddick, M.P., of Canada, on whom it was also intended to confer the degree, was unable to be present.

The recipients of the degree were presented by Professor Love. In introducing Dr. Allbutt he said the work to which his name would always be associated was the treatise on medicine for which he had enlisted the assistance of so many of the physicians and surgeons in the United Kingdom. Mr. Andrew Clark was spoken of as having contributed notably to raising the medical profession in the public estimation, and he was a high officer among those who could be called upon to render medical service to the army in case of war. Dr. T. Dryslwyn Griffiths was referred to as one who had achieved great distinction as a physician, and as the author of numerous memoirs of great value relating to medical subjects, and in Wales especially he was looked up to as a leader of the profession. Mr. Hutchinson was introduced as a man who excelled not only in the practice of operative surgery, but also in the investigation of the causes and in the treatment of those diseases of which the surgeon was the true healer. In particular he had made a special study of the diseases of the eye, and it was at Oxford, thirty-six years ago, that he prepared and showed the first pathological exhibit displayed at a meeting of the Association. Sir W. Macewen was described as a man famous all over the world for his skill in repelling the attacks of those extremely minute and virulent enemies of mankind which were the cause of septic poisoning in wounds, and his brilliant work in this department of surgery had been recognized by the King, who had knighted him. Sir Patrick Manson was introduced as one who had rendered tropical regions fit for habitation by investigating the causes of plagues and fevers, to do which he had made many voyages and had lived for many months at a time in districts infected with these diseases. Sir J. W. Moore was alluded to as having been knighted by Queen Victoria for his medical services to the people of Ireland, and in his books he had laid down the principles invoked by modern science in fighting against fevers and other infectious and contagious diseases. Dr. Osler was referred to as one who had been for many years a leading exponent of the principle that the art of medicine should be based upon the most exact scientific knowledge of the day.

The newly made Doctors were heartily applauded on taking their seats in the semicircle.

President's Reception.—In the afternoon a reception was held by the President of the Association and the members of the Oxford Division in the gardens of Wadham College, but the enjoyment of the numerous visitors was considerably marred by frequent showers of rain. It had been arranged to hold a fencing competition and a sword contest between representatives of Oxford and Cambridge Universities, but owing to the wet weather these were held in the Town Hall. The contest between Oxford and Cambridge resulted in favor of the latter.

Address in Medicine.—This was delivered in the Sheldonian Theater by Sir William Selby Church (see page 223.)

Vice-Chancellor's Conversazione.—This was given in the evening, and was attended by a great throng of people. At the same time a number of demonstrations (many of them illustrated by lantern exhibits) of recent discoveries

were made by Dr. W. J. Smith-Jerome, Dr. Paul Chapman, Professor Haldane, Dr. H. Sankey, Dr. G. Mann, Dr. Farmer, Dr. Walker, Professor Vernon Harcourt, Mr. Ford Robertson, Mr. Henry Wade, Professor W. Sollas, Mr. A. Tutton, and Professor Myers.

Third Day—Thursday, July 28.

The Temperance Breakfast.—The first item in this day's program was the Medical Temperance Breakfast, which was provided, as it has been for many years, by the National Temperance League. Some 200 members accepted the invitation of the League, and this was the largest attendance since the inauguration, and perhaps the most successful. Mr. McAdam Eccles occupied the chair and was supported by the President, Dr. Collier, and other distinguished members of the Association. An address was delivered by Dr. Kelynack, who held that it was fitting once a year at least that, as medical practitioners, they should review their relationship to the question of alcohol, which he then proceeded to do. He was followed by Dr. Collier, who, in a neat speech, claimed to be a life-long advocate of temperance, and said that the cost of the alcohol he had prescribed during the last month, for his twenty-five beds in the infirmary, amounted exactly to a penny three farthings.

Votes of thanks to the League for their hospitality and to the Chairman were heartily accorded.

Leicester the Next Place of Meeting.—At the adjourned general meeting in the afternoon the President reported that the Council had received an invitation from Leicester to hold the annual meeting of the Association there next year. The invitation was cordially accepted.

President-elect.—The President nominated as President-elect Mr. George Cooper Franklin, F.R.C.S., L.R.C.P., surgeon to the Leicester Infirmary. In the absence of the President-elect, Dr. Pope, President-elect of the Midland Branch of the British Medical Association, gave a very cordial welcome to the Association to meet at Leicester next year.

Address in Surgery.—This was delivered by Sir William Macewen at the Sheldonian Theater before a large and appreciative audience (see page 224).

In the afternoon garden parties were held at Headington Hill Hall, at the invitation of Mr. Geo. Herbert Morrell, M.P., and Mrs. Morrell, at which there were about one thousand persons present, and at the Warneford Asylum, about six hundred accepting the invitation of Dr. and Mrs. Neil.

The Annual Dinner took place in the evening, a company of about three hundred sitting down. The Very Rev. the Dean, the Rev. T. B. Strong, D.D., presided, and the guests included a number of distinguished Oxford men. The usual toasts were proposed by the President, who remarked that they were sorry the Prince of Wales was not able to attend to receive the membership of the Association, and he was sure that if His Royal Highness could have seen his way to do so they would have given him a right royal welcome.

Disease Germs.—Dr. George Bagot Ferguson, ex-President of the Association, delivered the "Popular Lecture" in the hall of the Examination Schools, at 8 o'clock in the evening. He chose as his subject the germs of disease, which he divided into three classes—yeasts, molds (which account for a small number of diseases, such as ringworm), and the bacteria which cause most diseases. The bacteria he compared to dominoes with tails, which are the organs of movement. Bacteria, being short-lived, and multiplying by division every twenty minutes, can in a short time produce enormous numbers. He showed a number of lime-light illustrations, of which the first was a bacteriological laboratory, then followed pictures of stab and streak cultures, the method of inoculating one tube from another, the bacterium termo, the bacillus figurons, the streptococcus erysipelatis, staphylococcus, spirilla sarcinæ, bacillus anthracis in the kidney and lung, and growing on boiled potato, the bacillus of malignant œdema, the coccus of chicken cholera, the pneumococcus, bacillus tuberculosis (which he thought was really not a bacillus but a congery of cocci), the spirillum of relapsing fever, the bacillus of leprosy, the typhoid bacillus, the glanders bacillus, the diphtheria bacillus, the cholera bacillus, etc. The lecture was listened to with rapt attention by a crowded audience, consisting largely of the wives and daughters of members. Dr. Ferguson showed great power of rendering scientific facts not only intelligible but interesting to a lay audience. In his descriptions he freely resorted to all sorts of homely similes.

MEETINGS OF REPRESENTATIVES.

These meetings, under the new organization, followed the annual general meetings on Tuesday and Wednesday, the discussion on the latter day being protracted to a late hour in order to close the subjects referred to the meeting. Sir V. Horsley was reëlected chairman. He said, on assuming the office for the second year, that he would not accept a nomination for a third, as he considered a change in the interest of the Association lest methods should become stereotyped. At a later period, in reply to pressure, he said he would place himself in the hands of the meeting—a response which was heartily cheered.

First Day—Tuesday, July 26.

The subject of medical defense aroused warm discussion. At the Swansea meeting of the previous year, a committee was appointed to consider the question of the Association undertaking medical defense. They now presented a scheme which it was resolved by a large majority to send back to them for reconsideration. There was a strong feeling in favor of medical defence, but it was thought that it should not be made compulsory on all members of the Association to join in it, but that it should be left optional. The Hospital Committee's report was adopted. The following are its provisions: (1) That poverty and sickness shall be conditions of admission to hospital. (2) That no charge shall be made, though voluntary contributions may be accepted. (3) That the production of a subscriber's letter shall cease to be compulsory and that, where possible, the system shall be abolished. (4) That some means of investigating the circumstances of applicants for relief, shall be employed in all medical charities, and that, where possible, a special officer shall be appointed for this work. (5) That, except in emergencies, before a patient is admitted to hospital, evidence shall be obtained that he is not in a position to pay, and (6) that cases of serious accident and severe illness, shall be attended on their first application.

Second Day—Wednesday, July 27.

Action was carried in favor of security of tenure of medical officers of health who, it was pointed out, are now at the mercy of local property owners, and in danger of being dismissed for performing their duty. The question whether it is advisable that medical witnesses engaged on each side in legal cases, should meet in consultation, was referred back to the "Divisions" for consideration. One of the many questions arising out of the Midwives Act, is that of payment of the medical practitioner called upon to assist a midwife. It was decided that some arrangement for payment should be arranged by the health authorities.

The report of the medico-political committee on the remuneration offered by insurance companies for medical examinations, and the character of such examinations, namely that for every full and careful report upon the state of a person's health, the practitioner should receive one guinea, was approved. It was carried unanimously that calf-lymph for vaccination should be supplied by the government free, not only to the public vaccinators, but also to general practitioners.

The practice of opticians examining the eye and pro-

nouncing an opinion and prescribing glasses, was strongly condemned. Two flagrant instances were cited in which a spectacle vendor told a patient he was suffering from Bright's disease when the malady was tobacco amblyopia, and one in which choroidoretinitis was treated as myopia.

The report on the diploma scheme of the Company of Spectacle Makers was adopted. This points out that the testing errors of refraction requires the use of mydriatics, which all but qualified medical men are debarred from. Therefore, the guarantees of qualification in sight testing which the company suggests are illusory. In the second place, the eye being not merely an optical instrument, but a portion of the human body, shares its diseases, which are liable to be misunderstood by unqualified persons. In many cases of grave local and general disease, impairment of sight is the symptom which first attracts the attention and, if the treatment is confined to compensation of refractive errors, the public are exposed to manifest risks. The practice of advertising the names of the hospital staffs in the local press was condemned. The organization of the Local Government Board was strongly condemned, as all power is invested in one official without cabinet rank with a medical officer who has a purely advisory function. A resolution was passed, stating that the President should have cabinet rank and requesting that a royal commission be appointed to inquire into the working of the Board with view to its reformation.

The system adopted by one of the London coroners of ignoring the doctor called to a case and getting a professional pathologist to perform the post-mortem examination was strongly condemned. A deputation has been previously sent to the Lord Chancellor. It was pointed out to him that when the coroner deems an expert pathologist to be necessary, his services should be requisitioned in addition to, and not in place of, the doctor who saw the case during life. As the Lord Chancellor has given no satisfactory reply, it was resolved not to let the matter rest. The best means of bringing pressure to bear on the government, was discussed. It was thought to be unwise to approach the prime minister, who would merely shelve the question. It was resolved to ventilate the matter in the press and to petition the king. A memorandum in support of the Poor Law Medical Officers in Ireland was approved. This involves the recommendation of superannuation allowances for these officers who are liable from the arduous nature of their work to premature breakdown. This principle has been already recognized by Parliament in the case of Poor Law Medical Officers in England.

SECTION OF MEDICINE.

A Discussion on Chronic Renal Disease.—Dr. W. Hale White opened the discussion on this topic, confining himself to the subject of treatment—the treatment of particular symptoms and the treatment of the disease in accordance with theoretical views. In regard to albuminuria, the customary energetic treatment of this condition was a mistake; it was an important help in the diagnosis and prognosis of Bright's disease, but otherwise it was unimportant. Symptoms connected with the cardiovascular system indicated treatment directed to keeping the tension in the arteries as near as possible to that of health without the aid of drugs; if high, to bring it low; if low, as from starvation dietary, to raise it. Rest in bed, the amount of exercise permissible, and the amount of fluid to be allowed were discussed in this relation. Œdema in the chronic tubal variety was best treated by posture, by limiting the fluid drunk, and by purgation. It was a mistake to rely on diuretics for this purpose, but diaphoretics were of use. The employment of puncture and Southey's tubes, taking careful antiseptic precautions, was of most value. Considering the theoretical part of the subject certain, substances were withheld because they were believed to irritate the kidneys; while diuretic drugs might be harmful substances excreted with difficulty, such as lead, mercury, and digitalis should not be given and morphine rarely. Sulphonal and trional should not be given. Alcohol probably produced only a negligiable deleterious influence in chronic renal disease, if in small quantities, seeing that all but 3 to 5 per cent. was used up in the body. As the renal trouble was a degenerative process, a normal diet should be aimed at; no element should be entirely withheld. Perverse dieting in chronic parenchymatous nephritis was even more distressing than in the interstitial form. It was important in this respect to decide the point at which recovery was impossible. Tea, coffee, and tobacco should be used in great moderation, considering their effect on the heart. As a rule, drinking of much water was bad; in tubal nephritis an extra pint of water a day might be tried. Uræmia was generally held to be a form of poisoning, but there was no evidence whatever that the poisonous substances were derived from food; they were probably formed in the body. The only method was to help all the excretory organs, in the hope that the poisons might be removed by one of them; purgation, sweating by hot air bath and pack, transfusion with saline fluid, the injection of pilocarpine, and bleeding in certain cases were recommended. For convulsions, chloroform was sometimes useful. The use of woolen garments, a good climate, such as that of Egypt, and an occasional Turkish bath for a few patients, were recommended. The diarrhœa and vomiting of uræmia should not be checked too soon. For sleeplessness, chloralamid was perhaps the best drug to use. The published accounts of decapsulation of the kidney did not suggest that the method was likely to be adopted permanently.

Professor von Noorden of Frankfort discussed the dietetic treatment of Bright's disease in regard to meat diet according to his well-known views; in regard to water supply, the use of large quantities of fluid were deprecated. The latter had an unfavorable result on dilatation of the heart and asthmatic symptoms. Systematic muscular exertion was advocated, although all fatiguing exercises were to be forbidden. After exercise a transitory rise in albumin might occur, but this was unimportant; the great point was that the state of the heart greatly improved. Dr. Oertel's rules might well be followed, as in heart disease Carbonic acid waters for baths and weak saline springs for drinking were to be desired in a health resort. Another essential point was the connection of Bright's disease with obesity, which was a very dangerous combination. Any reduction of obesity should be very careful and slow. Milk diet should not be too highly recommended.

Sir John W. Moore of Dublin alluded in the first place to the etiology of Bright's disease as met with in Ireland, also the question of diagnosis and the determination of renal sufficiency. The first object of treatment was to relieve strain on the vessels, the second was eliminary, and the third to relieve the strain on the heart. In chronic nephritis the kidneys should be kept flushed with pure soft water sparing nitrogenous diet being employed, while renal patients were better without alcohol, even in small quantities. Elimination should be encouraged, not only through the kidneys by draughts of pure soft water, purgation, diaphoresis, but also by the lungs; to this end the open-air treatment was to be recommended and wintering in a good climate as Egypt, Algeria, Cyprus, or Sicily. At home oxygen inhalations might be used, in uræmic dyspnœa especially. Open-air exercise was good. Of drugs—benzoate of sodium and urotropin were sometimes good. General dropsy acted the part of an eliminant. The indication for preventing cardiac failure were to increase the power of the left ventricle, to reduce the pressure in the right, and to lower arterial pressure. The use of digitalis, iron, arsenic, and strychnine was with the first object; to relieve the right ventricle, hot air baths, pilocarpine occasionally, and bleeding; to reduce the arterial tension, nitrites,

iodides, and restricted diet, etc. The administration of macerated fresh kidneys was alluded to.

Dr. James Tyson of Philadelphia agreed as to the absurdity of the distinction between red meat and white meat in Bright's disease; the use of excess of water was deprecated Mild cases occurred which hardly needed treatment. In the treatment of uræmia morphine was better borne in parenchymatous cases than in others and in some cases might be given with good results. Chloralamid was often of much value, but in some cases it seemed to set up excitement during unconsciousness. Renal asthma, so called, was usually a cardiac dyspnœa and was best treated by agents to reduce arterial pressure, as the nitrites. The œdema of the lungs caused by pilocarpine was counteracted by atropine, which, however, was not usually indicated. Decapsulation of the kidney was referred to and two cases described; it might in parenchymatous nephritis cause prolongation of life.

Sir William Broadbent also deprecated starvation and the use of too large quantities of water, but a tumbler night and morning was much more useful than if taken with food. The loss of albumin was not an important part of the malady. The specific gravity of the urine told much more, and the amount of albumin present. The most important guide to treatment was the arterial tension; cases in which it was diminished were very rare. To reduce the tension mild mercurial aperients were in his opinion much more valuable than other purgatives, even those producing more purgation. By relieving this tension the worst symptoms of uræmia were alleviated. Uræmic convulsions were probably entirely circulatory in their origin; such might occur where there had been no albuminuria. The intracranial pressure being determined by the arterial pressure, caused obstruction to the capillary circulation in the brain, and hence the convulsions. For such bleeding was often of great value. In threatened uræmia a hot bath might determine an attack of convulsions, possibly by increasing the action of the heart.

Professor Robert Saundby alluded to the mistake of supposing that nephritis was an incurable disease. All renal albuminuria did not mean Bright's disease. The curability of Bright's disease was best seen in those cases which were associated with pregnancy. The inflammatory process subsided and left sufficient kidney substance to carry on the renal function.

Dr. Samuel West said that even in acute nephritis patients were kept far too long on a low diet. Granular kidney cases, perhaps above all others, stood dieting badly. All extracts of meat should be avoided, and alcohol in excess, also overwork and worry. The treatment was chiefly symptomatic and the question of a possible internal secretion was alluded to, but it was pointed out that the use of renal extracts depended at present on clinical experience alone. For excessive arterial tension drugs usually used were somewhat dangerous because their action was followed by depression; for lowered tension, in which case the patient was ill, digitalis might be used. Oscillating tensions, even diurnal variations, were sometimes observed. Uræmia was either chronic or acute, and these two forms differed essentially. Acute uræmia suggested a toxin causation and one probably derived from the tissues of the body; intravenous injections and oxidizing agents might destroy these; thus purgation diaphoresis, possible venesection, and intravenous injection and the inhalation of oxygen were indicated.

Dr. Rose Bradford said that in chronic renal disease the eliminating functions of the kidney were much impaired; therefore, the diet should be so modified as to reduce the work of the kidney as much as possible. The albuminuria was not, he thought, of so little importance as some had held; in some forms the amount of albumin that might be lost in twenty-four hours was equivalent to two pints of milk. A more liberal diet than milk diet was of use even if the albuminuria was slightly increased thereby. An albuminuria was often the relic of an antecedent damage, and not evidence of any active disease. There were a few cases of Bright's disease which made considerable general improvement on a pure milk diet for a prolonged time, and in these it should be employed; if the general health did not improve, then a more generous proteid diet was indicated. The treatment of uræmia complicating acute renal disease was different and more satisfactory than that of chronic renal disease. The bowel was the preferable channel of excretion to influence rather than the skin. Morphine was perhaps particularly useful in the cases with epileptiform seizures and dyspnœa, but not with dropsy and fluid in the chest. Venesection for uræmia and headache and followed by copious transfusion were of much value. There was no reason for admitting the existence of an internal renal secretion and there was little to be said in favor of the use of renal extracts.

Dr. James Barr alluded to the preventive methods as applied to Bright's disease and alluded to the value of the cyroscope in appreciating the onset of the conditions leading up to degeneration of the vessels and kidney. The disease, he thought, ought not, if properly treated, to affect the longevity of the individual greatly. He would have alcohol avoided, also an excess of nitrogenous food. Diet, exercise, and clothing were the chief points to be attended to.

Dr. D. Newman protested against the indiscriminate decapsulation of the kidney and described the effect of operation in renal calculus and movable kidney on the albuminuria and presence of tube casts; also to the value of simple incision in renal affections.

Dr. Gore thought that in the treatment of chronic renal disease it must be remembered that there were two channels of toxæmia, one the absorption of toxins by the bowel and the other from waste products from the tissues not being eliminated by the skin.

Acute Leukæmia.—Dr. McCrae of the Johns Hopkins Hospital presented a report on five cases of this disease showing evidence for a rapid destruction of red blood-corpuscles. The speaker urged that attention should be specially directed to the bone marrow, and held that the condition was a general profound anæmia with leukæmia.

Croupous Pneumonia in Children.—Dr. Samuel West read a paper on a disseminated form of croupous pneumonia in children or primary bronchopneumonia having a pneumococcal bacteriology and differing from that of bronchopneumonia secondary to bronchitis.

Dr. Armstrong, medical officer to Wellington College, read a paper on functional albuminuria.

Second Day—Thursday, July 28.

Treatment of Tuberculous Pleural Effusion and Pneumothorax.—Dr. William Osler opened this discussion. Clinically, he said, pleurisy with effusion was pyogenic, pneumonic, or tuberculous, and in the absence of evidence of any etiology of the two former, a tuberculous origin might, with confidence, be predicated, and for the purposes of local treatment it was advisable to consider every case tuberculous unless clear evidence existed to the contrary. The value of early and repeated aspiration in the acute cases; drug treatment, whether ever useful; and the local and general treatment of the condition, were the special subjects suggested for discussion. Of late years, the tendency has been to tap for the effusion itself before the fever had subsided. Of twenty-two cases under his own care, twenty were healed by tapping; among these, five were chronic cases and four were discharged improved; of the fifteen acute cases all were discharged cured. The removal of the fluid seemed sometimes to be directly curative, the fever almost at once failing; this might be by clearing the lymph channels or, in some unexplained way, as in tuberculous peritonitis. It did no harm at any rate. In the chronic serous exudate, the greatest difficulty was experienced from reaccumulation of the fluid. Were there any remedies which directly influenced the absorption

of fluid from the chest? The salicylates seemed to help in the reduction of the fever, but in the tuberculous cases they did not seem to do any real good. Iodides as absorbents were of doubtful efficacy; in the chronic cases, at any rate, they were of no use. A large blister stimulated absorption. So soon as the fever had fallen in an acute case, systematic pulmonary gymnastics should be commenced; if the patient were in bed, by blowing water from one Wollf's bottle into another; if the patient were out of bed, any sort of inspiratory exercise was useful if persisted in. Later, ordinary breathing exercises should be employed, morning and evening. Every patient who had had tuberculous pleurisy should be regarded with suspicion and subjected afterward to careful and prolonged general treatment. The treatment of pneumothorax was unsatisfactory from the associated condition. In large pneumothorax it was better to do nothing; but from whatever cause it arose the acute suffocative pneumothorax demanded immediate operation by incision of the trocar. A perfectly free opening of the chest wall should be made. If pus were present and if the tuberculous disease were limited to one lung, resection of the rib might be employed.

Dr. George A. Gibson of Edinburgh was still in considerable doubt as to the certain diagnosis of tuberculous pleurisy, but in some cases an examination of the urine might show the diplococcus of rheumatism, thus negativing their tuberculous nature. In tuberculous pleurisy, after a limited period of rest, active exercises were strongly indicated. In certain obstinate cases the use of tuberculin injections had been, in his experience, gratifying. In regard to suddenly developed pneumothorax, recovery was almost invariably the rule, with a few days rest followed by graduated exercises; the recovery might possibly be assisted by previously existing adhesions.

Dr. Stanley Boyd, in reference to pneumothorax, said that the acute cases certainly demanded prompt surgical help. In the cases developing in the course of early tubercle of the lung, and limited entirely, or almost so, to one side, occasional aspiration and the open air method gave good results, but the question arose whether surgical treatment could not be started early, before the pleura had become thickened and the fluid purulent; treatment in the way of slow drainage through a fine cannula, which was not kept too long in one place. The danger was that of establishing a pyothorax.

Dr. Samuel West rather doubted if there were such a thing as a rheumatic pleurisy. Pleuritic effusion did not as a rule change their character, but they might easily be changed by accidental infection. The aspirator was a dangerous instrument. The rapid extraction of fluid in the presence of adhesion might lead to rupture of the lung and to other less serious untoward circumstances. Early, as compared with later, paracenteses did not seem to make much difference on the course of the case. From cases of obstinate pleural effusion he had observed it was clear that fluid might be present, compressing the lung for many months, even as many as eighteen, without causing adhesions to form. Tuberculous empyemata had a worse prognosis than other forms; they should be treated on the same general lines and might be washed out freely if that were indicated. The routine excision of ribs was not necessary. Even if a portion of rib were not removed and pressure of the tube on the bone caused denudation of the periosteum of the bone that was not of great importance. The state of the cavity should be frequently ascertained by the use of the probe. Eslander's operation—removing practically the whole of the side of the chest—was a very dangerous operation and anything short of it was an absurdity. In the majority of cases of acute pneumothorax an operation was urged, relief being obtained by tapping, or if repeated tapping did not give relief then the side of the chest should be opened. If air alone were present, the patient might be left and it would be absorbed. If fluid formed it was necessary to find out if it were serum or pus, but the fluid usually lay in a sort of saucer in the diaphragm, which was not easy to get at. If pus were present operation was indicated. The prognosis of pneumothorax, if neglected, was very bad. Directly the fluid was found to be purulent the side should be washed out and treated on general lines and many recoveries would often occur.

Dr. Nathan Raw said that in the majority of pleural effusions the best treatment was aspiration. Of thirteen cases of pneumothorax under his care, two were treated by incision, both of which contained pus and were tuberculous; these rapidly became septic and death followed. Two others which were treated by aspiration and, although containing pus, recovered. Opening the chest seemed to tend to septicity. Ordinary cases, unless with serious and abrupt symptoms of dyspnœa, should be left alone.

Dr. R. W. Philip said that a lymphocytosis in a pleural effusion had an important diagnostic bearing; tuberculin was of use in the diagnosis of difficult cases. If no evident reason to the contrary, for the time and for the purposes of treatment, cases of pleurisy should be considered as tuberculous. Free exposure to open air seemed to obviate the tendency to the occurrence of pleurisy with effusion in phthisis. Diet, and especially raw meat diet, had a beneficial effect on such pleurisies. Cases should be tapped early, when once was often enough. The fewer drugs that were used the better. It was important that the patient should not pass from under observation as soon as the pleurisy with effusion had disappeared.

Dr. T. D. Ackland thought the difficulty in treatment came in when the fluid was purulent. In young persons, in children and in acute cases, in ordinary pleurisies, the fluid should be left unless urgent symptoms supervened. The tuberculous cases, if chronic, and if the effusion were in a small quantity, were better left alone. The presence of fluid had not seemed, in his experience, to lead to the formation of adhesions. If pus were present it was important to determine whether the condition was a local tuberculous abscess and curable, or part of a general infection; in the latter case it were better left alone. It was, as had been said, very easy to open the pleural cavity and very difficult to close it. A tuberculous purulent effusion in the pleura was usually free from pyogenic organism, but if opened infection was almost sure to occur. Enormous hemorrhagic effusions might occur, and for these frequent tappings were, on the whole, the safest and best. When pus was withdrawn some boracic solution might be substituted for it. It might be that tapping and removal of some rib, thus allowing the chest wall to fall in without opening the pleura, the advantages of both methods might be obtained without the disadvantages. In cases of pyopneumothorax, especially those with a bronchial fistula, operation should be done; also if the pus were pointing externally.

Dr. J. Barr thought that in all cases of tuberculous pleurisy effusion, early removal of the fluid by siphon was desirable. He had recommended the injection of sterilized air to replace the fluid removed, the method of which he described.

Dr. J. E. Squire thought that sudden danger in acute pneumothorax was of rare occurrence and the urgent stage was usually short—an hour or two—so that a large proportion of the cases might be safely left without operative interference. If effusion were serious, let it be left alone if not too large; if purulent, let it be removed as soon as possible, and frequently by opening the chest. Dr. Osler, in reply, thought the chief point was the benefit of early tapping. There was an advantage in favor of the syphon.

Dr. Nathan Raw then read a paper on this subject, based on a series of 600 necropsies. The tubercle of the lung was by inhalation, that of the intestine by nutritive substances and usually by in-

fected milk. Human and bovine tuberculosis, he maintained, were varieties of the same infection, and tabes mesenterica was, he believed, always bovine. In 3,000 cases of adult phthisis he had found the glands of joints affected in only fourteen cases; gland and joint and bone tuberculosis, which were diseases of early life, were probably bovine in origin. Even the lungs seemed to be attacked by two different kinds of tubercle, one a rapid and the other a slow and insidious infection. He had never yet found a case of abdominal tuberculosis in a child that had been suckled by its mother. Many such cases of a mild type recovered absolutely, the bacilli never spreading beyond the glands. Bovine tuberculosis was probably more virulent for children than human tubercle; he had never met with a case among children, even of phthisical mothers, who had been only fed at the breast. Scrofulous glands in the neck were probably a local infection derived through the tonsils from tuberculous milk. When tuberculosis was stamped out among cattle it was to be predicted that infantile tubercle would disappear, too. It was a matter for observation whether a serum of bovine tuberculosis would confer an immunity against human tubercle.

Dr. Mitchell Stevens read a paper on the clinical features of splenic anæmia.

Dr. Lewis Jones one on the character of the faradic current.

Mr. Hastings Gilford gave a demonstration of ateliosis.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held May 16, 1904.

Dr. Alexander Lambert, Chairman.

Specimen of an Appendix.—Dr. Frederick Holme Wiggin presented a specimen of an appendix which was of unusual interest. One week ago a physician, thirty-eight years old, came to him and stated that, for three months, he had had intense pain in the abdomen in the mornings, and, after driving, in the cæcal region. His pulse and temperature were normal and there was slight tenderness upon deep pressure over the cæcum. Operation was advised and performed. The appendix was found to be large and much thickened and, at the junction of the appendix with the cæcum, there was a great deal of thickened tissue. In the appendix were found four concretions, one of them being near the junction with the cæcum and buried in a deep hole, and he believed that it would have perforated in a very short time if left alone. There was a slight peritonitis at this junction of the appendix with the cæcum. The case was of interest because of the mildness of the symptoms and also their indefiniteness.

Dr. Alexander Lambert referred to the case of a very athletic young man who had a history of having had pain over the appendix for three or four hours and he decided to remove that organ. Two enteroliths were found within it, one small one at the tip and a large one at the other end measuring three-eighths of an inch in length.

Cerebrospinal Meningitis.—Dr. Thomas Wood Hastings presented this paper. Since the introduction of lumbar puncture the spinal fluid had been studied with some success in various ailments and aided in differentiating them. The fourth lumbar space he considered the best place for the operation because, at this point, the dura mater was more firmly attached. The space was on a line from one superior spine of the ilium to the other. Seldom would the needle become obstructed when properly performed. The amount of fluid removed under various conditions ranged from a few drops to 50 c.c. or even 100 c.c., especially when there was much pressure. For diagnostic purposes only 5 or 10 c.c. are necessary. The chemical analysis of the fluid to-day was of comparatively little value. The physical examination of the fluid showed whether it was clear, cloudy, or hemorrhagic. A cloudy fluid rarely meant infection. In meningeal affections the examination of the cells removed from the fluid differentiated the tuberculous from the non-tuberculous cases Post-mortem examinations have led to the identification of certain bacilli and cocci, such as the bacilli of tuberculosis, of typhoid fever, of pseudo-influenza, of glanders, of anthrax, and of other affections. There had also been found streptococcus pyogenes, staphylococcus pyogenes citreus, and the diplococcus cellulosus and others. The infection may be a mixed one. He referred to a remarkable study of meningitis which was presented to the New York Pathological Society in December, 1902 (Medical Record, February 7, 1903, page 235). Failure to find germs in these cases had been reported; an examination of the fluid late in the disease often gave negative results. Sometimes fluid from a single puncture introduced in two tubes gave positive results in one and negative results in the other. The isolation and identification of the various bacteria he did not consider to be especially difficult. The findings of the diplococcus intercellularis meningitidis of Weichselbaum in the spinal fluid would lead to a correct diagnosis. Out of fifty-three spinal fluids examined fourteen were found to be infectious; of these fourteen, thirteen showed the diplococcus intercellularis of Weichselbaum and the other the pneumococcus.

Dr. Joseph E. Winters considered the clinical symptoms, saying that this disease beggared all description, and attempts to describe it would be utterly useless. On May 4 he saw in consultation a child four and one-half years old who had fallen on the sidewalk and hit his forehead. Two days later it was noticed that his swallowing was peculiar. The next day trismus was present, a diagnosis of tetanus made, and the question of using the antitoxin came up. The temperature was 102.5°. Owing to the marked involvement of the sensorium, he decided that it was a case of cerebrospinal meningitis and not tetanus; the only motor symptom was the trismus. The day following, the temperature rose to 107° and the patient died, and the autopsy report showed an extensive fibrinous exudate at the base of the brain but none in the spinal region, although there were many diplococci in the spinal sac. He saw another case in a child three years old. A physician, in attempting to remove a foreign body from the ear, pushed it through the drum. Later an aurist made an incision behind the ear and extracted a good sized bean from the middle ear. The child recovered rapidly. Eight days after being discharged as cured he suddenly began to have vomiting and abdominal pains. The temperature was 106°. There was tremulousness of the hands, but not of the legs. There was tenderness in the dorsal region. There was some stiffness of the neck with evidences of extreme vertigo and dizziness. A diagnosis of cerebrospinal meningitis was made. The temperature reached 107° and the patient died. A large, robust girl was preparing for school and suddenly was taken with vomiting and headache and in six hours and a quarter from the onset was dead. A boy left his home one morning to visit his grandmother and was taken with pain in the left ankle and two or three hours later was taken home in a cab When the physician saw him he had severe abdominal pain, and a diagnosis of appendicitis was made, and an ice-bag was applied. Later a diagnosis was made of cerebrospinal meningitis and the disease ran un uneventful course. When apparently well he was suddenly seized with violent vomiting, which was uncontrollable for days. The patient was kept under the influence of morphine, was given peptonized milk per rectum and the boy recovered. At a convent in Peekskill four girls were taken ill at the same time with severe vomiting. In one of the children it was noted that the pupil suddenly dilated and remained dilated for some seconds and then suddenly contracted, and this excited the suspicion of cerebrospinal meningitis. The four girls died, and at autopsy the following day they all presented the typical lesions of the disease.

No general description would be applicable to a disease

of this kind, but it seemed to the speaker that a diagnosis could be made from the rapidity of the pulse, the marked involvement of the sensorium, upon the extreme tremor, the sudden change in the disposition of the patient, the great fear and, also, the marked evidence of vertigo.

All cases that had a sudden and violent onset terminated fatally, and cases with a gradual onset, as a rule, ended in recovery. Cases that present a sunken countenance were grave. Great rapidity of the pulse, mottled condition of the skin, and marked involvement of the sensorium were of bad prognostic import.

Dr. Morris Manges took up the consideration of the disease as it affects the adult. He said he was surprised at the incompleteness of the picture presented, nothing being said regarding the rash, or any characteristic changes in the nervous system or the condition of the urine. He said there was a striking difference between the rashes as they occurred in children and in adults. In children at the Mt. Sinai Hospital the rash was very slight, while in adults it was, as a rule, very abundant and was herpes-like at the angles of the mouth and below the chin. The rash was petechial in character. At the knees and elbows it was similar to the cutis anserina but had a more deep color, as if the cuticle had been rubbed off. The condition of the pupils was variable. There was also the deeply injected eye, more or less abundant secretion, ecchymosis about the conjunctiva, and strabismus. The question of headache he considered to be of importance. When the patient recovered from the coma there was usually headache. The posture was quite characteristic, the patient being curled up and disliking being disturbed. The vomiting occurred late in many cases. The condition of the urine offered many interesting features from a diagnostic standpoint. A hemorrhagic nephritis might be a valuable symptom and one might mistake the condition for uremic coma Sugar in the urine might occur. He recalled one case in which the disease seemed to be ushered in with sugar in the urine and diabetic coma was at once thought of. In another case he saw this year, sugar in the urine was an early symptom. The reflexes might be exaggerated but they usually became abolished. Babinski's sign and the Kernig phenomena were of value. Babinski's sign, as a rule, was absent in adults. The disease as it existed in children and in adults ran a different course. There was a high leucocytic count, as a rule. One of the most important features for consideration in this disease, from both a diagnostic and a therapeutic standpoint, was lumbar puncture. At the Mount Sinai Hospital one of the cases admitted was a young patient, forty-eight years old, who came in in coma and the only history obtainable was that the patient had been ill but two hours with vomiting and headache and then became comatose. There was absence of patellar reflex and injection of the eyes, which made him suspicious of cerebrospinal meningitis. Lumbar puncture was performed and only ten drops of fluid obtained, but enough to enable Dr. E. Libman to demonstrate the Diplococcus intracellularis. He did not believe that lumbar puncture was done often enough, and thought that, in cases in which sudden death had occurred with relapses, if lumbar puncture had been resorted to early, many of these cases would have recovered. Sometimes this procedure may not be of great value because of rapid re-collection. In spite of lumbar puncture many cases will run their course, and he believed this was due to the fact that proper technique had not been established. The cases in which he had injected lysol warranted its further employment. In addition, hot baths (104° F.) for half an hour, associated with massage, were of value, but they should be resorted to from the beginning of the disease.

Dr. William M. Leszynsky said he had seen twelve or fourteen cases of cerebrospinal meningitis during the past winter. He referred to one case, a child, nine or ten years old, who had all the characteristic symptoms of the disease, such as rigidity of the neck, opisthotonos, loss of knee-jerks, Kernig's symptom, etc. The fluid was examined and showed the Diplococcus intercellularis of Weichselbaum and polynuclear leucocytes in abundance The child had a temperature of 103°, but there was not much disturbance of the sensorium. One c.c. of a one-per-cent. solution of lysol was injected, which was followed by considerable reaction and a rise in temperature to 104°. The symptoms rapidly subsided, and the patient gradually improved.

Dr. Leszynsky recalled another instance of a child in whom no lysol injection was made. The Diplococcus intercellulosus was obtained and the symptoms seemed to progress slowly, and later gave evidence of a chronic cerebrospinal meningitis; the child became more and more emaciated and finally died from exhaustion. He laid great stress upon the loss of knee-jerks in the early stage of the disease, which he ascribed to cerebral irritation producing inhibition. Later in the disease the knee-jerks returned. He was rather surprised that Dr. Winters did not refer to the use of lumbar puncture. He had seen the case referred to by Dr. Winters, occurring in an adult with trismus and which came to autopsy, showing undoubted signs of a leptomeningitis. He believed it was as yet an open question regarding the value of the lysol injections in these cases.

Dr. Charles H. Lewis had seen five cases which presented the characteristic symptoms, and he said he felt inclined to try lysol injections. The diagnosis had been made in these cases without lumbar puncture.

Dr. A. Palmer Dudley said he wished to consider lumbar puncture from a surgeon's standpoint. He did not think it should be attempted in young children unless they were first anæsthetized. He did not think that the medicated lumbar puncture would have much effect upon the brain because, in injecting cocaine, he had found that its influence did not extend above the diaphragm. He had sometimes failed to get the fluid in the very aged or the very young because of the dry spinal canal.

Dr. James J. Walsh spoke of the possibility of the disease being distributed by tramps, as it was supposed to be in Europe.

Dr. Francis Huber said that he had seen as many as fifty cases of the disease at Gouverneur Hospital and many more in consultation. He said that it should be borne in mind that lumbar puncture done on a healthy subject differed from one done on a patient with pathological conditions in which there was an excess of fluid. In order to influence the brain pressure, at least 8 or 10 c.c. must be removed in children, and in adults a great deal more. He spoke of the value of hypodermoclysis as a means of diluting the toxins; in one case in which this was employed with lumbar puncture the patient was doing very well. In one case he had performed lumbar puncture as many as fifteen times, and he did not hesitate to remove large quantities of fluid, from seven to fourteen drachms, and he never noticed any unpleasant symptoms follow this. Lumbar puncture was valuable not only as a means of diagnosis but also as a therapeutic aid.

Dr. Alexander Lambert said that as yet no treatment employed at Bellevue Hospital seemed to have any effect upon the disease.

History of the Work Done in the Legal Department.—James Taylor Lewis, Esq., made a brief report of the work done during the past three years in investigating and prosecuting illegal practitioners of medicine. Close upon 700 complaints had been investigated where charges had been made that they were practising medicine illegally and 129 cases had been prosecuted, 51 women and 78 men. In 123 cases the evidence had been obtained through agents of the association and in 6 from outside sources. Of the 129, 123 had been won and 3 had been lost. During the first year the average fine had been $45, during the second year $67, and during the past year $85. In 11 instances sentence had been suspended. Referring to midwives, he said that they really had a "Midwife Protective Association," and that

one standing high in it had privately informed him that the "County Association" had them "scared to death."

The defence of suits of alleged malpractice brought against members of the association had been very successful. Mr. Lewis said this would continue until November next and then, because of the amalgamation of the two county societies, it would be discontinued unless arranged for at that time. He thought a continuance of this work by the legal department would result, in the near future, in a discontinuance of any such efforts on the part of the laity.

Retirement of the Chairman.—Dr. ALEXANDER LAMBERT, in retiring from the chair, said he wished to thank the members for their hearty coöperation in the carrying out of the work of the association which to-night met for the last time as the New York County Medical Association.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE OPTICAL DICTIONARY: AN OPTICAL AND OPHTHALMOLOGICAL GLOSSARY OF ENGLISH TERMS, SYMBOLS, AND ABBREVIATIONS, TOGETHER WITH THE ENGLISH EQUIVALENTS OF SOME FRENCH AND GERMAN TERMS. Edited by CHARLES HYATT-WOOLF, F.R.P.S. 12mo, 166 pages, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $1 net.

TWENTY-SEVENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY AND REPORT OF THE BUREAU OF VITAL STATISTICS. 1903. 8vo, 682 pages, muslin.

THE LYMPHATICS—GENERAL ANATOMY OF THE LYMPHATICS. By G. DELAMERE. SPECIAL STUDY OF THE LYMPHATICS IN DIFFERENT PARTS OF THE BODY. By P. POIRIER and B. CUNÉO. Authorized English Edition Edited and Translated by Cecil H. Leaf, M.A., M.B., F.R.C.S. 8vo, 301 pages, illustrated, muslin. W. T. Keener & Co., Chicago. Price, $5 net.

DR. JESSNER'S DERMATOLOGISCHE VORTRÄGE FÜR PRAKTIKER. Heft 5. DIE INNERE BEHANDLUNG VON HAUTLEIDEN. Pp. 217-262. Heft 9. DIE HAUTLEIDEN KLEINER KINDER. Pp. 473-534. Heft 13. DIE SCHUPPENFLECHTE UND IHRE BEHANDLUNG. Pp. 149-185. 8vo. A. Stuber, Würzburg, Germany.

A TREATISE ON APPLIED ANATOMY. By EDWARD H. TAYLOR, M.D., F.R.C.S.I. 8vo, 738 pages, illustrated, muslin. Charles Griffin & Company, Ltd., London, and J. B. Lippincott Co., Philadelphia.

UNIVERSITY OF PENNSYLVANIA—CONTRIBUTIONS FROM THE WILLIAM PEPPER LABORATORY OF CLINICAL MEDICINE. No. 4. By various authors. 4to, illustrated, paper.

INTRODUCTION A L'ETUDE CLINIQUE ET A LA PRACTIQUE DES ACCOUCHEMENTS. Par Prof. L. H. FARABEUF et Dr. HENRI VARNIER. 4to, 477 pages, illustrated, paper. Georges Steinheil, Paris. Price, 15 francs.

A TEXTBOOK OF HUMAN PHYSIOLOGY. By ALBERT P. BRUBAKER, A.M., M.D. 8vo, 699 pages. With colored plates and 354 illustrations. Muslin. P. Blakiston's Son & Company, Philadelphia. Price, $4, net.

PHYSIKALISCH-MEDIZINISCHE MONATSHEFTE — ZEITSCHRIFT FÜR DIE PHYSIKALISCHE RICHTUNG IN DER MEDIZIN, MIT BESONDERER BERÜCKSICHTIGUNG DER RADIOLOGIE. Herausgegeben von Privatdozent Dr. H. Kraft und Dr. med. B. Wiesner. 1. Jahrgang, Heft 2, Mai, 1904. 4to, 66 pages, illustrated. Dr. jur. Demcker, Berlin W. 15.

THE SURGERY OF THE HEART AND LUNGS: A History and Résumé of Surgical Conditions Found Therein, and Experimental and Clinical Research in Man and Lower Animals, with Reference to Pneumonotomy, and Cardiotomy, and Cardiorrhaphy. By BENJAMIN MERRILL RICKETTS, Ph.B., M.D. 8vo, 510 pages, illustrated, muslin. The Grafton Press, New York.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Edited by ALBERT H. BUCK, M.D. Volume VIII. 4to, 784 pages. Illustrated by chromo-lithographs and 435 half-tone and wood engravings. Muslin. William Wood & Company, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 6, 1904:

	Cases.	Deaths.
Measles	133	6
Diphtheria and croup	232	33
Scarlet fever	68	2
Smallpox	3	...
Varicella	11	...
Tuberculosis	366	146
Typhoid fever	67	13
Cerebrospinal meningitis	...	...

Dog Oil in Tuberculosis.—The keeper of the dog pound in Chicago, says the *Medical Times*, reports an active demand for dead dogs for their oil. This, he says, is a specific for consumption, and he proposes that the city shall go into the manufacturing business, as the demand is large and increasing. This report supports those who have contended that the value of cod-liver oil depended largely on the proportion of dog oil and other cheap diluents that it contained.

Health Report.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. and Marine Hospital Service, during the week ended August 6, 1904.

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
District of Columbia, Washington	July 23–30	1	..
Florida, At Large	July 23–30	13	..
Illinois, Chicago	July 23–30	5	..
Danville	July 23–30	1	..
Springfield	July 23–30	3	..
Iowa, Clinton	July 16–30	4	..
Louisiana, Baton Rouge	July 23–30	3	..
New Orleans	July 23–30	1	Traced to importation.
Michigan, At 78 Localities	July 16–23		Present
Missouri, St. Louis	July 23–30	2	..
Nebraska, Omaha	July 23–30	2	..
New Jersey, Jersey City	July 17–24	2	..
New York, New York	July 23–30	1	..
Pennsylvania, Johnstown	July 23–30	1	..
Tennessee, Nashville	July 23–30	1	..
Washington, Tacoma	July 18–25	2	..
Wisconsin, Milwaukee	July 25–30	1	..

SMALLPOX—FOREIGN.

Austria, Prague	July 2–16	8	..
Vienna	July 9–16	..	1
Brazil, Bahia	July 2–9	8	..
Rio de Janeiro	June 12–26	304	124
China, Hongkong	June 11–18	1	1
France, Paris	June 9–16	9	2
Great Britain, Leeds	July 16–23	0	..
New Castle-on-Tyne	July 2–9	23	..
Nottingham	July 9–25	20	..
Sheffield	July 2–9	2	..
India, Calcutta	June 18–July 2	..	2
Italy, Palermo	July 2–16	11	2
Mexico, City of Mexico	July 10–17	2	3
Peru, Arequipa	June 18		Epidemic
Russia, Moscow	June 25–July 9	20	7
Odessa	July 9–16	1	..
St. Petersburg	July 2–16	9	2
Warsaw	June 18–25	..	34
Spain, Barcelona	July 10–20	..	9
Turkey, Beirut	July 9–16		Present
Constantinople	July 3–17	..	9

YELLOW FEVER.

Brazil, Rio de Janeiro	June 12–26	6	3
Costa Rica, Limon	July 17–23	1	1
Ecuador, Guayaquil	June 29–July 13	..	13
Mexico, Coatzacoalcos	July 9–16	..	1
Merida	July 10–23	9	..
Tehuantepec	July 10–23	10	7
Vera Cruz	July 16–23	3	..

CHOLERA.

China, Hongkong	June 11–18	3	3
India, Calcutta	June 18–July 2	..	30
Persia, Teheran	June 25–July 9	300	deaths daily
Turkey in Asia	June 28	481	852
Bahrein Islands	May 1–June 1	..	1,500

PLAGUE.

Africa, Cape Colony	June 18–25	1	1
Durban	May 28–June 4	..	2
Johannesburg	June 5–12	1	..
Brazil, Bahia	July 2–9	5	2
Rio de Janeiro	June 12–26	3	3
China, Amoy	June 4–25	..	45
Canton and Vicinity	June 2		Estimated. Increasing
Hongkong	June 11–18	53	52
Egypt	June 18–25	36	10
Formosa	June 11–25	178	129
India, Calcutta	June 18–July 2		31
Karachi	June 26–July 3	1	1

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Original Articles.

A POSSIBLE CAUSE OF HIGH-TENSION PULSE IN NEPHRITIS.*

By W. H. THOMSON, M.D., LL.D.,
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PHYSICIAN TO ROOSEVELT HOSPITAL.

In a patient whom I saw in consultation some years ago in a condition of status epilepticus induced by acute alcoholism, I found a pulse of high tension unequaled in my experience, except in some cases of puerperal eclampsia. He was a healthy man with perfectly healthy arteries, but now those vessels were so universally and extraordinarily contracted that it seemed as if his heart were beating against one and the same well-nigh insuperable obstruction wherever a pulse could be felt. Such excessive arterial ischæmia is certainly a striking phenomenon, and its mode of production is worthy of special investigation. Without doubt it can be ascribed only to the activity of some powerful vasoconstricting agent, but this can scarcely operate solely by stimulation of the vasoconstrictor nerves, and indicates rather a direct action on the arterial muscular tissue itself. This case, therefore, first suggested to me to make an examination into the conditions which lead to arterial tension in general, and particularly in renal affections, with the special purpose of determining in them the date of its occurrence.

I now feel assured that a high-tension pulse is not only one of the most persistent accompaniments of many forms of kidney disease, but that it sets in too soon to be primarily the result of any change whatever in arterial texture, just as no muscular cramp is primarily due to a textural change in the muscle cramped. In other words, high-tension pulse in nephritis is originally due to a general cramp of the muscular layer of the arterial walls, which cramp continues so long as the specific excittant of the muscular coat continues to circulate in the blood.

But while the early development of high tension in acute nephritis seems to imply the rapid charging of the blood with such an agent, its subsequent persistence, according to the persistence of the nephritis itself, raises other questions of high interest. In repeated instances of an acute, gradually changing into a chronic, nephritis, I have found the tension remain all along just the same as at first, while in cases which recover increased tension is quite the last symptom to disappear. Therefore, if high pressure can be assigned as a leading factor in producing changes in the arterial walls, ranging from endarteritis to atheromatous degeneration, that factor of strain is present from the very beginning of the renal disorder rather than as a late consequence thereof. This has led me to reverse the steps in the etiology of many common forms of arterial degenerations, so that instead of regarding endarteritis as I formerly did, as the cause of high-tension pulse, it is rather high tension which causes the endarteritis, of course most signally in the arterioles. I now believe in this being the true order in the genesis of most vascular sclerotic changes, and that we have possibly been misled by the coexistence of high tension with extensive endarteritis obliterans into regarding this symptom as generally the simple mechanical result of channels blocked by gross alterations in their walls. That after such organic changes have actually occurred the accessible arteries will be found overfull and tense goes without saying; but what we would emphasize is that the arterial ischæmia antedates the sclerosis and owns quite another cause for its production.

Another deduction from these premises seems to me to be highly probable. If, as a concomitant of nephritis an agent be circulating in the blood with the property of inducing universal arterial constriction, the consequent strain on the left ventricle of the heart must be much greater than would be caused by any mere discrete, though extensive, changes in the walls of the main arteries. Such changes we often find in senile arteries, without accompanying pronounced cardiac hypertrophy or dilatation. But I cannot conceive of a more certain cause of increased labor for the heart, with all which that fact would entail, than the presence of any agent which induces a prolonged narrowing of every artery and arteriole the body over. Moreover, it seems very probable that such a generally acting agent may alone cause sudden or acute dilatation of the heart, as I have noted in a number of instances when the most typical symptoms of acute dilatation went along with high-tension pulse in arteries which were everywhere contracted, but nevertheless perfectly smooth throughout. In one of the most striking examples of the kind, the most careful palpation of the accessible arteries failed to show the least signs of tortuousness of the vessels or of atheromatous changes in their coats.

What the actual nature of this agent is, and whether it be produced in the kidneys themselves or in some other organs, must at present be wholly conjectural. However, the now familiar physiological properties of the internal secretion of the adrenals, those glands which are topically so closely related to the kidneys, offer a remarkably close parallel in every particular to the apparent properties of the tension-producing agent in nephritis. The first fact which we would advert to is the extraordinary minuteness of the dose of suprarenal extract which is capable of exciting universal arterial contraction, amounting, according to Schäffer, to only $\frac{1}{800}$ of a grain in an adult man. All experimenters also agree that the active principle, or adrenalin, does not act on the arteries through their nervous mechanism, but directly upon their musculature, and that even skeletal muscles do not escape its operation. Its action upon the heart is also very specific, and if the vagi be cut or paralyzed by atropine, the heart's action becomes so violent, and

*Read at the meeting of the Association of American Physicians, 1904.

the rise in tension is so enormous, as to suggest the question whether a like combination of a vagus paralyzing poison with excess of adrenalin may not occur in those grave crises which we encounter in puerperal eclampsia.

Another suggestive fact derived from experimental researches, first fully described by Oliver* and confirmed by Schäffer, Vincent, and others, is, in Oliver's words, the enormous diminution produced by suprarenal extract in the volume of the kidney in Roy's oncometer. This condition of the kidney cannot fail materially to interfere with its secretory functions, particularly in its elimination of urea, and I feel convinced that the diminution in the average daily output of urea in cases of kidney disease characterized by persistent high-tension pulse may be assigned with much probability to this cause.

Before reaching this conclusion, however, certain clinical facts should be taken into account. A decrease in the average normal excretion of urea is no criterion of either the degree or even of the existence of kidney disease. On the one hand, in some advanced cases of parenchymatous nephritis with general anasarca, abundant albuminuria and marked so-called uræmic symptoms, I have found the daily percentage of excretion of urea vary but little from normal. On the other hand, I have notes of thirteen patients in my private practice carefully observed, most of them for many months, in whom the daily excretion of urea has been from one-half to one-fourth what it ought to be, considering their weight, age, diet, etc., and yet in no one of them had any evidences of kidney disease, either chemical or microscopical or cardiovascular, been detectable. One and all of these patients are chronic invalids, but with symptoms characteristic of the term we vaguely name "neurasthenia," and with evidences of persistent gastrointestinal rather than of persistent renal disorders. I am inclined to ascribe their condition to deficient formation rather than to deficient elimination of urea, and I think my surmise is borne out by the results of treatment. With only one exception in the whole list the pulse is of low instead of high tension. Conversely persistent high-tension pulse may go along with free or normal excretion of urea. This I have found in gout. But, on the other hand, when nephritis becomes fully developed in gouty patients, the urea output falls as in other forms of interstitial nephritis.

These clinical facts, however, do not militate against the inference that except in gout a high-tension pulse goes with a contracted kidney, and that a contracted kindey is *pro tanto* incapable of a normal excretion of urea. If, therefore, the kidney be only functionally contracted, or partially so, and not yet too far sclerosed, the administration of an efficient vasodilator ought to be followed by an increased excretion of urea. This would furnish a palpable test, free from the uncertainties which so often surround inferences from clinical observations on the effects of drugs, for the greater or less quantity of urea is a simple fact and not a theory. Accordingly I have made a series of observations on the effects upon urea excretion of full doses of aconite, in patients with chronic kidney disease marked by high-tension pulse, and in the majority of them with accompanying cardiovascular changes. I chose aconite because I regard it as the most certain and efficient vasodilator which we possess; and in saying so I merely wish to remark that as a veteran teacher of the materia medica I have long held that laboratory experiments on animals as regards the various cardiovascular agents can scarcely set aside the conclusions from careful clinical observations on man. I venture to say that any one who can recognize high tension when it is present will find that tension yield more certainly and more permanently when the aconite dose begins to tell than by any other agent except veratrum viride or free venesection. The superiority in this respect of aconite to the nitrites is very marked, for even with the tetranitrate of erythrol in full doses the change in the pulse is too evanescent and too irregular to allow it to be compared with aconite in real efficiency against the chronic high tension of nephritis. Well aware that this is no occasion for adducing a series of clinical histories, I will, in conclusion, merely give the briefest outline of three illustrative cases of the effects of aconite on urea elimination:

Case 1.—A lady, aged sixty years, suddenly fainted on rising from the table, and was found by her physician with all the symptoms of acute dilatation of the heart. I first saw her in consultation in November, 1901. Merely changing her position in bed caused cyanosis and vertigo. I found the left ventricle much dilated, the heart impulse could not be felt, at the apex the sounds were very indistinct, while the aortic second sound was accentuated. The radials and other arteries felt perfectly smooth, but very small, and the pulse was of high tension. Every variety of vasodilators and of heart stimulants were administered perseveringly for two months, such as the nitrites, including the tetranitrate of erythrol, along with strychnine, caffeine, sparteine, strophanthus, and digitalin, besides sodium iodide, arsenic, and tincture of iron, but without avail. The patient continued unable to have her head raised, while uræmic gastrointestinal symptoms developed, with alarming attacks of dyspnœa and syncope, mild delirium, pains in the head, and twitchings of the muscles of the face and extremities. The urine continued to be deficient in amount and the daily output of urea, which was constantly estimated by her physician, amounted to only 8 grams the day before I recommended that all the other medication be stopped, and the tincture of aconite in 5-drop doses be given every three hours day and night. Her physician, in a note to me, says of her subsequent history: "In a few days improvement in all her symptoms was perceptible; her digestion became better; mental and nervous symptoms disappeared; the arterial tension disappeared; the daily output of urea rose from 8 grams to 32 grams; the character of the heart action improved; the apex impulse became perceptible, and slowly increased in force, and the pulse became regular and fuller. Within a week the patient sat up, supported by a bed-rack for ten minutes, without marked change in the pulse."

The aconite was continued for six months in the same doses. The patient slowly improved, and sat out of bed from six to eight hours daily, going out to drive and taking other gentle exercise. Twice the dose of aconite was reduced, but the return to high tension and diminution of the urea output to 13.5 grams daily, with return of symptoms of cardiac weakness, caused the resumption of the original dosage.

At the end of six months the aconite was discontinued, and the nitrites were substituted for it for one month. Cardiac weakness and high tension developed again, and the urea fell to 10 grams daily. Aconite was again substituted for the nitrites, and again the heart action and pulse improved, arterial tension lessened, and the urea

Lancet, June, 1896, p. 1622.

increased to 30 grams. After four months more the aconite was discontinued, as vasodilators seemed to be no longer indicated. The patient continues to lead a carefully regulated life, makes and receives visits, takes walks and drives, and has steadily improved in strength and appearance; which improvement has continued to the present time, three and a half years after her first illness.

Case II.—J. M., aged twenty-two years, admitted at the Roosevelt Hospital first in July, 1902, in a state of coma preceded by convulsions. He remained in the hospital treated for chronic Bright's disease until January 13, 1903, when he was discharged "improved." Readmitted after a week for severe headache and vomiting, and remained from January 21 to April 4. The last two examinations of his daily urea excretion during this latter stay were 12.5 and 7.3 grams. Readmitted May 14, 1903, when I examined him. Patient very anæmic and emaciated, heart impulse weak and very diffuse, widely visible above nipple; apex beat five inches from midline in sixth space; apex systolic murmur transmitted to left; marked accentuation of both basic sounds; fine râles over both bases. Orthopnea; arteries thickened; pulse high tension, 132, irregular. Moderate albumin in urine, but full of hyaline and granular casts. Owing to his frequent vomiting, no medication of any kind given, except the tincture of aconite, 5 drops, every three hours. The output of urea that day was 8.1 grams. The urea excretion gradually rose in fifteen days to 23 grams, and the casts disappeared. The aconite was then increased to 8 drops every three hours, and eight days afterward the urea stood at 28 grams, with no albumin or casts. The heart impulse had receded to just within the nipple. On June 9, however, twenty-five days after beginning the aconite, he had an attack of vomiting and of diarrhœa, induced apparently by eating articles surreptitiously brought by his friends, whereupon the urine dropped from 66 ounces the day before to 22 ounces, the urea from 28 grams to 7 grams, with much albumin and casts, and in two days he succumbed.

Case III.—A young man, J. F., aged twenty-four years, with advanced symptoms of two years' standing of cardiovascular changes, headaches, dyspnœa, and repeated epistaxis; increased heart action, with orthopnea, thickened arteries, high-tension pulse; no œdema. Urine: heavy cloud of albumin; many hyaline and granular casts. Urea, 15.5 grams. When put on tincture of aconite 5 drops every three hours, in thirteen days the urea rose to 40.3 grams, the albumin diminished to a faint trace, the casts disappeared,and the headaches and epistaxis ceased, and the dyspnœa was relieved. After taking the aconite for twenty-seven days it was left off altogether to note the effect. For fifteen days thereafter the urea output remained high, but the headaches, epistaxis, albumin, and casts returned, though $\frac{1}{50}$ grain doses of nitroglycerin were freely administered. For the next twenty days the urea output was slowly but steadily diminishing, when suddenly, thirty-six days after discontinuing the aconite, the urine diminished to 26 ounces, the urea dropped to 6.2 grams, with increased albumin and casts. The nitroglycerin was then pushed for three days more, given hypodermically in $\frac{1}{50}$-grain doses every two hours; the third day after this the urea was 10.5 grams, with no improvement. All his old symptoms were returning, and his heart action became very heaving. He was then put on aconite as before, every three hours, and in five days his urine rose to 68 ounces, and the urea to 39.1 grams. After this improvement he could not be persuaded to remain longer in the hospital for further experiment.

It should be stated that in all three of these patients the diet was restricted, milk being the leading article of food.

Besides other hospital cases which I could adduce if there were time, I have full notes of patients in my private practice in whom similar results as regards increased elimination of urea were attained. In some of them it took a week before any definite change was noted. Usually in the second week the urea excretion may become double, triple, or quadruple what it was in the first week, and the excretion remain for a time, as in Case II, higher than normal, considering the diet, age, sex, and weight of the patient.

In some of my private patients who have taken the aconite for a number of months, or for a year, the urea gradually falls to about what would be the normal average for that patient, when I advise its discontinuance and the effect watched, for more than once the urea elimination has fallen so that the aconite had to be resumed to restore it to its proper figure.

As previously remarked, this effect of aconite on urea excretion I have found most marked in cases of chronic interstitial nephritis with cardiovascular changes, especially in patients not far advanced in life. In elderly patients, with extensive endarteritis obliterans and high-tension pulse, no vasodilator can be expected to relieve the ischæmia in vessels which have practically ceased to exist, and aconite has to be used in them with caution, owing to its direct effect on the heart. Yet even in them, if tachycardia be present, a temporary administration of aconite is sometimes apparently very beneficial.

Should my observations on increased urea elimination following on the administration of aconite in kidney disease be confirmed by others, this drug may prove to be a serviceable prophylactic against arterial sclerosis. I am also at present testing its effect on the high-tension pulse of melancholia in the inmates to two large asylums, as in melancholia also as a class the output of urea is low, but my observations are too recent to report the results. In one private patient insane for eigh teen months, with very high tension, but with no kidney disease, the urea elimination has risen in five weeks from 6.2 grams to 20.69 grams. with a distinct, though moderate, improvement in the mental symptoms.

23 East Forty-seventh Street.

Embalmed Beef and Appendicitis.—H. Temple Munsell says that the frequent occurrence of appendicitis in Johannesburg is one of the local medical facts that strike the newcomer most forcibly. The type of case, too, is as a rule more virulent, is frequently fulminating, and imperatively demands surgical intervention more often than in England. When one bears in mind the fact that practically the whole population of the town exists upon frozen meat or upon tinned meat, Mr. Kellett Smith's suggestion that this is a most important cause of appendicitis receives considerable support. Undoubtedly, for some reason or other, fermentative processes in the intestine of a pathological character are of very common occurrence in Johannesburg, manifesting themselves by diarrhœa and flatulent distension, and can hardly fail, Dr. Munsell thinks, to have considerable influence upon the incidence of appendicitis, and upon the virulence of the type that one so commonly observes.—*British Medical Journal.*

TREATMENT OF RUPTURE OF THE POSTERIOR URETHRA.*

By WELLER VAN HOOK, M.D.,
CHICAGO.

The primary treatment of ruptures of the posterior urethra must be directed to the provision of a mode of exit for the urine from the bladder, to the arrest of hemorrhage from the lacerated tissues, and to reunion of the urethra. It is essential that within a comparatively small number of hours after the accident the urine escape or be withdrawn from the bladder; and as the hemorrhage is usually arrested spontaneously, the primary indications might conceivably be satisfied by catheterization. The passing of a catheter under the morbid anatomical conditions present, is difficult or impossible. Its success presupposes that the operator can cause the point of the instrument, after it has left the distal portion of the ruptured tube, to pass through an extensive lake of blood bounded by contused, infiltrated, and perhaps inflamed tissues, to a successful entry into the lacerated proximal extremity, loosely attached to neighboring structures. The feat can be considered well-nigh impossible as a routine method. It is conceivable that a catheter thus passed and left *in situ* for a number of days might drain the bladder and the lacerated tissues, but so fine-spun a theory is controverted by practice, which has shown that in the majority of instances instrumentation almost invariably results in infection, which, if it does not destroy life, makes necessary the opening of the perineal tissues and the drainage of the accumulated fluids by that route. One of the writer's cases shows that regeneration cannot be depended upon, even if conditions are otherwise favorable.

The only rational treatment of complete lacerations of the posterior urethra lies in immediate perineal section.

Since Guyon published,[1] in 1892, the results of his brilliant series of cases illustrating the feasibility of reuniting the severed urethra and excising portions of the tube upon occasion, the views of the profession have undergone a decided change. Koenig had previously advocated resection of the urethra, but his views did not receive wide recognition.

Scores of actual cases in the human subject, as well as experiments upon the lower animals, have shown conclusively that the regenerative power of the urethral tissues is extraordinarily great. The experiments of Ingianni[2] are in this respect especially convincing. He has demonstrated that in the case of dogs extensive portions of the urethra can be restored practically in their entirety, the mucous membrane and the cavernous layers regenerating with great swiftness and completeness, although the muscularis does not reproduce itself. Several centimeters of urethral tissue can in the dog be replaced by the natural regenerative processes without the use of plastics. Clinical experience bearing upon these points is not lacking.

Roser's explanation of the increase in caliber of the urethra after longitudinal section of strictures of the urethra, assuming that the urethra is widened by the contraction of scar tissue in the perineal wound, is not wholly satisfying. A more logical explanation borne out by experimental and clinical fact, is that the epithelium of the urethra, regenerating with great swiftness, spreads over the granulation tissue of the longitudinal urethral wound, thus permanently increasing the caliber of the tube.

The very interesting clinical experience of Ljunggren is strikingly illustrative of the points proved for the dog by Ingianni. The case of Ljunggren[3] was that of a sailor forty-two years old, who three and a half years before his admission to the hospital, fell from a considerable height, alighting astride a beam. In twenty-four hours it was impossible for him to pass his water. Later, however, with much straining and perineal pain, the bloody urine was voided. Omitting the long history of the patient's sufferings from perineal inflammation with abscess formation, we may refer briefly at once to the technique pursued by Ljunggren, who says:

"I made a perineal section and got into an irregular sinuous cavity with ulcerated, infiltrated walls entirely devoid of mucous membrane. Into this cavity opened the urethra. In front as well as behind, the urethral openings were easily found. The infiltrated tissues and the fistulæ were entirely removed by means of excision and both urethral ends were freshened. On account of great diastasis of the urethral ends—almost six centimeters—primary suture was impracticable. I introduced a soft catheter, No. 17, and sutured the perineal soft parts round about with the exception of the middle of the wound, which was drained with iodoform gauze. When, after a month, the gauze was removed, the patient was able to discharge the water normally through the urethra." On account of a fistula, it was necessary to operate again at the end of two months. Ljunggren describes the procedure as follows: "I made a new incision in the old scar, and found that with the exception of a small point at the opening of the fistula, a reproduction of the urethra in the great defect had occurred. The new-formed urethra was somewhat wider than the lumen of the normal part, looking spindle-shaped, dilated most at the middle; the wall was everywhere plane and firm, the inner side smoothly clad with mucous membrane, which passed over directly at the two urethral openings into the normal mucous membrane. The distance between the two urethral ends measured scarcely four and a half centimeters."

After excising the small fistula, the wound was closed over a catheter, which was left fourteen days in the urethra. Sounds were then passed into the bladder. An examination four and a half years after the operation disclosed the fact that the patient had been entirely well, that the urine was passed in a normal thick stream and that no induration existed in the perineum.

This very unusual case must be considered to confirm the observations of Ingianni in so far as concerns the theoretical possibility of the extensive reproduction of the urethra, but that this result cannot be counted upon in actual practice is proved by one of my observations, in which, although the catheter was left in the urethra six weeks by another surgeon, *i.e.* two weeks longer than Ljunggren left the tube in his patient, no considerable regeneration occurred. On the contrary, scar contraction had so far destroyed the lumen of the tube, when an open operation was made some months later, that the proximal end of the urethra could only be found by the use of a small grooved director. The case is as follows:

A. F., aged thirty years, occupation barber, fell October 20, 1903, a distance of five feet, alighting astride an oak plank in such a way as to bring the urethra into sharp contact with the arch of the pubes. Three hours later the patient was seen by Dr. F. K. Burr, who found him suffering but little pain. Blood was oozing from the urethra. The perineum was much distended, the tissues showing marked ecchymosis, which included the scrotum. Eight or nine hours after the accident the bladder became

*Read before the American Association of Railway Surgeons, May, 1904.

distended and, as the patient was unable to void urine, great pain was experienced. Dr. Burr opened the perineum under general anæsthesia and removed a large clot of blood. The proximal end of the urethra could not be found. Hence, a suprapubic incision was made and a catheter was passed from above downward through the entire urethra to drain the bladder. The catheter was left in for six weeks, when it was found that the patient could pass his water naturally to some extent, although the greater part passed by a urinary fistula that discharged upon the perineum. After a few weeks, scar contraction occurred to such an extent that the fistula was much constricted and the bladder was not able to empty itself completely.

At this time he was referred to the clinic of the writer through the kindness of Dr. Burr. It was then found that he was able to pass some urine through the natural channels but only in a fine stream. Moreover, the bladder did not completely empty itself. Under general anæsthesia a sound was passed down to the scar mass in the perineum, which was opened by a median incision. It was then found that the urethra had undergone complete transverse division and that the ends of the tube were united by a scar. By means of a grooved director the end of the proximal portion of the urethra was found and slit up. The scar tissue was excised extensively, and the ends of the urethra, which had been separated by more than an inch, were drawn together with three catgut sutures embracing the muscular coats of the urethra. A catheter was then passed into the bladder through the entire urethra. The size of the catheter was No. 16 or 18 English. The perineal wound was partially sutured and gauze drainage applied.

The gauze was removed on the third day, the catheter on the seventh or eighth day. The perineal wound leaked for a week or ten days, but before the patient left the hospital, on the twenty-second day, the wound had entirely healed, all urine was being passed by the natural channel, and large sounds could be passed with but little discomfort.

A study of the literature of rupture of the posterior urethra by external violence leads to the unavoidable conclusion that primary operations should be resorted to whenever possible under a technique somewhat as follows: In the lithotomy position, with the grooved staff introduced through the urethra into the perineal tissues, a median incision is made, beginning a half inch in front of the rectum and extending forward toward the scrotum an inch to an inch and a half. While the skin may be divided freely, the deep tissues are only to be incised to meet the sound at a point posterior to the bulb of the urethra. Through the incision the sound can usually be felt. The bulb of the urethra may then be drawn forward by means of a blunt hook, and the ends of the urethra must be sought. The distal portion of the urethra is found at once because the sound passes through it. The posterior portion of the urethra is found by one of the following methods:

If the finger be passed over the deep surfaces of the wound, smooth mucous membrane may be felt guiding the operator to the proximal end of the tube. With full exposure of the wound surfaces, the proximal end of the urethra may be found by probing. In a recent case a large probe must be used or even a catheter, but if cicatrization have occurred, a fine probe or a grooved director should be used.

A method of palpation which the writer has never seen mentioned in the literature of the subject and which he believes is original with him, was practised in the following case:

Anthony M. of Rock City, Ill., was caught under a log that fell from a wagon in May, 1903. Dr. C. G. Ives of Pecatonica was called to see him. He in turn called Dr. C. Helm in counsel. Dr. Helm made a perineal urethrotomy, leaving a soft rubber catheter in the bladder. The perineal wound healed, but a fistula, connected with an abcess in the subcutaneous region of the right side of the scrotum and the right thigh, was drained by incision. Sinuses remained, surrounded by dense connective tissue, until, on November 19, Dr. C. Helm and Dr. Walter Helm, in order to lend interest to a clinic which the writer held in Rockford before the members of the Winnebago County Medical Society, generously invited the writer to operate. As had been discovered by Dr. C. Helm and Dr. Ives, the urethra had been ruptured by the fractured os pubis, of which the right ramus was still displaced, although union had occurred.

A sound passed down to the site of injury did not go farther than the point of perineal injury. The external urethra was incised as far as the sound would go, where the urethra could no longer be followed. There was much dense cicatricial tissue about the perineum, rendering the identification of normal parts more difficult. Careful search with the probe failed to disclose the proximal opening. Hemorrhage from small vessels was annoying. Under these circumstances the writer was confronted with two alternatives, according to the usual rules of procedure. In one instance he might pack the perineal wound with gauze for a few minutes in order entirely to arrest hemorrhage and under inspection make a careful search for the urethral opening with a fine probe, expressing urine from the bladder by pressure from above to assist in finding the opening, or he might at once proceed to do a suprapubic cystotomy, and passing an instrument down from above by retrograde catheterization, locate the tube. The first of these procedures would have been entirely rational and proper.

At the moment, however, the following procedure suggested itself as a rapid method of finding the urethra. By palpation with the volar surface of the finger, the urethra could be rolled under the pubic arch as a somewhat flattened cylindrical mass. It was considered that no other tissues or group of tissues could simulate the tube. The mass having been fixed by the fingers against the bone, a longitudinal incision was made through the middle of it. The finger was then introduced into this opening and the slippery mucous membrane was recognized without difficulty. It was then discovered that a diastasis of an inch or an inch and a quarter had taken place. Under the sense of touch the cicatricial tissue between the ends was excised, the tube was somewhat loosened and two catgut sutures were so placed as to bring together the severed ends. A catheter was left in the bladder, although the perineal wound was left patent. The sinuses and abscesses were opened and curetted. Dr. Walter Helm kindly reports that the urethra healed perfectly, but when last seen there was still some discharge from the sinuses leading down to the fractured pelvic bone.

The writer's method for discovering the posterior portion of the urethra is then as follows:

With the patient in the lithotomy position and an adequate perineal wound, place the volar surface of the index-finger against one of the rami of the pubic bone. Cause the finger to follow the arch of the pubes from a point chosen on one side to a point corresponding on the other side. The finger being moved transversely across the perineal structures with no important tissues between it and the rectum, the urethra is necessarily felt between

the finger and the pubic arch. It slips under the finger as a broad, somewhat flattened cylinder.

The urethra being fixed by two fingers against the pubic arch, the soft mass in which it lies may be boldly incised with a knife. The method may be carried out without the aid of inspection if desired. This, of course, will be an advantage where an exact hæmostasis is difficult.

Inspection may aid in finding the urethra, which is recognized by the discovery of its walls, muscular or epithelial, or by the device of forcing urine through the bladder by pressure from above. The urine may be recognized by sight, or if one desire, he may give a dose of potassium iodide before the operation, and at the moment of seeking the proximal end of the urethra, drop a little acetate of lead solution at the point where the urine is expected to appear. The brilliant color of the lead iodide assists in marking the urethral opening. This refinement is scarcely necessary, however.

When the perineum has not been incised, Meinhardt Schmidt[4] recommends in old cases catching the tissues at the side of the opening with the tenaculum snipping away a small piece of tissue and noting the difference in the direction of the urinary stream. This method will probably not be applicable except in unusual cases.

Forgue[5] has found the proximal end of the urethra in three cases of impermeable fistula of the tube by going at once to the end of the urethra where it emerges from the apex of the prostate. The prostate having been located, the urethra is incised just below it and a sound introduced down to the stricture.

The ultimum refugium is to place the patient in the Trendelenburg posture, open the bladder above the pubes and perform a retrograde catheterization. This operation has been performed many times. It should be resorted to without hesitation when the operator has exhausted the other methods of search. But a prolonged application of the simpler methods, exhausting the patient and increasing the danger of infection, is to be strongly condemned.

The extremities of the urethra having been found, they are to be united by catgut stitches, after suitable trimming, and the wound is to be partly closed. The question of leaving a catheter in the urethra has long been discussed, but the weight of opinion is at present against the practice.

When defects of the urethra are great enough to prevent the ends from being approximated without too great tension, several alternatives are open for consideration:

1. The method of Ljunggren, which although successful in his case, cannot be recommended as a routine method, since it makes too great demands upon the regenerative power of the urethral tissues, as was proved by the writer's case, requires the retention of the catheter for a number of days or even weeks, increases the period of healing and probably heightens the danger of infection.

2. The parts of the urethra may be loosened from their bed. Goldmann[6] in one instance has made good a loss of three centimeters of the urethra and eight centimeters in another. He recommends that the urethra be loosened, in cases in which cicatrization has occurred, before the scars are excised. He states that defects of eight centimeters and even more can be made good by the mobilization of the urethra, especially if the lower extremities be extended at the hip-joint during the operation. Koenig had long previously recommended and practised extensive loosening of the urethra.

3. Ekehorn[7] employed an original method, that in appropriate cases may be of great service. In the case of a boy nine years old who had received a severe gunshot wound in the region of the anus and perineum, a defect of the urethra of such great extent was present that, at the operation performed many months after the injury, it was impossible to approximate the ends. The writer describes his technique as follows:

"Behind the scrotum where the anterior urethral stump opened with its posterior end, a curved incision was made, the two limbs of which ran forward and upward on each side of the scrotum and penis about parallel with the spermatic cords to the anterior abdominal wall. With this cut a flap was enclosed which had its base above the anterior abdominal wall and consisted of the scrotum with its contents as well as the penis and urethra. This flap was dissected loose from below upward from the anterior surface of the os pubis to the upper edge of this bone, so that the suspensory ligament of the penis was cut through. That the spermatic cords remained entirely uninjured requires no explanation. After the flap referred to had been separated from the bone, it was very movable and could be drawn down without difficulty, so that the two urethral stumps could be brought together. From the lower end of the symphysis and the neighboring part of the pubic bone a piece about one centimeter thick was nevertheless removed, by which the pubic arch was made somewhat higher." The urethral ends were then united by sutures. Ekehorn claims, from experiments upon the cadaver, that he is able to make good defects of eight centimeters by this method.

A. Cappelon[8] reports a case in which after resection of two centimeters of the strictured urethra. Thiersch grafts were implanted over the entire perineal wound which was left unsutured. Thirteen days afterward the epithelial surface being continuous from one end of the urethra to the other, the edges of the wound were freed of epithelium and brought together with five silkworm gut sutures over a catheter *à demeure* with but slight irregularities of wound-healing. An excellent functional result was obtained, though the writer admits that the length of time between the operation and his report did not justify a final opinion as to the value of the method.

Tyrmos[9] reports a case in which a defect of the perineal urethra was made good by the transplantation of a flap of mucous membrane from the lower lip eight by two centimeters in extent. In a second case a defect of eight centimeters in length was made good by the transplantation of a mucous membrane flap obtained from the resected rectum.

Rochet[10] treated a case of grave stricture of the urethra by cutaneous autoplasty, making an external urethrotomy and suturing into the strictured canal a cutaneous flap taken from the perineum and suturing the border to the edges of the urethra. Rochet has performed this operation twelve times, four of his cases being unsuccessful. Three of the latter were particularly unfavorable and in the fourth case of failure, the flap, which had been cut too narrow at its base, underwent sloughing. In the eight favorable cases, cures were perfect and definite and were the more gratifying because other methods had been unsuccessfully tried before. Colineau[11] has described the same method.

Luebbe[12] refers to a case operated upon by Woelffler, 1888, who, after excision of a stricture of the urethra, implanted upon the wound mucous membrane after the Thiersch method. The material was removed from a case of prolapsus uteri. The grafts took and assisted materially in the production of a new urethra.

Hans Wagner[13] reports a case in which Mikulicz

transplanted the peripheral portion of a urethra which had been extensively injured into the bladder above the symphysis pubis. Wagner's description is very briefly condensed as follows: Paul O., sixteen years old, a previously healthy boy, was injured by the discharge of a shotgun, the muzzle of which was but a few inches from his body. The missiles, carried in a compact mass, destroyed first the lower portion of the rectum and anus, then the perineal urethra and part of the scrotum, the patient having been in a half-sitting posture when the injury occurred.

The primary inflammation having been managed skilfully, some months later an operation was undertaken to enable the patient to empty the bladder in a normal manner. The prostate and the perineal urethra were apparently gone. An incision was made in the median line above the pubes, extending out upon the dorsum of the penis about three centimeters. It was then carried down to the bone, the arch of the pubes being laid bare. After separation of the suspensory ligament, the roots of the corpora cavernosa of the penis were cut through, while the corpus cavernosum urethræ was lifted up uninjured. The dorsal artery and vein were ligated. Next the bladder was laid bare above the symphysis, the perineum opened and tamponaded with gauze. In the upper border of the symphysis, a groove was hollowed out for the corpus cavernosum urethræ. The vault of the bladder was then opened and drawn forward and the bulbous part of the urethra sutured to the bladder with silver wire. A catheter was passed into the bladder through the urethra. Although at first a catheter had to be used, it was possible after six months for the patient to pass the water spontaneously. While the urinary function is reported to have been satisfactory in this case, nothing is said of the generative function.

Guyon[14] warns against immediate repair of the urethra in case of severe laceration. He describes three cases, in two of which the operation was supposed at first to be successful but in the sequel scar contraction obliterated the tube. Marocco[15] also recommends secondary suture.

It is probable that the use of tissues which at the time of operation seemed to be uninjured, but which were destined on account of the traumatism to undergo molecular death, was responsible for the imperfect healing. If this is the correct explanation of the experience of Guyon, the lesson to be drawn from his cases is that the bruised tissue should be removed with sufficient freedom to give assurance that regeneration will be perfect. The large number of cases operated upon successfully by primary suture seems to justify the operation.

Fearing that contraction may take place in new-formed connective tissue, I make it a point to leave no opportunity for this to occur. Contraction is prevented with certainty by passing sounds at regular intervals. The patient readily learns to do this himself.

The after-treatment of perineal urethral resections has received much discussion at the hands of numerous distinguished writers. There is no controversy upon the subject of the use of urinary antiseptics and the administration of large quantities of water. All are agreed that free drainage should be practised. It is the method by which it should be accomplished that has been the subject of most discussion. Some are of the opinion that the catheter should be left in place for a number of days or weeks in order to enable them to almost completely close the perineal wound at once, while others, believing that the perineal wound should be left wide open for drainage, consider the catheter unnecessary.

Lennander[16] refers to an operation performed by Rolet, who, after resection of the uretha, left the catheter in place for thirty-six days. The operator stated that everything healed by first intention.

Koenig has been a consistent opponent of the catheter *à demeure*. Martens,[17] who reviews the work of Koenig in this field for twenty-five years, states that it is Koenig's practice not to suture the lower wall of the urethra and to leave the lower wound open. The catheter *à demeure* is usually not applied.

It is my own experience in a large number of perineal sections and prostatectomies that the use of a catheter *à demeure* is harmful rather than beneficial. As a rule, if the bladder needs immediate drainage by a tube, it is far better to leave a very large catheter or tube in the bladder to pass out of the perineal wound, which is left almost without transverse sutures. The use of the permanent catheter in the presence of infected urine often produces a suppurative urethritis that may result in permanent damage to the canal.

The use of sounds is an absolute necessity, whether the catheter has been applied or not. Conical sounds, are of course, to be selected, and the largest sizes are to be used first. I usually pass large sounds while the patient is asleep at the time of the operation, and after a week or ten days, use a sound one or two sizes smaller than the largest applied during the operation. Nitrous oxide gas anæsthesia is very convenient but by no means indispensable. Cocaine can be used with excellent results. I must agree with Martens when he says these sounds pass easily through the urethra, provided one does not use force.

It is the natural tendency of the tubes of the body that carry fluids to heal of longitudinal wounds even if they are unsutured and patent. Even the terminal fistulæ that are so annoying are almost invariably avoided if the surgeon takes pains to keep granulation tissue thoroughly cauterized and prevents epithelium from lining the fistula.

The permanency of results obtained from these methods has been frequently called into question. If sounds are regularly used, scar contraction is less likely to occur.

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Chorea.—Eustace Smith recommends the uses of large doses of ergot in connection with confinement to bed. He gives 3i of the liquid extract well diluted every 3 or 4 hours. He finds that the addition of 1 to 3 drops of liquor strychninæ appears to have a marked effect in quickening the action of the ergot.—*British Medical Journal.*

PRIMITIVE MEDICINE.*

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History may be defined as consisting of a systematic record of past events with careful attention to their importance, their mutual relations, and their causes and consequences. History is made by man, and is a record of what he has done. This record was made in words, spoken words at first, and written words later on. And as words are the only things that last forever, history is the only relic left us by our forefathers of the ancient day. Looking abroad over the whole world, after the lapse of an unknown number of ages, what have we of the past but the words of poets, philosophers, historians, and orators, who being dead and buried no one knows where, yet speak from their tombs by the power of their thought, and in their immortal works still maintain their dominion over inferior minds through all posterity.

Words are vehicles by which thought is made visible to the eye, audible to the ear, and intelligible to the mind of another; they are the palpable forms of ideas, without which these would be as intangible as the spirit that conceives or the breath that would utter them. Undoubtedly, traditions of what had been said, as well as what had been done, by eminent personages were perpetuated in families through all generations; but as it was enough for the purposes of tradition that events and discourses should be substantially true, every one who repeated either would do so in his own language according to his talent.

Medicine in its early form is intimately allied to magic. It would soon be discovered by accident that certain plants produced effects, both good and bad, upon the bodies of men and animals, and the reverence arising from their real virtues would lead to ascribing to them all manner of imaginary ones. The laws of nature being little known, one thing was not more incredible than another; and effects were assigned to causes in the most arbitrary and accidental way. The Rosicrucian physicians treated a case of wounding by applying the salve to the weapon instead of the wound itself; and this may be taken as a type of magical as contrasted with rational medicine. The operation of magical medicines was not, as is the case with those of the modern pharmacopœia, confined to physical effects on living bodies to which they were applied; associated with incantations and other ceremonies, as they always were, they could be made to produce almost any desired effect—raise or lay storms; fertilize a field or blast it; kill or cure a man, absent as well as present; and give the power of predicting future events. By virtue of magic medicine the medicine-man in all the ages of unscientific medicine has also been the priest and the prophet of the more advanced people, and the rain-makers of the savages.

The origin of medicine, as such, was probably contemporaneous with the origin of civilization. But for thousands of years medicine was not a science, only an undigested collection of experimental notions, vaguely described, disfigured by tradition, and often made useless by superstition and ignorance. Though the earlier periods of medical history are so mixed up with myth and fable as to be very uncertain, for us the history of medicine must necessarily commence with the written history of medical events. The first medical historian gained his medical information from the sayings of his fathers, and from the practices of his contemporaries, and with commendable prudence he put the words of tradition on to paper of some kind for the benefit of future generations. The early history of medicine is entirely legendary, and is made up of stories of the lives of the first doctors, who either lived on this earth, or were created by the imagination of the first historians, who made up a history from the legends and traditions handed down to them by their ancestors. The object of this paper is to consider in a brief way the primitive stage of medicine, or the history of medicine preceding the life and labors of the great Hippocrates, who is rightly named the "Father of Medicine." To do this in an intelligible manner it becomes necessary to make use of the known history of the primitive people who existed centuries before the times of Hippocrates, and others who, though having lived many years afterward, it is safe to say pursued the same medical ways handed down to them by their forefathers. Primitive medicine may be said to exist even to this day among some of the tribes of uncivilized people, and the medical historian must be allowed to draw on their traditions in order to give a useful description of what may be granted to have existed in the earlier or primitive times of the human race.

How a belief in imaginary virtues of things may grow out of the experience of their real virtues is indicated by Dr. Livingstone, when speaking of the beliefs in rain-making among the tribes in the heart of Southern Africa. The African priest and the medicine-man is one and the same, and his chief function is to make the clouds give out rain. The preparations for this purpose are various—charcoal made of burnt bats; internal parts of animals, as lion's hearts and hairy calculi from the bowels of old cows; serpent's skins and vertebræ; and every kind of tuber, bulb, root, and plant to be found in the country. "Although you disbelieve their efficacy in charming the clouds to pour out their refreshing treasures, yet, conscious that civility is useful everywhere, you kindly state that you think they are mistaken as to their power; the rain doctor selects a particularly bulbous root, pounds it, and administers a cold infusion to a sheep, which in five minutes afterward expires in convulsions. Part of the same bulb is converted into smoke, and ascends toward the sky; rain follows in a day or two. The inference is obvious." The religion of this part of Africa may be characterized as medicine-worship. In a village of the Balonda, Dr. Livingstone saw two pots with charms or medicines kept in a little shed, like idols in a niche. For an idol they sometimes take a piece of wood and carve a human head on it, or simply a crooked stick, when there is no professed carver to be had; but there is nothing divine about it until it is dotted over with a mixture of medicine and red ochre. Packets of medicine are worn as charms about the person, to ward off evils of all kinds. The female chief Manenko was hung all over with such charms; and when she had to cross a river, her travelling doctor waved medicines over her, and she took some in her hand, to save her from drowning.

Amulets were worn by some of the tribes of Southern Africa, as well as by other uncivilized people. An amulet is an object worn as a charm. It is often a stone or piece of metal, with an inscription or some figures engraved on it, and is generally suspended from the neck, and worn as a preservative against sickness, witchcraft, etc. The beliefs in the virtues of amulets is not extinct among the vulgar, who thus foolishly follow a heathen and savage custom.

The prayers of heathens, whether for blessings or for curses, partake largely of the nature of magical incantations. They are not supposed to act as petitions addressed to a free agent, but an inherent force which even the gods cannot resist. This

*Read before the Dubois County (Ind.) Medical Society.

notion pervades more or less all superstitious worship.

The language of primitive nations is crude and unmanageable, the words being as difficult to weld together as pieces of cast iron; but when one of the priests or medicine-men had, in the form of poetic utterance, fused the words into those rhythmical sequences that please the ear and hang together in the memory, we need not wonder at the power his incantations formed in the ignorant minds of his followers. There was no end to the power ascribed to incantations, especially when accompanied, as they generally were, with the concocting of drugs and other magical rites. They could heal or kill; they could extinguish fire; darken the sun and moon; make fetters burst; blunt a sword; make a limb powerless; destroy a crop; produce rain at will; and do other absurd and impossible things.

The priest, the medicine-man, and the rain-maker was always the same man amongst the primitive people, and being a superstitious and ignorant man himself, he relied on his incantations, his amulets, and his weird actions to gain his point, always being careful to ascribe any failures resulting from his endeavors to some negligence or action of his followers and dupes.

Amongst the vulgar of the civilized peoples of our day, amulets and incantations are still relied on not only for the healing of the sick but also to call up their spirit friends or to gain luck in their speculations.

In the Royal Library of Madrid, and in the Biblioteca Nazionale Centrale of Florence, are preserved two manuscripts which throw light on the practice of sorcery, medicine, and surgery in ancient Mexico, a short review of which is here given:

The native Mexicans practised massage, employed the temazcalli, or sweat-house, performed simple surgical operations, and understood the medicinal value of various plants, and other natural products. Splints were used in the dressing of fractured bones, and in order to retain reduced dislocations until they had healed, inflamed gums were lanced with obsidian knives, aching teeth were extracted, salt was used as an antiseptic, and ground obsidian as a dusting powder. Stiffness of the muscles and joints was treated by the sweat-bath, followed by pinching and squeezing, and sprains by gentle rubbing. Wounds were sutured with human hair, the actual cautery was applied to the edges of the wounds, and venom was drawn out of poisoned wounds by sucking, whilst bleeding was practised in obstinate headaches. Near Montezuma's palace was a garden for the cultivation of indigenous medicinal plants. Capsicum served them as now for the purposes of counter-irritation. The herbs tlalcaote and iztanhiati, and the juice of the agave were used as vulneraries, and the ecusco, cocoiatic, and pepper plant as sternutatories in the treatment of headaches. The Listerian method has its prototype in the employment of the juice of the ulli or the caoutchouc for the exclusion of the air from wounds; while various resins served for the preparation of plasters and incenses. As the betel nut is used in the east, so tobacco was employed by the Mexicans as a masticatory, the bruised leaves being mixed with lime or charcoal; it formed the ye-qualli or tobacco-food, and in the form of pellets was carried about by the persons in small gourds. Under the name of the divine food, the priests used tobacco in combination with dried spiders, scorpions, etc., a mixture not unlike the one recommended by the Reverend Cotton Mather, or Governor's Winthrop favorite prescription of sowbugs. The smoking of tobacco appears to have been less common, and the reed-tobacco, compounded with fragrant substances, was a luxury to be used after banquets and upon festive occasions. The hygiene of the teeth was well looked after, very hot food being avoided, as was the use of cold water after eating hot food. Wooden toothpicks, clean water, and powdered charcoal served for dentifrice. In short, the practice of medicine among these early Mexicans compares very favorably with that in vogue at the time of the landing of the Pilgrim Fathers, as pictured by Oliver Wendel Holmes in his review of the "Medical History of Massachusetts." Many of the ancient nations of South America, we may surmise, had even a brighter medical history, but there are no records left to us of their medical achievements.

In the writings of Dr. Benjamin Rush occurs a description of the Indian medicine, as he had learned about it. The treatment of children among the North-American Indians tended to secure their hereditary firmness of constitution. Their first food is their mother's milk. To harden them against the action of heat and cold (the natural enemies of life among the Indians) they were plunged into cold water. In order to facilitate their being moved from place to place, and at the same time to preserve their shape, they were tied to a board, where they laid on their backs for from six to eighteen months. The mother sucked her child till it was two years old, and sometimes longer, and during this time refused the embraces of her husband.

The Indians had no set time for eating, but obeyed the gentle appetites of nature as often as they were called by them. Their diet was of a mixed nature, both animal and vegetable. After whole days spent in the chase or war, they often committed those excesses in eating to which long abstinences could not fail of prompting them. It was a common thing to see them spend three or four hours in satisfying their hunger. This, however, was occasioned not more by the quantity they ate than by the pains they took in masticating it. It was also a practice amongst the Indians never to drink before meals, when they either worked or travelled. They were much given to the cold bath, to painting of the face and body, and to dancing. It was a remarkable fact that there were no deformed Indians, except those injured by the accidents of the chase and war.

The Indian women menstruated at a late period of life, between the eighteenth and twentieth year, had easy labors, and there was hardly a period in the interval between the eruption and the ceasing of the menses in which they were not pregnant or giving suck. The custom of late marriages among the Indians is assigned as a cause of the considerable vigor enjoyed by them, and of the more certain health of the suckling child.

The diseases prevalent among the Indians consisted principally of fevers, and diseases produced by cold, such as pleurisy, pneumonia, rheumatism, etc., also dysentery. Smallpox, measles, tuberculosis, etc., are diseases contracted by the intercourse of the Indians with the Europeans. Scurvy was unknown to them, so also gout, insanity, and nervous disease, until the White Man learned him to drink alcoholic liquors. The Indian never was afflicted with intestinal worms, and the periods of dentition in infancy and childhood were unaccompanied by disease.

The remedies of the Indians, like their diseases, were simple and few in number. When sick the Indian refused all kinds of stimulating aliments, but was allowed to drink plentifully of cold water.

Sweating was much used by the Indians, and their mode of procuring this evacuation was as

follows: The patient was confined to a close tent or wigwam, over a hole in the earth, in which a red-hot stone was placed; a quantity of water was thrown upon the stone, which instantly involved the patient in a cloud of vapor and sweat; in this condition he rushed out and plunged himself into a river, whence he retired to his bed.

Purging and vomiting were also in vogue among the Indians, American ipecacuanha being used for the latter purpose. Bleeding, which was produced by means of sharp stones and thorns, they confined entirely to the part affected. The Indians employed a caustic in obstinate pains in the following manner: A piece of rotten wood, called punk, was placed upon the part affected and afterward set on fire; the fire gradually consumed the wood, and its ashes burned a hole in the flesh.

The treatment of the sick Indian was greatly in the hands of the so-called medicine-man, who frequently relied on amulets and incantations; if not to cure his patients, at least to give their confidence and superstition trust. The priest and the medicine-man was one and the same, and his chief functions were to make clouds give out rain and to cure those who were seriously ill.

It is remarkable how similar primitive medicine is among the uncivilized people or savages of the Eastern Hemisphere as well as of the Western Continent. Primitive medicine consisted principally of the empirical and superstitious employment of simple vegetable remedies in conjunction with amulets and incantations, used by the priests or so-called medicine-men.

The history of Chinese medicine shows that it consisted of a jumble of superstition and empiricism; and that it has been with but little change handed down in the same conditions from the ancient days to the present time. The Chinese School of Medicine is a theoretical and not a practical one. The theoretical writings of the Chinese authors is not equalled in extent perhaps by that of any other nation. As a specimen, the "Pan Tran" may be named. It is a work on materia medica and therapeutics, in forty octavo volumes, and contains a list of seven hundred and fifty-six other works from which it was compiled.

A succession of changes has occurred in the theory and practice of Chinese medicine similar to those which have marked different eras in the history of our profession in Europe. The first great master in Chinese medical history was Cheung Chung King, who lived in the second century of our era, and was contemporary with Galen, a Roman writer on medicine, who is second only to Hippocrates in fame as a compiler of medical lore. King was distinguished for his heroic practice, giving medicine by the pound instead of the ounce or grain. His system of medicine prevailed a thousand years among the Chinese, when the second great writer, Lo Shau Chau, appeared, the peculiarity of whose practice consisted in using bitter and refrigerating medicines.

In the thirteenth century (our era) appeared the third great master, Li Tung Tan, who introduced the elevating and strengthening plan of treatment. This system prevailed for two centuries, when it was opposed by Chan Tan Ki, the fourth great author, whose practice was directed to alternating and lowering the powers of nature.

There were no medical schools or colleges in the history of China for the education of physicians. Those who wished to practise, learned from private preceptors and from books, the therapeutical means in common use. The study of the books which treat of the established modes of treatment entitled a man to the standing which belonged to the regular medical profession. This left the field open to everybody, and the result was doctors were numberless.

As a very good idea may be gained from Chinese medicine of the condition of primitive medicine, it will be my endeavor to give a short description of their system of medicine.

The following are some of the absurd notions taught in their books on the subject of anatomy: The larynx goes through the lungs to the heart; there are three tubes communicating from the heart to the spleen, liver, and kidneys; the spleen lies between the stomach and diaphragm, the food passing from the spleen to the stomach, and thence by the pylorus into the large intestine.

They believed that the small intestines are connected with the heart, and the urine passes through them into the bladder, separating from the fæces at the caput coli; that the large intestines are connected with the lungs, and lie in the loins, having sixteen convolutions; that the skull, pelvis, arm, and leg are each single bones. The soul is considered to reside in the liver, and courage in the gall-bladder. Every square inch of the surface of the body had its appropriate name, the location and relations of which, anatomically and therapeutically, formed an important part of the physician's knowledge.

The Chinese possessed a knowledge of the circulation of the blood 2,000 years before the birth of Christ. In an ancient book appears this: "Everything that gives motion, thrusts forward some movable body, and everything that is moved, either gives place readily or makes resistance. Thus, as the blood and spirits are in continual motion, they strike against the vessels in which they are contained, and, therefore, must necessarily arise a beating of the pulse." The most incorrect notions continued, however, to be entertained as to the course of the blood and the means by which it permeates every part of the body and the Chinese made no distinction between arteries and veins.

One of the most interesting facts connected with the history of Chinese medicine, is the extraordinary attention their physicians have given to the study of the pulse. A most wonderful and complicated system of examining the pulse had been developed and practised for centuries. By feeling the pulse alone they professed to tell the seat of a disease, its intensity, and in the fatal cases, how long it will be before death will take place. They profess to decide from the pulse if a woman is pregnant, to tell the stage of her pregnancy, and the sex of the fœtus.

To understand how it is that Chinese physicians judge of disease by the pulse, it will be necessary to explain briefly their theories with reference to the sympathetic relations of the various parts of the body and the changes wrought in them by morbific causes.

They lay down two natural principles of life, viz., vital heat and radical moisture, of which the blood and the spirits are the vehicles. In all departments of philosophy they recognize two principles, which they call the dual powers, or the male and female principles of nature, the action and reaction of which give rise to all the phenomena observed in organic and inorganic nature, and it is these two principles which constitute the vital heat and radical moisture.

The body is divided into right and left parts, each of which has an eye, shoulder and arm, leg and feet. A second division is transverse, into high, middle, and lower parts; and a third into viscera and intestines. The radical moisture is lodged in the six viscera, the heart, spleen, and kidney on the left; and the lung, liver, and kidney on the right.

The vital heat resided in the six intestines, viz., the small intestines, gall-bladder, and the ureter on the left; and the large intestine, stomach, and ureter on the right. It is from these organs that the heat and moisture are distributed by the blood and spirits over the whole body. This is accomplished by means of twelve canals, each one of which takes its origin from one of the twelve seats of heat and moisture.

A very close sympathy is believed to exist between the various internal organs, and each of these is considered to have an intimate relation to one of the five natural elements, earth, air, metals, water, and fire. Thus fire rules the heart; air, the liver and gall-bladder; water, the kidneys; metals, the lungs; and earth, the spleen and stomach. The agreement and disagreement of these elements with the various organs deranges the circulation of heat and moisture, and gives rise to alterations and disease.

They believed that every internal part had its pulse, of which that at the wrist is the echo or representative.

To show how exceedingly complicated were their systems of diagnosis and prognosis by means of the pulse, I give a list of twenty-four varieties of pulse distinguished from each other at six different points. They are as follows:

1. A floating pulse.
2. A deep pulse.
3. A slow pulse.
4. A quick pulse.
5. A slippery pulse.
6. A rough pulse.
7. A substantial pulse.
8. An empty pulse.
9. A vibrating pulse.
10. A failing pulse.
11. A rapid pulse.
12. A moderate pulse.
13. A large and broad pulse.
14. A small and minute pulse.
15. A long or protracted pulse.
16. A short pulse.
17. An impeded pulse.
18. A sudden or throbbing pulse.
19. A hidden pulse.
20. A moving pulse.
21. A strong pulse.
22. A weak pulse.
23. A hard pulse.
24. A contracted pulse.

To each of these twenty-four varieties of pulse are attached indications for each of the six points where it is felt, and it is from these that the scientific physician judges of the condition of internal organs. As an illustration take the seventeenth variety, which is the "impeded pulse."

The "impeded pulse" in the left wrist,
At first point, indicates sudden death.
At second point, indicates weakness and perspiration.
At third point, indicates exhaustion of the fluids.

The "impeded pulse" in the right wrist,
At first point, indicates failing of blood in veins.
At second point, indicates water in the stomach.
At third point, indicates life endangered.

Whatever may be thought of the theories upon which this system of examining the pulse is founded, we must give the ancient Chinese physicians the credit of being most persevering observers, and although we may reject both their theories and the indications pointed out in their systems, yet we can readily conceive how it is possible for one long accustomed to this mode of observation to become very skilful in pointing out the phenomena which are developed in the course of diseased action.

The practice of surgery was almost entirely unknown to the Chinese. They possessed no surgical instruments. The treatment of fractures and dislocations was not understood. Teeth were not extracted until they became loose enough to be removed by the fingers. All diseases and injuries requiring surgical interference were beyond the reach of the whole medical faculty.

The only distinctive surgical invention by the Chinese is acupuncture, which they used with great elaboration for rheumatism, gout, and localized pains. This very ancient remedy is still used, especially in the east. Steel needles are made use of, about three inches long, and set in handles. These are passed to the desired depth in the tissues and left there from a few minutes to an hour. The relief to pain afforded by this simple operation is sometimes astonishing, and the wounds are so minute as to be perfectly harmless. Quacks have made use of the remedy extensively, especially during the sixteenth century. The system of treatment known during our present days by the euphonious name of Baunscheidtismus consists of acupuncture.

The department of midwifery has from time immemorial been exclusively in the hands of females. Native females of respectability lift up their hands in horror and amazement at the idea of having male attendants.

As a description of primitive obstetrics, it will be of interest to know how lying-in women are treated in the Celestial Empire.

When labor comes on, the midwife is sent for, and the patient sits on a little stool which is placed inside of a low tub. They think it astonishing that any woman can be so uncleanly as to remain in bed An assistant supports the patient's back and she is always delivered sitting up. It is only in very severe cases that a patient is permitted to lie down. Sometimes they walk about to assist the pains. Medicines are given to expedite delivery, and nearly every woman takes a "hastening pill" at the commencement of labor. The umbilical cord is cut with scissors or a piece of broken porcelain, and is done up in rice flour. The placenta is allowed to come away of itself; but if it is long in doing so, the patient's throat is tickled with a feather and the effort of gagging forces the after-birth away.

After the birth of the child the mother is permitted to lie down a little while, but, as a general thing, she sits up nearly all the time, reclining, perhaps, a little the second day. She is supposed to be able to go about on the third morning and does so. The poorer classes do not lie down at all, but go about their usual work as soon as the labor is over. Among the wealthy they do not lie in bed, but keep their rooms for one month, being unclean, as they say, and no one is permitted to enter except those in attendance, and very near relatives. At the end of the month the mother purifies herself, dresses up, and comes out to a great feast, on which occasion the child is named, and its head, if a boy, is shaved for the first time by a barber.

As soon as the child is born, it is wiped with soft paper and wrapped up in old clothes of any kind; but it is not washed until the third morning. It is fed with soft boiled rice immediately after birth, and continues to have two meals of this per day. Very soon after the labor is over, the mother partakes of rice and pickled ginger, with hard boiled eggs, which have been prepared beforehand. After the second day, if there is no fever, she is allowed chicken, pork, fish, fruit, and whatever she fancies; but everything she takes during the month must be cooked in vinegar and spirits.

No instruments of any kind are used to assist labor, but to what extent the midwife uses manual interference is not so easily discovered. It is doubtless a blessing that no one has invented the obstetrical forceps among the Chinese, while they are so profoundly ignorant of the anatomy of the pelvis and of the mechanism of labor.

Japanese Medicine.—The old school of medicine in Japan was nearly identical with that of China, a melange of superstition and an absurd and utterly artificial system of anatomy and physiology, the result of ages of empirical practice—the latter having led to a more or less correct appreciation

of the use and value of many medicines used by ourselves, *e.g.* mercury, antimony, aconite, etc. In addition to a vast number of plants and minerals, animal substances, such as dried fetal deer, dried lizard's bodies, tiger's claws, teeth, bear's galls, formed an important element of the old pharmacopœia, and other even more repulsive substances were largely used.

In surgery the Japanese were as ignorant as the Chinese. Amputation was not practised by the Japanese, nor did they seem to know anything of the ligature as a means of arresting hemorrhage. They performed the ordinary operation of harelip, and the operation of catheterism was familiar to them, they using a metal catheter. They were conversant with the temporal, carotid, and radial pulse, and recognized the heart as the prime source of the pulse, beyond this the whole subject of anatomy was a mystery to them.

The practice of obstetrics was similar to that of the Chinese. There is, however, a tradition that a celebrated Japanese quack knew of the use of the obstetrical forceps, but that he kept the secret to himself, being a similar story to that of the Chamberlins of British medical history.

Of course, at the present time the practice of medicine and surgery in the Japanese Empire is probably as far advanced as that of any nation on the globe, which was brought about by the miraculous advancement of the Japanese people in all branches of civilization during the last thirty years.

In India, during the eleventh century before Christ, the healing art appears to have been better understood than it was by any of the other nations of the ancient world, but it was still mainly empirical. The priests were both medical men and surgeons during the history of the ancient Indians. In the ancient times the student of philosophy studied all the branches of science. He was a legislator, a physician, as well as a philosopher. In the time when the borderland of history melts into the inscrutable haze of antiquity the men who led Hindu minds were not only the priests and legislators, but they were also the physicians of the people. Gautama, the founder of Buddhism, was the product of the Hindu physiology which flourished for many centuries before the awakement of thought in Greece.

The life of Gautama is second in thrilling interest only to the life and work of Jesus, who came centuries after the Hindu history we are now considering. Gautama was born 500 B. C., at Kapilavastu. The legends and miracles of Gautama are all tempered with dignity as rightly belongs to a teacher and savior of men. "He was a prince, his fellow a paralytic: men were born in pain, to die in fear." Gautama cured them of their bodily ailments and offered them words of consolation for their mental troubles. Old and young, rich and poor, men and women were all welcome to Gautama. His success lay in two elements: his personal beauty and amiability, and the absolute equality of all men in his system.

In the history of antiquity the secrets and learning of the physicians were always in the hands of the priests. It was so in the temples of the ancient Egyptians, it was so in ancient Greece, it was so in Rome, and it has been so in later times. This is due to the fact that owing to ignorance, credulity, and superstition, diseases have at all times been regarded by the ignorant as evidence of divine wrath and chastisement, or of diabolical or occult influences, rather than the effect of natural causes. Hence men have turned ever toward prayers, exorcism, and expiation, especially when exhorted thereto by the priests. This has been the sacerdotal aspect of the practice of medicine of all times. Then, again, it must be remembered that most diseases get well without any treatment—that is, they are self-limited. Other diseases are caused by some obscure defect of the will-power. How easy it is to cure such diseases, especially if one is beautiful of body and excellent of mind enough to pass himself off as some divinely inspired personage, is a matter of history. The power of a great mind over the weaker ones is inestimable, and if it is used to a good purpose for the benefit of mankind, worthy of the praise and admiration of every right-minded man.

The oldest Sanskrit books are called Vedas, from Veda—knowledge. The Susruta, commentator of uncertain date on the Yajur-Veda, speaks throughout of a single class of practitioners who undertook both medical and surgical cases. Surgery enjoyed a high esteem among the Indians of ancient times in very remote periods. "A physician who is not a surgeon," so ran their proverb, "is like a bird with but one wing."

The medical treatment of diseases was excellent, though it was empirical. The training of practitioners was undertaken with great care, consisting, especially, of manual skill and experience. The great and important branch of medicine, anatomy, was an unknown science, which more than anything else hindered the further improvement of medicine and surgery among the Hindoos.

A very copious materia medica was at the services of the Hindoo practitioners, and among their most reliable remedies are noted arsenic, mercury, zinc, and many other substances of permanent value. The ancient Indians appear to have had an ointment that caused the cicatrices of variola to disappear, and they cured the bites of venomous serpents with remedies whose composition has been lost, much to the detriment of mankind.

The early races of India seem to have known the value of massage in the treatment of a great many diseases, for the subject is frequently referred to in the writings of the people from a remote period. It is also a certainty that these people were very well acquainted with the value of baths in controlling fevers and other diseases. The bath most highly valued by them was the sweat bath, followed by the cold plunge.

In diagnosis and prognosis, the Hindoo practitioners of medicine were more skilful than any other physicians of ancient times. For instance, it may be mentioned that ancient Hindu charlatan priests let fall from the end of a straw a drop of oil into the patient's water. If the oil was precipitated and attached itself to the bottom of the vessel, they predicted an unfavorable result; if, on the contrary, it floated, they gave a favorable prognosis. This is, so far as we know, the earliest recorded way of testing the urine for its specific gravity, on the amount of which they based their ideas of the condition of the patient.

In surgery the Hindoo doctors were especially efficient. Surgical instruments skilfully made of steel, to the number of 127, still attest their proficiency in cutting and cauterizing—the latter performed in observance of an aphorism quite Hippocratic in its ring—"What drugs and knives cannot cure may be cured by fire."

Their young surgeons were trained to operate by practising not on animals, or on the dead human subject, but on wax-covered boards, on beasts' skins, or on the succulent plants or fruits. The young surgeon was given instructions how to keep his instruments in order. Their surgical instruments are described as made of steel; and they should have good handles and firm joints, be well

polished, and sharp enough to divide a hair; they should be perfectly clean, and kept in flannel in a wooden box. Bandages, fourteen in number, were fully described, as to the making and the using of them. Splints of a great number and variety were made use of in the treatment of fractures and dislocations.

Some dextrous operations are described by the Hindoo surgeons, such as the rhinoplastic, which is of native origin. Hemorrhage they checked by cold, by compression, and by styptics. The ligature they seem to have known. Amputation was confined to the hand in cases of intractable hemorrhage. Lips or surfaces of wounds they smeared with an arsenical salve. For intussusception, volvulus, and such abdominal lesions they practised laparotomy, while fistula in ano (diagnosed by the speculum) they treated with the knife and corrosives. Fractures were diagnosed, and crepitus was understood; dislocations were classified; wounds were divided into incised, lacerated, contused, etc.; cuts of the face and of the head were sewed up; venesection was practised; leeches and cups were employed; poulticing, fomenting, etc., were done as at present; amputations were performed, hemorrhage being generally controlled with the use of boiling oil; tumors were removed; abdominal dropsy and hydrocele were tapped; hernia was reduced by taxis, and if necessary, operated upon; cataract was removed; and in obstetrics the cæsarean section was employed.

Lithotomy was in no case performed without the sanction of the rajah, who assumed the rôle of consulting physician. The surgeon performed the "sectio lateralis," described during the Roman period by the medical historian Celsus, who, no doubt, copied his operation from the Indians.

The dominant people in Babylonia in its earliest times were the Accadians. They had come originally from the mountains of Elam, to the east of the Tigris, and hence their name Accad, which means "highlanders." They brought with them the art of cuneiform writing, as well as other arts and sciences, amongst them the art of medicine and surgery. And when the Semitic tongue had become prominent, Accadian, now a dead language, was to the Assyrians what the Latin language has been to the nations of Europe: Assyrian scholars translated the Accadian literature into their own language, and their medical knowledge was borrowed from it. Every day is bringing to light new proofs of the influence of the Accadians upon the civilization of the Semitic nations, and through them upon that of Europe. Greece, it is well known, derived its system of weights and measures from the Babylonian standard; but these have been proved to be of Accadian origin. The Greek *mina* or *mna*, the fundamental unit of the Greek monetary system, is the *maneh* of Carchemish, and maneh is found to be an Accadian word, showing the origin of the system. The sexagesmial division of the circle; the sign of the zodiac; a week of seven days named as we now name them, and the seventh day of rest, are all Accadian. It is reasonable to suppose that the ancient Greeks derived the greater part of their medical learning indirectly from the ancient Accadians., from whom they received the benefit of other sciences. The Accadians were great in magic, and the Greek *magos*, a magician, is derived from an Accadian word equivalent to "reverend." This points toward the supposition that the priests of the Accadian nations were also the physicians, and that they relied greatly on magic and the superstition of the people in the treatment of their patients.

The history of the Accadians is of great interest to us as the probable source of the origin of Greek medicine, which was the beginning of our system of medicine. This but illustrates the idea that the history of medicine is not chopped up into distinct periods, but rather that one period of medicine is entwined in the one preceding it. In medical, as in civil history, there is no real break. A continuous thread of learning and practice, though varying in degree, unites the whole. Age after age records new discoveries, as well as the death of theories and practices, which became obsolete because they had no real merit, and in the course of time it has been made apparent to even the most skeptical that medicine is assuming the true aspects of a perfect science and an art.

Assyrian Medicine.—It was a general custom among the Babylonians to expose their sick persons to the view of travellers, in order to learn from them whether they had been afflicted with the like distemper, and by what remedies they had been cured. In those times, therefore, medicine was merely a conjectural and experimental art, entirely depending on results of observations made upon the nature of different diseases, and upon such things as are conducive or prejudicial to health.

Generals, and other officers in the command of troops and armies, did not think a knowledge of physic beneath their dignity, but frequently rendered as much service to the army by their skill in their medical, as they did by their courage and conduct in their military capacity. Botany, or that part of physic which treats of herbs and plants, was very much known, and almost the only branch of the science used in those early times.

In all the ages diseases were alleged to be affected by the touch of the hand of certain persons, who were supposed to communicate a healing virtue to the sufferer. Among the Chaldeans, the Babylonians, the Persians, and many others, the priests affected cures, or threw people into deep sleeps in the shades of the temples, during which the sleeper sometimes had prophetic dreams, and that they otherwise produced effects like those now referred to animal magnetism. Such influences were held to be supernatural, and no doubt they gave power and influence to the priesthood who controlled the art of medicine.

The Persian monarchs always cultivated the science of medicine, and constantly held it in great reputation. The great Cyrus, as is observed by Xenophon, never failed to take a certain number of excellent physicians along with him in the army, rewarding them very liberally, and treating them with particular regard. Cyrus thus only followed a custom that had been anciently established among their generals by the Assyrian people; and the younger Cyrus acted in the same manner. Thus history tells us that Cyrus the great was able to conquer certain nations by ordering the drinking water of his troops to be boiled before using. The troops of Cyrus remained well and active in the field, whilst the enemy died in great numbers of fevers. Then as now, sickness killed more soldiers than did the art of war.

Persian Medicine.—In studying the life of Darius I, the king of the Persians, we read that Darius chanced to have a fall from his horse in hunting, by which he sprained one of his feet in a violent manner, and put his heel out of joint. The Egyptians were then considered the most skilful in physic; for which reason Darius had several physicians of that nation about him. These undertook to cure the king, and exerted all their skill on

so important an occasion; but they were awkward in the operation, and in handling and managing the king's foot, that they put him to incredible pain; so that he passed seven days and seven nights without sleeping. Among the prisoners held by Darius was a celebrated physician of Crotona, whose name was Democedes. He was mentioned to the king by some person, and was sent for immediately, and brought to the king in the condition he was in, with his irons on, and in very poor apparel. The king asked him whether he had any knowledge of physic? At first he denied he had, fearing that if he should give proofs of his skill, he should be detained in Persia, and by that means be forever debarred from returning to his own country, for which he had an exceeding affection. Darius, displeased with his answer, ordered him to be put to the torture. Democedes found it was necessary to own the truth, and therefore offered his services to the king. The first thing which he did was to apply gentle fomentations to the parts affected, and after the swelling was reduced the sprain and dislocation were easily cured.

Democedes, after performing this cure upon the king, was admitted to the honor of eating at the royal table, and was highly respected at the king's capital, Susa. At his intercession, the Egyptian physicians were pardoned, who had been condemned to be hanged for having been less skilful than the Grecian physician; as if they were obliged to answer for the success of their remedies, or that it was a crime not to be able to cure a king.

Democedes had the good fortune to perform another cure, which contributed to raise his credit and reputation still higher. Atossa, one of the king's wives, was attacked with a cancer in her breast. As long as the pain of it was tolerable, she bore it with patience, not being able to prevail on herself, out of modesty, to discover her disorder. But at last she was constrained to it, and sent for Democedes, who promised to cure her, and asked of her a favor in return. The queen engaged her word and was cured. The favor promised the physician was to procure him a journey into his own country; and the queen was not unmindful of her promise. She persuaded the king to send Democedes in company with fifteen Persian noblemen to visit Greece on a diplomat-mission. During the journey Democedes managed to escape to Crotona, as was his purpose, and his fellow-citizens refused to deliver him to the Persians, which nearly resulted in a war between the two countries.

From this sketch we may derive the fact that the Persians had no medical men of learning, but that they hired Egyptians and other physicians to tend to the sick and wounded. If these hired physicians were successful in their undertakings they were richly rewarded and held in high honor, and if they failed to cure their patients hanging was frequently their lot. This strange abuse was the effect of an unlimited power, which is seldom guided by reason and equity, and which being accustomed to see everything give way implicitly to its authority expects that its commands, of whatever nature, should be infallibly performed.

It was during the sixth century before Christ that the Crotonians acquired the reputation of having the ablest physicians, who belonged to the Grecian School of Medicine, which was now in process of development. The importance of this historical fact will be appreciated when we come to consider the Grecian medical history, as giving us the assurance that even during its earlier days Greek medicine was by no means to be despised. A man like Democedes of Croton, who was born about the year 550 B. C., must have possessed great skill and knowledge to be able to cure a queen who was suffering from a painful tumor of the breast, and he certainly did show great skill and common sense in restraining himself from trying to reduce a dislocation of the ankle, which had been bunglingly mistreated, until the swelling and inflammation had been subsided by means of hot fomentations, a procedure, which the most skilful surgeon of to-day would consider a plausible mode of treatment. Were Democedes living now, he could, no doubt, teach us many things which would be of benefit in the way of treatment, things that were lost in the whirligig of time.

We now come to consider the history of the medical practice of the ancient Egyptian people. In the Bibliotheque Nationale at Paris there is preserved a papyrus roll, which belonged to the eleventh dynasty of the Egyptian kings, and was written about 2500 B. C. Yet it is but a copy of a treatise published by a governor or viceroy, Ptah-hotep, who began to reign about 3580 B. C. This, the oldest book known to the world, carries us back about thirty-six centuries before Christ, and does not appear as a first attempt to give instruction, but rather seems to belong to an advanced period of learning. The book opens with a remarkably accurate description of the decrepitness of old age. From the learning displayed in this book we are justified to surmise that medicine was an art, which had been cultivated for many centuries before the date of the Ebers papyrus roll, and that it had reached a very high grade of efficiency.

The Egyptians were the most civilized people of the ancient times, and there are evidences to show that they were possessed of many of the secrets of medicine, some of which may still remain to be rediscovered by our modern savants. Owing to the disappearance of most of the ancient Egyptian literature at the destruction of the Alexandrian library, we at present find only remnants of description of their medical learning.

Thus we read that Joseph commanded his servants and physicians to embalm him after his death, this being about 1700 B. C. Egypt at that time possessed a class of men who practised the healing art, and who also embalmed the dead, which must have both required and furnished a crude idea of anatomy. The writings of that early period relate to us that the practice of medicine of those times was altogether empirical, and based on superstition, and on the experiences gathered up and preserved by the priest of the temples.

From the relics and the remains found in the tombs of the ancient Egyptians, we learn that the art of embalming as practised by the Egyptians of the ancient day reached a high degree of efficiency, such as is perhaps not equaled by the embalmers of the present day.

Relics found in these ancient tombs consisted of cupping-vessels made of cow-horn, lancets, forceps, knives, probes, scissors, etc., this showing that the ancient Egyptians also practised surgery. Artificial teeth were found in mummies; and mummies have also been found with well-set fractures, that had thoroughly healed. Many of these relics are still to be found in the museums of Europe and America.

If the Egyptians did not invent the science of physic, they at least practised it in a rational manner. The sick were not abandoned to the arbitrary will and caprice of the physician. He was obliged to follow fixed rules, which were the observations of old and experienced practitioners and written in the sacred books. While these rules were observed, the

physician was not answerable for the success; otherwise a fatal issue cost him his life. This law checked, indeed, the temerity of empirics; but it also prevented new discoveries, and kept the art from attaining to its just perfection. Every physician, if Herodotus, the historian, may be credited, confined his practice to the cure of diseases of one organ only; thus one physician treated diseases of the eyes, another took care of the teeth, and so on.

Egypt is the birthplace of *Alchemy*, the forerunner of chemistry, *Hermes Trismegistus* being the father of the science. The name is derived from *chemi*, which is the ancient and native name of Egypt. The Egyptions appear to have possessed the greatest amount of chemical knowledge of all the nations of antiquity. They preserved dead bodies from decay, fixed colors from silk, prepared medicines and pigments, as also soap, beer, vinegar, metals, and metallic alloys, common salt, vitriol, soda, sal-ammoniac, glass, enamels, tiles, and painted earthenware.

Physiology was synonymous with natural philosophy among the ancients. With them, a treatise upon the formation of clouds, the precipitation of rain, the absorption of luminous solar rays by the atmosphere, etc., was as much a part of physiology as an essay upon the movements of the heart in animals or the circulation of the sap in plants. At the present time the term is used in a much more restricted sense.

The Materia Medica of the earlier Egyptians embraced the milk of animals, honey, salt, vinegar, etc., the application of raw flesh, ammonia, lard, and the use of prescriptions of draughts, unguents, and injections. Whilst the earlier practice of Egyptian medicine appears to have been rational, without any superstitious intermixtures, the later documents are of an inferior kind, showing the practice of magic and incantations.

Different kinds of *baths* were used by the ancient Egyptians as a religious rite. There is reason to believe that sweat baths followed by a cold plunge were preferred by the physicians as a remedial measure. Baths were frequently followed up with a thorough rubbing down of the entire body with scented oils and salves, specially prepared for the purpose.

Whilst the Egyptians recognized many rules of hygiene, they entertained but a mean opinion of that sort of exercise, which did not contribute to invigorate the body, or improve the health. They were a vigorous people, very much in earnest, and had no time for pleasure, nor for music, which they considered a useless and dangerous diversion, and only fit to enervate the mind.

The earliest notices of surgery occur among the Egyptians, who, as we find represented on obelisk and in temple, practised incisions, scarifications, probably even amputation, long before the date of the Ebers papyrus (3500 B. C.). *Surgery* consists of manual intervention, mediate and intermediate, in all lesions or malformations of the human body. This the earlier Egyptians readily recognized, and surgery was already an art amongst their physicians when medicine proper was but a phase of superstition.

The Egyptians performed castration to furnish eunuchs for the harem, and were even acquainted with the operation of castration of females, in order to keep them from becoming pregnant. The operation of circumcision was practised by them as early as 1996 B. C., long before Abraham the first of the Jewish nation was born, which is but an illustration of the old saying, "there is nothing new under the sun."

Hebrew Medicine.—Moses was not only the God-inspired liberator of his people, but he also possessed all the rare qualities which alone could enable a man to mold half-brutalized hordes of slaves into a great nation. Such a man could only choose the best from the knowledge he acquired from the wise men of the different nations with whom he came into contact during the long and active life necessary to prepare him for his great task.

Moses who was brought up as the son of the daughter of Pharaoh, and who was trained in all the learnings of the Egyptians, Assyrians, and Chaldeans, and who is said to have become a priest, under the name of Osarsiph or Tisithen, and to have been a mighty adept in all the sciences of his adopted country, probably derived many of his hygienic rules, and also his views as to medicine, from the ancient Egyptians and Accadians, which he made use of later on at the time he prepared the rules for the guidance of the Hebrew Nation.

Moses is noted in history as a great legislator and general, and also as a wise and learned man, well-versed in all the knowledge of the times, and it may be surmised that he was well acquainted with the art of medicine as it was then practised. The ten plagues mentioned in Hebrew literature as visiting the Egyptians, and which were not only foretold by Moses, but also to a great extent ameliorated by his efforts, were no doubt visitations of diseases that could have been accounted for by natural explanations, but it served the purpose of Moses rather to mystify such occurrences than to clear them up.

The Bible, which contains the medicine of the Hebrews as taught by Moses, purports to be the word of God; and in spite of all criticism it vindicates its claim. The Bible is in truth the exposition of the spiritual experience of man in his progress from mere creatureship to sonship with God. From the religious standpoint, it is with this understanding only that the Holy Volume should be opened. The Book of Leviticus, the writing of which is attributed to Moses, is largely made up of rules concerning matters of public health. Chapter XI gives directions of what beasts may, and what beasts may not be eaten by the Lord's chosen people; also what fishes, what fowls, what creeping things on the earth are forbidden to be used for food by them. Chapter XII directs the women how to purify themselves after childbirth; directions which might be followed by the women of the present day with benefit to themselves. In this chapter the hygienic measure of circumcision is insisted on in the following paragraph (3): And in the eighth day the flesh of his foreskin shall be circumcised; meaning thereby that if the child be a male child, he is to be circumcised on the eighth day.

In paragraphs 4 and 5 of this chapter the woman is directed to purify herself for thirty and three days after bearing a male child, and for sixty and six days after bearing a female child. By this we understand that the woman should not lie with her husband for at least thirty-three days after her confinement, a rule which ought to be followed by the women of our day.

Chapter XIII of Leviticus gives a description of the diseases of the skin under the name of leprosy and the plague, and how to prevent their spreading. It is more than probable that at this time nearly all diseases of the skin were considered a form of leprosy, and that syphilis was thought to be identical with leprosy.

Chapter XV is designed to regulate the relation of man and wife, and the purification of both under certain conditions. Several of the other chapters

of Leviticus are designed to regulate the sexual life of man. These outlines are still observed in some localities by certain sects, while the hygienic measure of circumcision then insisted upon is still observed as a religious rite among the descendants of Moses.

Next to Moses in medical lore should be mentioned *Solomon*, to whom is attributed a very high degree of knowledge of natural history, and who, according to Josephus, had such perfect knowledge of the properties of all the productions of nature that he availed himself of it to compound remedies extremely useful, some of which had even the virtues necessary to cast out devils.

The medical history of the Jewish nation does not record the name of a single great physician who was not also a priest; indeed, the rules by which the people were governed directed them to go to the priest, and by doing certain things and offering up certain duties, they were to be purified and healed of their afflictions.

Among the ancients contact with a dead body imparted an amount of defilement which numerous ablutions and a multitude of other expiatory practices could scarcely efface. On this point the law of the Jews was in strict harmony with the precepts of their holy religion. We read in Holy Writ:

"He that touches the dead body of any man shall be unclean seven days." "He shall purify himself with it on the third day, and on the seventh day he shall be clean; but if he purify not himself the third day then the seventh day he shall not be clean." "Whosoever toucheth the dead body of any man that is dead, and purifieth not himself, defileth the tabernacle of the Lord; and that soul shall be cut off from Israel: because the water of separation was not sprinkled upon him, he shall be unclean; his uncleanliness is yet upon him." "This is the law, when a man dieth in a tent, and all that is in the tent, shall be unclean seven days."

Of course, under the circumstances anatomy could not be anything but guess-work, and had no chance to become an exact science. And surgery which depends on a knowledge of anatomy for its thorough understanding and practice could not be but imperfect and empirical.

Baths were in great demand by the Jews, and the Mosaic law directs that baths be taken in running water.

"Demoniacs" is no doubt the name given by Jews to persons afflicted with epilepsy, hypochondria, or insanity, diseases of frequent occurrence in the east. It has been known by physicians of all ages that these diseases often recover spontaneously, or suddenly by means not explainable. Such diseases, of course, when cured by means of hypnotism or an impression on the will-power of the afflicted, could be easily classed as miraculously cured. Homer, Herodotus, Euripides, and later writers even during the Christian era, believed that the extraordinary actions and conditions of men, which could not be referred to by known and apparent operations of the mind, must be ascribed to the influence of demons. Such diseases are now, however, better understood although there are no doubt people who still believe in witches and devils.

Phthisis.—It is a comforting doctrine, and economically reassuring, that the tuberculous patient of whatever country or race can be suitably treated not far from his own home. Doubtless climatic factors are of considerable moment. They are all mainly of importance in so far as they encourage the patient to live the open-air life. In only too many instances the good effect wrought is undone at night by sleeping in stuffy and overcrowded rooms. —R. W. Philip.

ALCOHOLISM AND DRUG HABITS; THEIR PATHOLOGY AND TREATMENT.

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To-day the question of alcoholism and drug addictions are, more than ever, attracting increased attention and study among scientists, statesmen, social reformers, and progressive medical men. Side by side with this deepening appreciation of their deteriorating influence, there has arisen a firm determination to endeavor, by both educational measures and restrictive means, to teach the gravity of these habits, and thereby to prevent, at least, their increase.

From a careful observation of these habits for the past ten years, I have been able to study systematically the physical manifestations of the action of alcohol and the long and continual indiscriminate use of stimulating narcotics and the consequent degenerative changes in the nervous and cerebral cellular tissues.

Before discussing the question of alcoholism further, it would, perhaps, be wise were we to differentiate between the terms alcoholism and dipsomania. An alcoholic patient becomes insane because he drinks; while a dipsomania patient is already insane before he commences to drink. In dipsomania there is an established pathological state of affairs that impels. It is a diseased condition of the cerebral tissues, coupled with a so-called "highly-strung" nervous system.

It can be said, therefore, that alcoholism, rather than being a disease itself, is really a condition produced as a consequence of the action of alcohol on the system; or, in other words, a state of chronic alcoholic poisoning. This same condition of affairs may be said to exist in the system as a consequence of the indiscriminate use of drugs.

The true method of dealing with this condition lies in paying attention to those possible deficiencies which are at the root of the desire for the liquor or drug.

Our foremost pathologists and scientists have a clear recognition of the truth that the habits herein discussed arise from manifestations of acute pathological changes, and that these morbid changes are profound, whether they exist in the kidneys, the minute cerebral arteries, the spinal cord, multipolar cells in the cerebral cortex, or in the nerve cells in general.

We are very often apt to be too general in our statements in reference to these changes, satisfying ourselves with the tortuosity of the vessels of the pia mater, the adhesion of the pia mater to the cerebral cortex, subarachnoid effusions, sclerosis of the cord, sanguineous effusions, extravasations and infractions, degeneration of the walls of the arteries and the alterations in the consistency of the cerebral tissues.

All of these changes do occur, and are of importance as clinical evidence. But even here we must not stop, because as we further investigate, we will discover changes still more decided, more decided even than the marked molecular degeneration, leading up to the partial destruction of the cortical cells, as well as destruction of axis cylinder fiber elsewhere.

The principal considerations are the chemical and histological changes brought about by these poisons in nerve tissue. To fully appreciate these changes we must remember the importance in the constitution of nerve tissue of cholesterin in large quantities and always in combination with the various fatty, bodies found in nerve tissue, and which are unstable

capable of many complex degenerations and all richly permeated with blood.

Particular attention should be paid to the following two facts, viz., that cholesterin is itself an alcohol, and that the fatty bodies found in nerve tissue (of which lecithin is chief) are phosphorized bodies in which phosphoric acid is combined proximately with glycerin. These fatty bodies in combination with neurin and ammonia compounds contain nitrogen, therefore, chemically speaking, we have an alcohol in combination with phosphorus, glycerin, nitrogen, and ammonia, and all in close relationship.

By this relationship, nerve impulse is generated, as, for example, the electric currents which start muscle impulse and contractility.

All of these elements—cholesterin, lecithin, protagon, and neurin—are highly unstable, and the least disturbance of the delicate balance is the first incident of disease. The very slightest deviation from the normal proportion of the elementary constituents of the nervous tissue must be followed by altered physical conditions. In the author's mind there exists no doubt but that alcoholism is pronounced in producing these morbid changes in the structure of nerve tissue, thus interrupting the nerve balance.

Nature fully intended that the nerve should have to contend only with the normal quantity of alcohol of the cholesterin. Interference, therefore, with the normal proportion and the disturbance of the various elements by alcohol accomplish a degeneration. This fact should be thoroughly comprehended. Alcohol degeneration is the sequence. The alcohol in the cholesterin exists in exactly sufficient proportion to determine normal nerve health. Change that normal proportion by the excessive use of alcohol, and the relationship which the unstable compounds normally preserve is overthrown, degeneration ensues, and we then have the disorder commonly known as alcoholism.

Now, what measures shall we pursue to cure this habit, or habits, I may say, for these remarks also apply to the various drug habits? The answer seems obvious. In the first place, measures must be taken which arrest degeneration and have such a selective influence on the nerve substance as to restore the normal balance of the elements named above. In treating these cases my first duty has been to withdraw from the habitue, quickly, but painlessly, the liquor or drug to which he or she has been addicted. This can be very easily done by subjecting the patient to a peaceful slumber of from thirty-six to forty-eight hours. Before this stage of the treatment, however, the patient's entire intestinal tract should be thoroughly and completely emptied, after which he or she should receive a Turkish bath, and after that a good, gentle scrubbing with a pure, non-irritating soap and water. The patient is now ready to be placed in bed in a darkened room, which should be in a quiet part of the house.

While the patient remains in this state of quiet repose the poisonous drug or liquor should be thoroughly eliminated by every means known to medical science; as, for instance, by the skin, liver and intestines, lungs, and kidneys. During this period the patient should be aroused at frequent intervals and induced to drink milk, egg-noggs, or other nourishing liquids; this should be done regularly, for the patient can at all times during the treatment be awakened for a sufficient length of time to receive nourishment; he immediately afterward drops back into a restful sleep.

After the poisons have been thoroughly eliminated from the patient's system, he should be allowed to awaken of his own accord. The patient should remain quietly in bed for a day or two after awakening. He should then be placed upon a rapid and effective tonic treatment and allowed plenty of fresh air, together with a mild form of exercise. By this time he will have developed a ravenous appetite, and this should be encouraged as much as possible, for the reason that the more food is consumed, the less medicine will be required. Too much medication must be strictly avoided, especially so drugs of a narcotic nature. Large doses of strychnine, and drugs of a similar class, should also be avoided, for they have a tendency to aggravate the already over-wrought condition of the nerves, through their irritating action on the spinal cord.

Medicines of nerve-tissue-building properties, should be used in very large and frequent doses, rather than powerful stimulants, for the latter frequently cause more harm than good. With a little patience on the part of the patient, and some coaxing, nature will, in a comparatively brief space of time, restore the normal condition.

By placing patients under heavy and frequent doses of one or more of the recognized nerve-tissue builders, I have observed that they impart tone and vigor to the entire nervous system, improve the arrested or defective metabolic changes needful for repair and assimilation, assist the restrictive power of the will against the opposing influence of the morbid propensity, and restore healthy functional activity to all the organs. In case a heart stimulant should be required, liberal doses of sparteine sulphate can be used with perfect safety, and with no danger of bad after-effects.

To deal successfully with those who are addicted to alcohol or the various drugs, and who therefore suffer from the above-mentioned consequences, and to meet the inroads of these habits, requires tact, discretion, and exceptional determination; tact in addressing the patient, discretion in discussing his or her disorder, and a determination which involves a moral supervision and control. Such means should be resorted to as proper isolation, removal from temptation, conversion of appetite, improved hygiene, and proper mental recreation; and in order to provide such conditions, it can readily be seen that treatment in private sanatoria is the ideal treatment in all such cases.

In conclusion, I wish to add that my personal experience with the various preparations of ergot in the treatment of addictions has been that they have been most unsatisfactory. As a curative agent for addictions, ergot is a failure; as an aid in restoring the vascular system to a normal condition after the addiction has been cured, I have found ergot to be of material benefit. I mention these few facts in reference to ergot for the reason that so much seems to have been written lately in its favor as a curative agent in addictions, especially in morphinism.

In regard to alcohol, my statements in this paper must not be misconstrued as directed toward the entire condemnation and abolition of alcohol as a therapeutic agent. I have merely attempted to explain my own theory of morbid conditions incident to its protracted use.

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The College of Physicians of Philadelphia.—It is reported that this society is about to begin work on a new building to cost approximately $250,000. This sum will be realized very nearly by the sale of the present building and of the lot on which it stands.

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THE CARDIAC AND VASCULAR COMPLICATIONS OF TYPHOID FEVER.

THE complications of typhoid fever, in common with other infectious diseases, are exceedingly varied. Some of these are due directly to the intestinal lesions—for example, the intestinal hemorrhage and perforation and peritonitis—while others are due in part to the causative infectious agent, and in part to the resulting intoxication. Among the latter may be mentioned various inflammatory disorders involving muscles, bones, serous membranes, and visceral structures. Endocarditis and arterial and venous thrombosis are by no means uncommon in the course of typhoid fever, and alterations in the myocardium are rarely wanting. It would, therefore, seem likely that this disease may be considered as one of the many causes of cardiovascular sclerosis. With the object of establishing the accuracy or otherwise of such a view, Dr. W. S. Thayer (*American Journal of the Medical Sciences*) undertook a study of the heart and blood-vessels in 183 of the 1,400 individuals that had at some time within the previous fourteen years been treated for typhoid fever in the wards of the Johns Hopkins Hospital. As a result he found the average systolic blood-pressure appreciably higher than in control healthy individuals. This higher average of blood-pressure was constant for every decade of life. In many instances the blood-pressure in the cases of earlier typhoid fever exceeded appreciably the limits of what is usually regarded as normal. The radial arteries in these cases were palpable in a proportion nearly three times as great as that observed in controls—supposedly healthy individuals who had never had typhoid fever. The average size of the heart was larger among the cases of earlier typhoid fever at the late examination than at the time of admission to the hospital. This difference existed also when the cases were classed according to age by decades. Cardiac murmurs were heard with considerably greater frequency among the cases of earlier typhoid, and in the same cases during the attacks, than in individuals who had not had typhoid fever. In eight cases in which, on discharge from the hospital, the heart was considered normal, subsequent examination disclosed the existence of hypertrophy with mitral insufficiency. In one case there was possible mitral stenosis, in one aortic insufficiency, in one general arteriosclerosis with hypertension. In one case an aortic diastolic murmur was present four months after discharge, but this had disappeared five months later. Those patients in whom the pulse, during the course of the disease, was remarkably rapid or irregular exhibited in general, on later examination, a blood-pressure above the average common for the cases of earlier typhoid fever. In other respects, however, their condition differed but little from the general run of cases. Those cases in which a systolic murmur, at the apex of the heart, was observed during the attack exhibited later an increase in the blood-pressure and in the size of the heart, as compared both with the mean of the observations made upon the same cases on admission to the hospital and with the general average for the cases of earlier typhoid fever. Nearly one-quarter of the cases in which, during the attack, systolic apical murmurs were detected exhibited on later examination evidences of organic heart disease. Indeed, the majority of all the cases of organic cardiac lesions among the 183 cases of earlier typhoid fever were derived from this small group of thirty-one cases.

The evidence presented furnishes a further reason, if such were needed, for the institution of any and all legitimate measures directed to the prophylaxis of typhoid fever, and in the event of its development for the adoption of all precautions and therapeutic procedures calculated to avert cardiovascular complications.

THE ACTION OF SALINE PURGATIVES IN RABBITS AND THE COUNTERACTION OF THEIR EFFECT BY CALCIUM.

A PUBLICATION by the University of California on this subject, written by Dr. John Bruce MacCullum, has recently been issued. Schmiedeberg, in his attempt to explain the action of saline purgatives, states that these salts are absorbed with difficulty and hence reach the lower part of the intestine unchanged.

Wallace and Cushny support this view and add that the absorption of fluids from the intestine is retarded, especially by the salts of those acids which tend to form insoluble salts with calcium. Loeb, while not denying the possibility of the inhibiting action of the saline purgatives on absorption, states that these salts are identical with those which produce contact irritability, muscular twitchings, and hypersensitiveness of the nervous system. Further, he suggests that the increased peristalsis may be due to an increase in the irritability of the nerves and muscles of the intestines.

MacCullum, in order to decide this question, made a series of experiments on rabbits, testing the action of a number of salts, and reached the following conclusions:

(1) In general, the saline purgatives act not only when introduced into the intestine, but also when injected, subcutaneously or intravenously. (2) The intensity of their action is greatest with barium chloride and decreases approximately in the following order: barium chloride, sodium citrate, fluoride, sulphate, tartrate, oxalate, and phosphate. (3) The purgative action of these salts is caused, first, by an increase in peristalsis, and, second, by increased secretion of fluid into the intestine, both of which can be directly observed. (4) Although the writer has not specially studied the secretion of other glands, he has noticed that in a number of cases an increased flow of saliva and urine occurred

when these salts were introduced into the body. (5) Intravenous injection of 1 to 2 c.c. $\frac{m}{2}$ solution of these salts increased peristalsis within one minute. When introduced into the intestine, it takes ten to fifteen minutes, and five times the amount to produce an equal effect. (6) This seems to indicate that even when these salts are introduced into the intestine, they must be absorbed into the blood before they can produce their purgative effect, and that they affect the intestine by increasing the irritability of the nerves and muscles, as Loeb has suggested. Their action in producing less solid fæces is not due to the prevention of the absorption of fluids from the intestine, but to the production of an increased secretion of fluid into the intestine. (7) By the continued administration of small doses of sodium citrate, a chronic condition of hypersensitiveness of the nervous system may be brought about in rabbits, which persists for a considerable time after the drug is discontinued. (8) By the injection of solutions of calcium chloride, the peristalsis caused by these salts can be entirely inhibited. (9) There is a perfect analogy between these actions and the production and suppression of muscular twitchings and nervous hypersensitiveness. (10) The administration of calcium is, therefore, rational, especially in those cases of diarrhœa in human beings which accompany hysteria or nervous excitability of any sort.

Dr. MacCullum says that while it is difficult to disprove Schmiedeberg's theory, that the absorption of fluids from the intestine is retarded by saline purgatives, it is certain that the main factor in the production of fluid or less solid fæces is the increased secretion of fluid into the intestine. Referring to the possibility of administering purgatives to human beings subcutaneously or intravenously, the writer is of the opinion that although in general such methods would be contraindicated, certain cases might arise in which it would be of distinct advantage. The present experiments seem to indicate that subcutaneous or intravenous administration of some of the salts, especially sodium citrate or sulphate, might be safely resorted to. Dr. MacCullum, however, utters a warning against giving barium chloride or magnesium sulphate in this way.

The Present Status of Clinical Osmology.

The appearance of several important works on this subject makes it pertinent to review briefly the progress of this branch of physical chemistry in medicine. H. Zikel (*Zentralblatt für innere Medizin*, June 25, 1904) believes that to A. v. Koranyi must be given the credit for first applying the scientific facts of osmology to clinical medicine. The pectoscope, as suggested and recommended by Zikel, has now been adopted as the most ready means of determining the freezing point, which in any fluid, is proportional to the osmotic pressure of the substances held in solution. The principles of the clinical application of cryoscopy depend entirely and solely on the laws of osmotic equilibrium in the organism. The average figure in a normal person, as measured by the freezing point of the blood, may be stated to be 0.56°C. The renal parenchyma has been found to exert the greatest influence on the molecular concentration of the blood, this organ being succeeded in importance by the liver and then the lungs. Diseases of these organs are therefore accompanied by well-marked disturbances in osmosis.

The freezing point of urine is determined from a specimen taken in the early morning before any food is eaten. By means of the administration of salt, the function of concentration may then be determined, and by the ingestion of water, the powers of dilution possessed by the kidneys. In the presence of a parenchymatous nephritis both functions are inhibited, in contrast to the almost normal behavior seen in the case of an interstitial nephritis.

Hamburger, whose textbook has just been completed, lays particular stress on the value of osmology in cardiac and renal disease, and claims that the cryoscopy is the only reliable and accurate method for ascertaining any inhibition of the circulatory stream. In certain patients affected with cardiac disease, the blood current may be perfectly normal when at rest, but may be markedly affected by exertions which would have no effect whatever in a healthy individual. Koranyi has suggested that the most sensitive method for estimating the degree of interference with the blood current, is to determine the molecular concentration and the sodium chloride content of the urine. This suggestion possesses considerable therapeutic value, as the patient's manner of life may be adjusted to the functionating powers of the heart, measured as just indicated. So long as the circulatory disturbances subside, the dyspnœa is reduced and a return to the normal is secured by rest, a permanent dilatation need not be feared.

Of great importance in renal surgery is the observation of Kümmel that the functionating powers of the individual kidneys may be exactly determined. In this way, when nephrectomy is contemplated, it is possible to know in advance whether the remaining kidney can fulfil the double function enjoined upon it. In this instance, cryoscopy is certainly of greater importance than either the methylene blue or the phloridzin tests.

The field for osmology is not restricted to any one organ but includes the entire human organism. It is still in the infancy of its development but already occupies an important position in clinical medicine.

Water Shortage in Southern California.

The scarcity of water throughout southern California has been this summer no greater, perhaps, than during former summers, but it has given more than ordinary inconvenience. In Los Angeles, where the public improvements for several years have been severely taxed to keep up with the rapidly increasing population, it became necessary to warn the people against waste of water. It was then shown that the average consumption of water in the city amounted to more than forty-six gallons a day for each person, or about three times the average quantity said to be consumed in New York City. The principal waste, if it should be regarded as waste, arose from the use of automatic sprinklers, without which it would be almost impossible to preserve the vegetation which adds so greatly to the beauty of the city. Happily the supply is sufficient to preclude the possibility of a water famine severe enough to menace health. The same difficulties are being experienced in the cities south of Los Angeles, particularly in Santa Ana and San Diego, and in them the supply is more precarious.

The water conditions in San Diego are altogether peculiar to the place. It is a fact that causes not a little astonishment to visitors that the San Diego River, the principal source of the water supply for the city, flows "bottom side up." In other words, the broad river bed is as dry as the proverbial chip, and it has been so for a great many years. It is only necessary to sink large pipes into the gravel

and boulders to a depth of thirty-five feet in order to reach an almost inexhaustible quantity of water. Less than a dozen wells of this character are required to supply the city with from two to three millions of gallons of water daily. But the entire water plant is only a temporary makeshift, liable to fail at any time. During a greater part of the present summer the supply has been so limited, or, as some assert, the facilities for its pumping have been so neglected, that the higher parts of the city have been left without water almost daily for from eight to twenty hours at a time. Fortunately neither fire nor pestilence has yet taken advantage of the opportunities afforded, and the people meekly submit to the inertia of the office holders. It is conceded that a caisson sunk to the depth of fifty or sixty feet would afford an inexhaustible supply of water and with less expense than obtains with the present system. But the San Diegan is averse to undertaking anything that Providence may do for him, and constantly lives in hope of a better rainfall next winter.

One of San Diego's wealthy benefactors has decided to build a flume to conduct water from a source many miles back in the mountains. The water will be of much better quality than the present supply and more plentiful, but it will require several years to complete the construction.

The Habits and Diet of the Japanese Soldier.

It is a remarkable circumstance that the Japanese troops in the field have not been attacked by an epidemic of typhoid fever, cholera, or plague, considering the conditions under which they live. The Japanese soldiers are crowded into the houses of the country, which are small and ill-ventilated. The Koreans and Manchurians know nothing of sanitation and care less, and it is certain that if Caucasian troops had undergone an ordeal similar to that to which the Japanese soldiers have been subjected during the past few months, a pestilential epidemic would have been the result and deaths would have occurred by the thousands. The Manchuria correspondent of *Leslie's Weekly* thinks that the Japanese are less susceptible to the attacks of disease germs than are Caucasians, but is of the opinion that there are other reasons which explain their freedom from disease. To begin with, their diet is extremely plain and simple, consisting chiefly of rice, salt fish, and unsweetened tea. Other civilized armies, on the contrary, when on active service, eat highly concentrated and heating foods. They drink large quantities of strong coffee, and gorge themselves with hardtack, bacon, canned beef, and jam, bringing on a whole train of stomachic and intestinal troubles and lowering the system generally. The men thereby lay themselves open to the danger of contracting various diseases. Again, the Japanese soldier always drinks boiled water or a very weak concoction of plain hot green tea. Unlike American and British soldiers, upon taking possession of a town the Japanese fighting man does not proceed to drink to excess; he is temperate to a degree, and indulges in no alcoholic stimulant but his mildly alcoholic sake. Thus by careful diet his body is in good physicial condition and fitted to resist the onslaughts of disease.

The Zittmann Treatment of Malignant Syphilis.

Ordinarily the suppression of symptoms in syphilis is not difficult. But now and then so-called malignant cases arise in which mercury and iodide of potassium do no good, the disease runs a most rapid course, the lesions break out all over the body, and in the space of a few weeks terrible destruction of tissue may occur, with the result of most unsightly deformities, and frequently a fatal outcome, either from the development of gummata in the vital organs, or from exhaustion following ulcerative processes. It is precisely in these cases that the advocates of the well-known Zittmann treatment claim that it works most beneficially and that it deserves to be much better known than it is. The underlying principle is the expulsion of the poison by diaphoresis and purgation. In many cases in which the ravages have been most extensive, with great destruction of tissue, a fortnight's treatment not only completely arrests the progress of the disease but brings about rapid healing and cicatrization. Marked benefit also results to tertiary nerve lesions.

The evening before the treatment is commenced the patient receives 2 grs. of calomel, 5 grs. of compound extract of colocynth, and 2 grs. of extract of hyoscyamus. The remaining materia medica consists of two decoctions. The first consists of sarsaparilla root 4 oz., aniseed and fennelseed each 500 grs., senna leaves 1 oz., and licorice root 4 oz.; these are bruised and added to 4 gallons of water, together with 80 grs. each of white sugar, alum sulphate, and calomel, and 20 grs. of the red sulphide of mercury enclosed in a linen bag; the water is then boiled down gently to one gallon. The dregs of this are then put into 3 gallons of water, with 2 oz. of sarsaparilla root, and 1 oz. each of lemon peel, cardamom seed, and licorice root, and boiled down to one gallon. This is the decoction No. 2.

The morning after taking the two pills, the patient drinks half a pint of hot decoction No. 1, at 9, 10, 11, and 12; and in the evening he drinks half a pint of cold decoction No. 2, at 3, 4, 5, and 6. He is kept in bed except for one hour's sitting up in the evening. This routine is repeated for four days. On the fifth day the patient takes a hot bath and is allowed to dress. In the evening two pills are administered (as on the first night), and the next day the treatment is resumed. This course is followed out for fifteen days, after which it is discontinued.

Though one might, from its degree of complexity, be inclined to suspect that the essentials of the method have not yet been sifted out very well, still Sir Alfred Cooper, who writes on it in the London *Practitioner* for July, remarks that the way in which bad cases will clear up under it when all other treatments have failed, is astonishing.

Fruit and Filth.

An article bearing the above title is contributed by a correspondent to the *Lancet* of July 16. The question of fruit as a means of conveying infection has been frequently raised, and although various precautionary measures have been suggested and in some places carried into effect, the matter is still in an unsatisfactory state. Much of the fruit which is displayed for sale on open-air stalls and push carts provides a most convenient receptacle for dirt and gathers a variety of germs, some of which are distinctly prejudicial to health. The correspondent of the *Lancet*, after drawing attention to the disgraceful sanitary conditions which prevail among the majority of those who gather fruit in England, proceeds to describe the process of converting fruit into jam practised in certain factories. "As the fruit," says the writer, "was delivered from railway wagons and the firm's own vans, it was handed over to dirty old women to pick off the stalks and again went through a large amount of unsavory handling.

Then part of the fruit was made straight into jam by boiling it in steam jacketed pans with sugar. . . . The workers in the factory were certainly a little cleaner than the fruit pickers, but were still of a very miserable, unwashed description. I feel sure that anyone who had seen the way in which fruit is handled would require a warranty from the jam maker that the fruit had been picked by cleanly people and made into jam by decent folk." It is certain that the methods of both fruit picking and of jam making in use in Great Britain need alteration.

The picking of fruit in this country and its packing for the market are much more cleanly operations, at least on the large fruit farms of the West and South. As to the menace to health, however, of fruit exposed on stalls and pushcarts, enough is known to render it obvious to any ordinarily observant person that the custom is dangerous. In New York, for instance, dust is always being blown hither and thither, and fruit exposed receives a proportion of the particles which are always floating in the air. The habits of a majority of the out-of-door fruit vendors are not cleanly, and sufficient care is not taken to protect their wares from contamination. The matter is one which may be suggested as worthy of the attention of boards of health throughout the country.

Eyestrain Looking Up.

A new disease added to the long list of those asserted by the talented author of "Biographic Clinics" to be due to eyestrain is alcohol addiction. At a meeting of opticians at Milwaukee on Wednesday of last week, a Chicago refractionist reported a case of chronic alcoholism cured by eyeglasses. The speaker took the obvious ground that the craving for alcoholic stimulation was a nervous affection, and he had found, he said, in a long series of ocular examinations, that inebriates often suffer from anomalies of refraction and other producers of eyestrain. Such being the case, the natural corollary follows that spectacles will cure inebriety. The reasoning is as profound and as sound as a good deal of that used by many of the extreme advocates of the eyestrain theory, and no doubt we shall soon have the inebriate looking through other glasses than those he must tip up to make transparent.

Dr. Osler Goes to Oxford.—The announcement is made by cable from London that, with the approval of King Edward, Dr. William Osler, now of the Johns Hopkins University, Baltimore, has been appointed Regius professor of medicine at the University of Oxford, in succession to Sir John Burdon-Sanderson. This news will be received with deep regret by a host of friends and admirers of Dr. Osler in this country, who have long looked on him as one of the leaders in American medical thought. Dr. Osler has passed all his professional life as a teacher of medicine, a vocation for which he is eminently qualified by his broad culture, profound medical learning, and an inborn gift of expression. He was born in Tecumseh, Ontario, in 1849, and was graduated in medicine from McGill University, Montreal, in 1872. For ten years, from 1874 to 1884, he was professor of the institutes of medicine at McGill, from 1884 to 1889 he was professor of clinical medicine at the University of Pennsylvania, Philadelphia, and since 1889 he has held the chair of medicine at the Johns Hopkins University, Baltimore. We beg to offer our congratulations to the new Regius professor of medicine at Oxford, and at the same time to send anticipatory greetings to Sir William Osler, Bart. The Oxford School of Medicine is also and especially to be congratulated.

News of the Week.

Medical Interest in Our Dispute with Turkey.—One of the chief grievances of this country against Turkey, a settlement of which was forced only by sending some warships to Smyrna, was that the most favored nation treatment was not accorded the American College in Beirut. Under the Mytilene agreement of 1901 the French Medical School at Beirut enjoyed privileges denied to the American Protestant Medical College at the same place. Graduates of the American institution were not allowed to practise their profession freely, and the faculty was handicapped by regulations that impaired its usefulness. To diplomatic representation the Porte for a long time turned a deaf ear, and it was not until the day before the American ships arrived at Smyrna that the Sultan saw his way clear to do what he had to do. He then agreed to grant most favored nation treatment to the Beirut and other American schools, and also to pay up what he owed the United States.

St. Louis Society for the Prevention of Tuberculosis.—This society, the aims of which are expressed in its title, has recently been organized. The plan of work will consist in giving wide publicity to the fact that the mortality from tuberculosis in St. Louis is steadily increasing, and that the measures of prophylaxis now obtaining in Philadelphia and New York, if applied to St. Louis, would mean a saving of 40,000 lives in the present generation; and in conducting a campaign of education by medical tracts, personal instruction in hygienic living, and public lectures and stereoptican demonstrations to the children of the public schools. A concerted effort will be made to secure the enforcement of the anti-spitting law. Tenement-house inspections will be made, and statistics will be collected and published concerning the tuberculosis centers in the city and the location of infected houses. The officers of the society are: *President*, Mr. F. E. Eaton; *Secretary*, Mr. G. A. Blickhahn; *Treasurer*, Mr. J. W. Lambert. The Medical Committee is composed of Dr. William Porter, chairman; Drs. H. Wheeler Bond, W. J. Harris, George Homan, Charles H. Hughes, Harry W. Lyman, Wm. A. McCandless, W. G. Moore, Jesse S. Myer, E. W. Saunders, John H. Simon, Jos. Spiegelhalter, Justin Steer, James H. Tanquary, George M. Tuttle, and E. J. Goodwin.

The Validity of an Agreement Not to Practise in a Given Locality.—A physician of Atlantic City has filed a bill in the Chancery Court which asks that another physician of the same place be required to show cause September 6 why he should not be enjoined from further practising medicine in Atlantic City. The bill sets forth that the complainant has been practising medicine in Atlantic City for more than twenty five years, and that during the last fifteen years his practice has been so extensive that he required the services of an assistant. During these fifteen years he has had numerous assistants, and he states that it was his invariable custom to require these assistants, in entering upon their duties, to sign an agreement by the terms of which they deprived themselves of the right to practise medicine in Atlantic City after severing their connection with him. His object in requiring this agreement was, he says, that his assistants might not ingratiate themselves in the favor of his patients, and thus take his practice away from him. In March, 1901, he employed an assistant at $40 a month and 35 per cent. of the money that he collected for his personal services, and the same agreement was made regarding future practice in Atlantic

City. But the former assistant is now practising independently in violation of this agreement, and so an injunction is asked for.

A Commission to Study Pneumonia.—In response to the request of Dr. Darlington, Health Commissioner of this city, the Board of Estimate of New York has appropriated $10,000 to meet the expenses of a commission to investigate the causes and prevention of pneumonia. This commission will consist of Drs. Frank Billings of Chicago, John H. Musser of Philadelphia, Theobald Smith of Boston, William Osler and Wm. H. Welch of Baltimore, and Edwárd G. Janeway, L. Emmet Holt, and T. Mitchell Prudden of New York City.

Chicago Mortality of the Week.—Of the 473 deaths for the week ended August 6, acute intestinal diseases caused 120; consumption, 58; violence, 44; heart disease, 34; Bright's disease, 33, and pneumonia, 27. The annual death rate per 1,000 was 12.78, which compares very favorably with 14.29, the rate for the corresponding week last year.

New Swedish Hospital in Chicago.—On July 20, articles of incorporation were issued for the Washington Park Hospital, a Swedish hospital which is to be erected near Washington Park, Chicago. At present the hospital occupies a building at Sixtieth St. and Vincennes Ave., and has accommodation for thirty patients.

Hygienic Backsliding in Cuba.—Many of the cities of the eastern part of Cuba are rapidly becoming as filthy as they were under Spanish rule, the authorities refusing to clean the streets, on the ground that no money has been appropriated for the purpose. The United States Government has repeatedly directed the attention of the Cuban Government to the sanitary menace of this neglected condition of the cities of Eastern Cuba, and these representations have now resulted in a decision by President Palma to reform the system of municipal tax collections and to have new assessments made throughout the island. The result of this action will, it is expected, be an increase in the municipal revenues, and then if the municipal authorities still persist in their neglect measures will be taken to remove them.

Smallpox in Zion.—Dowie, the "divine healer," has a job on his hands now in the cure by prayer of a number of smallpox cases. The patients have been isolated by the health authorities, but are not allowed by their ruler to receive medical attention. Dr. Herman Spalding of the Chicago Health Department, a deputy State health inspector, visited the city a few days ago and examined the cases there. He found sixteen cases of smallpox, but pronounced them a mild form of the disease. None of the patients has been vaccinated, however, as vaccination is not permitted in Zion City.

"Academies for Practical Medicine" in Germany.—Minkowski describes, in a recent issue of the *Berliner klinische Wochenschrift*, an institution which is to be opened in Cologne in October, and which is the first of a number planned for other German cities. The object of these institutions is to furnish practical post-graduate instruction to physicians, and the idea is acknowledged to be based on the American post-graduate schools, the Post-graduate Medical School of New York being specifically mentioned. It is not intended to interfere with the scope of the regular undergraduate schools, but merely to supplement them, and to render available for study much clinical material which would otherwise serve no useful purpose. The public hospitals of Cologne have lately been very much enlarged and extended, and their departmental chiefs will, for the present, conduct the post-graduate instruction, with the assistance of a number of specialists. A union with the University of Bonn is also proposed, and several professors from the latter institution have been designated to serve on the faculty.

Sir Frederic Bateman, who died in Norwich, England, on August 10, was an honorary member of the New York Neurological Society. He was born in 1824, and received his degree of M.D. at Aberdeen in 1850. He wrote a number of essays on subjects connected with the function of speech, his work on "Aphasia and the Localization of Speech" gaining for him the Alvarenga prize of the Paris Academy of Medicine. He was knighted in 1892.

A Sewer System for Los Angeles.—The health officer of Los Angeles, in a recent report, shows that several districts, comprising 40 per cent. of the area of the city, are not provided with sewers. In these districts, however, the rules regulating the use of cesspools and vaults are very rigid and have been strictly enforced by the Board of Health. While there has not been any great excess of illness in these districts, it is shown that nearly all cases of typhoid fever, diphtheria, and other more common infections occurring in the city have been limited to them. Fortunately work is to begin immediately upon an extensive sewer system and there is a fund of $1,000,000 available for its construction.

The Fourth Pan-American Medical Congress, which was to have convened the latter part of December of this year at Panama, has been postponed until the first week in January. This was done at the request of many physicians who wished to take part in the congress, but desired to be at home with their families during the Christmas holidays. The delegates from this side of the continent will therefore leave on Tuesday, December 27, if they go down from New York by the regular Pacific Mail steamer, or they may go by way of New Orleans or Jamaica. The congress will be held from the fourth to the seventh of January. The officers of the congress appointed by President Amador of the Republic of Panama are: Dr. Julio Icaza, Dr. Ciro Uriola, Dr. J. Calve, Dr. Carlos Cooks, Panamanians; Dr. Gorgas, chief of the Panama Canal Sanitary Commission, Drs. Carter and Ross, Americans; Dr. Manuel Corales, Cuban; Dr. M. Stern, English, and Dr. Oduber, Dutch. This congress bids fair to be the most successful Pan-American Medical Congress that has ever been held, on account of the central situation of Panama and its easy approach from both sides of North America, Mexico, and the Central-American Republics, as well as from the countries on the north and west sides of South America. There will be four sections at this congress, viz., Surgery, Medicine, Hygiene, and the Specialties.

Dr. H. Stow Garlick of Cincinnati has been appointed surgeon of Battery B., O. N. G., at Cincinnati. He was formerly on the Medical staff of the First Regiment. He succeeds Dr. Rothert, resigned.

Prevention of Street Car Accidents.—A Coroner's jury in St. Louis has recommended that a new law be enacted compelling all cars to stop on near crossings, and not permitting one car to pass another which passengers may be entering or leaving, or but very recently have left or entered. If enforced, it will prevent injury and death caused by persons passing behind one car and in front of another going in an opposite direction. The recommendation was prompted by the killing of two women who had alighted from one car and passed over to the tracks on the opposite side and in front of a car going at a

high rate of speed. One of the women was instantly killed and the other died shortly after being taken to the hospital. The jury held the motorman and the officials of the company culpable for the death of the victims.

Number of Physicians in New York City.—The "Medical Directory of the City of New York," in the edition for 1904, just issued, contains the names of 5,909 practitioners in Greater New York. These are distributed as follows: Manhattan and The Bronx, 4,211; Brooklyn, 1,519; Queens, 121; Richmond, 58.

New Hospital Accommodation in Chicago.—The Sisters of St. Anne have completely isolated one wing of their sanatorium for consumptives at Forty-ninth and Thomas streets, Chicago. They have fitted up operating and dressing rooms, and are now taking general medical and surgical cases. The hospital building was erected only a few months ago, and is equipped with all modern appliances

Health Board Troubles in Brooklyn.—Dr. Patrick J. Murray, since January 1 assistant sanitary superintendent for Brooklyn, was removed recently by the Health Commissioner. In explanation of the removal Dr. Darlington has stated that the conduct of the work of the Health Department in the Borough of Brooklyn has been unsatisfactory to the board, and the inspectors have made an exhaustive investigation. As a result of their report the Health Board decided upon Dr. Murray's removal. Sanitary Superintendent Roberts has charge of the department's affairs in Brooklyn pending the appointment of a new assistant. The newspapers attribute the removal to political causes. Dr. Murray being a follower of the anti-Tammany leader in Brooklyn.

Civil Service Examinations.—The New York State Civil Service Commission announces that general examinations will be held on September 10 for various positions, including those of apothecaries in State hospitals and institutions, physicians both regular and homœopathic in State hospitals and institutions, and trained nurses in State hospitals and institutions. Applications for these examinations must be made on or before September 3. Full particulars of the examinations and application blanks may be obtained by addressing the Chief Examiner of the Commission at Albany.

Rocky Mountain Interstate Medical Association.—The next meeting of this society will be held at Denver on September 6 and 7, under the presidency of Dr. H. D. Niles of Utah, Nev. The corresponding secretary is Dr. George A. Moleen, Mack Block, Denver, Colo.

The Medical Society of the Missouri Valley will hold its seventeenth annual meeting at Council Bluffs, Iowa, on August 25 and 26, under the presidency of Dr. A. D. Wilkinson of Lincoln, Neb. The secretary is Dr. Charles Wood Farrett of St. Joseph, Mo.

Pennsylvania State Medical Examinations.—Of 379 applicants for license to practise medicine in the State of Pennsylvania 306 passed the examinations held recently, while 73 failed.

Bequests to Hospitals.—By the will of Cornelia Thompson the sum of $10,000 has been devised to the Presbyterian Hospital of Philadelphia, for the endowment of two free beds, and the sum of $5,000 to the Children's Hospital.

Deportation of a Leper.—A leprous Mexican boy, who was discovered in the vicinity of Colton, San Barnardino County, Cal., nearly six months ago, has been deported. He had been in the vicinity for about a year. The father has been placed under arrest, charged with violating the quarantine regulations, as if to attone for the carelessness of the officers who have disregarded the case so long.

Concealment of Cases of Contagious Disease.—Forty cases of diphtheria have occurred in Riverside, Cal., during the past year, and it is alleged that the number might have been less if the public had been warned. There is a tendency throughout the State to conceal all conditions that might keep away the tourists, who are the fat of the land; but the mercenary spirit seldom reaches the medical profession. The Chinese physicians in some places have been accused of treating diphtheria under the diagnosis of "stomach trouble" and neglecting to report the cases to the authorities.

Suture of the Heart.—The rare operation of suturing an incised wound of the heart was performed by Dr. A. M. Smith, at Los Angeles, Cal., on July 28. Four days afterward the patient was in good condition.

Dr. Walter Lindley, editor of the *Southern California Practitioner*, has recently been elected Dean of the Medical College of the University of Southern California. This Los Angeles school is now entering its twentieth session. Dr. Lindley was one of the organizers of the school, and is Professor of Gynecology in the institution.

Obituary Notes.—Dr. Joseph Wiener died in this city on August 11, of disease of the heart, at the age of seventy-six years. He was born in Bohemia, April 5, 1828, and came to this city in 1849. For thirty-five years he was actively engaged in the practice of medicine here, during a large part of this time in association with the late Dr. William Detmold. He was one of the founders of the department of pathology in the College of Physicians and Surgeons. Dr. Wiener retired from practice more than twenty years ago. Throughout his entire life he was an enthusiastic lover and collector of objects of art and was a member and patron of the Metropolitan Museum of Art and of the Museum of Natural History. He was also a member of the Geographical Society, the Academy of Sciences, the Numismatical Society, the Symphony Society, the Oratorio Society, and various other scientific and literary organizations. He was one of the founders of the Palette Art Club. In 1885 he presented a statue of Washington Irving, now in one of the public parks, to the city.

Dr. John Thurman Parker died August 13 from Bright's disease, at his residence in this city. He was born in Thurman, Warren County, in 1837, and came to New York thirty years ago. He served as an assistant surgeon with the 169th New York in the Civil War, and was one of the physicians who attended the inmates of Libby Prison when they were liberated.

Dr. Lyndhurst F. Dodge died suddenly of disease of the heart at his home in Rouse's Point on August 12. He was a graduate of the Albany Medical College in the class of 1862.

Dr. William D. Spore of St. Louis died at the Mullanphy Hospital in that city on August 10. He was sixty-three years old and was the oldest living graduate of the Missouri Medical College. He had traveled in every part of the world, and the greater part of his life was spent aboard ship. He had been purser and surgeon on a Brazilian steamship line, and had been connected with the White Star, the Red Star, and the Cunard lines, his last service being on the American Line steamship *Paris*.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE MEDICAL MEETING AT OXFORD—ASYLUMS BOARD—SMALLPOX —DEATH OF SIR JOHN SIMON, K.C.B., F.R.S., ETC.

LONDON, July 29, 1904.

MEDICAL interest this week has centered in Oxford, where the innumerable objects of interest might well deprive the scientific portion of the British medical meeting of full attendance. As if the usual delights of Oxford were not enough, a long series of entertainments was provided. Nevertheless, a good deal of practical work has been done in the sections, as your reports will show.

The opening service at the Cathedral was attended by a large number of visitors. Many members who went met at the Town Hall and marched in procession, wearing, by request, their academical robes. Perhaps in an ancient university city this may be considered an appropriate display. The variety of capes and gowns collected from so many universities as these members represented added vivid color to the scene, which I am told was exceedingly picturesque, but marred by heavy rain. The weather was unpropitious at later functions and my correspondents were rather lugubrious over it. One says the President's reception in the lovely gardens of Wadham College was spoiled by the heavy downpour, though the fine trees afforded some shelter and many seemed to enjoy themselves. It was, however, necessary to transfer to the Town Hall the fencing exhibition which was intended to be one of the principal items of amusement.

A very useful Guide to Oxford was presented to members, and in the daily journal of the Association was inserted an account of some of the most inviting bicycle rides in the neighborhood.

The annual report of the Asylums Board is just out, from which I notice no less than fifty-one establishments are owned by the board, viz., seventeen hospitals for infectious cases, five asylums for imbeciles, a training ship, thirteen homes or schools for certain classes of children, and eight ambulance stations. During the year, 21,925 patients passed through the fever hospitals and 359 through the smallpox hospitals. The expenditure for the year was £1,123,130.

The County Council has made chickenpox notifiable until November, and engaged an expert who will advise any practitioner as to a doubtful case of smallpox, without cost to those who call him in.

Sir John Simon, K.C.B., died on Saturday. He had reached the advanced age of eighty-eight. Of course he had retired for some years. He resigned the office of Medical Officer to the Local Government Board, in which he had done so much good sanitary work in 1876. He was also Medical Officer of the Privy Council, and before that to the old General Board of Health. It was in these offices that he attained the reputation of the leading sanitarian. His annual reports formed a most valuable series of blue books on public health. He not only led the sanitary work of the country but may be regarded as the founder of school of sanitarians who have carried on the work since his retirement. He seemed always to make most admirable selections of men to assist him in the work and to undertake any inquiries he wanted made. His acknowledged position at the head of English sanitarians largely overshadowed his reputation as a surgeon, at any rate with the younger generation. But he was a surgeon of no little repute. In 1844 he was one of the elected Fellows of the College of Surgeons, and from 1853 to 1876 was surgeon to St. Thomas' Hospital, becoming consulting surgeon in the latter year. Earlier still—in 1847—he became lecturer on pathology at the hospital, an office he held until 1870. Of course he joined the Pathological Society; of that he was president from 1866 to 1868. He reached the presidency of the College of Surgeons in 1878 and the next year the vice-presidency of the Royal Society, of which he had been elected a Fellow in 1845. His sanitary work began when the post of Medical Officer of Health to the city was created in 1848, and he was elected to fill it and held the office until nominated by the government to the Board of Health. He served as crown member of the General Medical Council from 1879 to 1895. He was decorated C.B. in 1876 and promoted K.C.B. at the jubilee of Queen Victoria. Many other honors fell to his lot, among them honorary degrees of Oxford, Cambridge, Edinburgh, Dublin, and Munich Universities. His writings on pathology, surgery, and sanitary questions must be well known to you.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

JACOB'S LUNG INFUSION—PUERPERAL FEVER AND ANTI-STREPTOCOCCIC SERUM—NEW METHODS FOR SENSORY EXAMINATION—SCIENTIFIC CUROSITIES—HAND DISINFECTION.

BERLIN, July 9, 1904.

As the philosopher with forceful logic passes from proposition to proposition, in order to come to a necessarily evident conclusion for the reader, so must the scientific investigator add experiment to experiment in order, after the uninterrupted chain is finished, to have completed a structure of whose strength contemporaries will be convinced, and which will also be abundantly useful in the future. In such a way worked Jacob and his colleagues, and, on June 13, they placed the result of their work at the disposal of the world. Jacob said that the meagerness of the results of phthisio-therapy observed in institutional treatment, which indeed does not attack tuberculosis itself, is generally recognized, and directly attested by the large number of remedies tried. It is evident that these remedies even, if, as is the case with creosote, they kill the bacilli, cannot do their work, because they are too much diluted or do not succeed in reaching the place of their intended activity in the lungs. For years attempts have been made to treat the many who suffer from lung diseases directly by inhalations, yet, as is proved, the great mass of inhaled remedies reach only the upper air-passages, exactly as by intratracheal injection. On account of the danger of accident to neighboring structures, the attempts to inject medicaments directly through the chest wall into the lungs are not to be recommended. For these reasons experiments were made along a new line. First the animals were tracheotomized, a Nélaton catheter introduced through the wound, and 15-20 c.c of anilin-blue solution poured in. The animals showed no dyspnœa, no signs of suffocation, and the lungs on section were throughout colored blue. The animals in which, for control, methylene blue was injected subcutaneously and intravenously, at no time showed the color in the lungs. Of the larger animals, one goat that had been six times treated remained well and active. In order to utilize these proceedings for tuberculous patients, Jacob instituted experiments with Bougert, the veterinarian. First through a tracheotomy opening, by means of a catheter 40 cm. long, 50 c.c. of anilin-blue solution was poured directly into the principal bronchus of a non-tuberculous calf. Only a few slight coughs resulted from this interference. The calf bore equally well three infusions of 350-600 c.c. of anilin blue, at intervals of three days, and the lungs, when examined, were entirely blue. Then five tuberculous cows were procured, tracheotomized, and treated during five months, by means of a catheter one meter long, which had a funnel-shaped attachment holding 500 c.c. Sterile instruments and liquids were used. Five different agents were employed—creosote, old tuberculin, methylene blue, and pyoktannin, 1 per cent., and the injections were given in varying amounts up to one liter. Dyspnœa occurred only occasionally, and then was of short duration. For the most part, the animals went quietly back to the food in their stalls. A rise of 1° or 2° C. was noted in the case of each remedy, with tuberculin, 3°, but this lasted only thirty-six hours. Tuberculin proved of greatest value. The bacilli disappeared, the clinical symptoms became of lesser degree, and the weight increased. Bougert demonstrated the pathological findings in the case of the cows. The cavities were for the most part encapsulated, which otherwise seldom occurs. One could not expect a complete cure in cases already advanced. The value of this method for human beings was discussed by Professor Rosenberg. In his treatment, first the epiglottis and false vocal cords are painted with five-per-cent. cocaine, then sprayed through a tracheal sprayer with 1 c.c. of a two-per-cent. solution of cocaine and adrenal extract, which reaches the trachea and the beginning of the bronchi. Next, a small bougie, about 1 cm. in diameter, is introduced. When the epiglottis is passed, the mirror withdrawn, and an attempt made, keeping to the tracheal wall, to pass the catheter into the left or right bronchus. With a syringe, holding about 20 c.c., the liquid is then slowly introduced. The patient must breathe deeply, and lie down for the sake of the better distribution of the liquid in the lungs. The coughing, which now regularly occurs, does not force out the liquid, though it brings with it the danger of hemorrhage. However, in one hundred and fifty infusions, there has been no accident, and each procedure lasts hardly ten minutes. The dose for the injection is one-tenth of the usual subcutaneous dose.

In conclusion, Jacob discussed the results obtained so far in pulmonary tuberculosis. Five women who had been ill from one to six years, had numerous bacilli in the sputum, and were poorly nourished were treated during

three or four months with forty to fifty infusions. With all the patients the dose had to be frequently repeated for the sake of a strong reaction. The sputum completely lost its bacilli in from four to eight weeks, the physical condition improved greatly, and the weight increased from four to six pounds. From the point of view of diagnosis, the speaker said, lung infusion was a real advance. It made a diagnosis immediately possible in very light cases, and also, through a dose of tuberculin one-tenth as large, the differential diagnosis between tuberculosis of the lungs and that of other organs. If ½ to 5 mg. were injected subcutaneously, and no reaction followed, the patient was considered free from tuberculosis. If a reaction occurred, one-tenth as much of the solution used subcutaneously was injected into the lungs, and if there was still a reaction, pulmonary tuberculosis existed. If an increase in the dose was necessary, the tuberculosis was in another part of the body.

Our newly appointed professors, Bumm and Ziehen (not Fisher, as, through a misprint it was given in my letter of May 15), have already addressed the Medical Association. Bumm spoke, June 15, on "Serum Therapy in Puerperal Fever." Although, the speaker declared, the teachers of antisepsis have had signal success in surgery, this has not occurred with puerperal fever, especially in private practice. In the first six weeks of his Berlin service, the speaker saw six cases of puerperal fever. Two reasons make the treatment of obstetrical cases more unfavorable than that of other surgical cases. These are: (1) The long duration often in uncleanly surroundings, and (2) the neglect of antisepsis among midwives, which is not surprising, considering their multiform methods of action. Since therapeutic measures before employed, such as local antisepsis and general management, are no longer of avail, we must turn our attention to modern serum therapy. Animal experiments with serum having given many unquestionably good results, the speaker used it also with human beings. Bare statistical enumeration of the results is of no value, for the light cases are usually cured, and the severest cases still run their course to death. Therefore the speaker described his cases by groups. In five cases of septic peritonitis no result was observed. Of two cases of pure sepsis, one remained uninfluenced, while in the other a marked lowering of temperature was evident after each serum injection. Of two cases of sepsis with endocarditis, one became worse after serum injection. In four cases of pyæmia, no result was observed. In streptococcic endometritis, on the other hand, twenty-one out of thirty-two cases showed marked improvement after serum treatment, which was explained by a phagocytosis evident in the secretion. In conclusion, Bumm recommended in complicated labors the prophylactic administration of antistreptococcic serum. It was interesting that the Nestor of gynecology, Olshausen, followed Bumm's suggestions, and promised to institute experiments in his own clinic, in spite of the fact that his former experience had not been favorable.

On June 29 Professor Ziehen addressed the Medical Association on "Methods of Sensory Examination." While in the case of the eye and ear very exact methods of examination are employed, the methods of irritation which are used for testing the sensibility of the skin are never of like kind. The letters for ophthalmological examination have a definite size, and are read at a definite distance; in otology, definite sounds are used; only in examining the skin must one employ tests so uncertain as stroking with the finger, or the head or point of a pin. Such devices as the algesiometer and the æsthesiometer are unsatisfactory. For years the speaker had worked to improve this technique. His first attempts made use of falling balls, which, however, fell from that part of the skin struck, to the ground, and so were impracticable. A swinging pendulum was more practicable, which, in proportion to the height from which it fell, made an exact and ascertainable tactile irritation. But even with this, inexact results were obtained, for the pain points of the skin, which are points especially sensitive to pain were, through contact with the needle, very sharply excited. For this reason, the needle point was replaced by a sharp edge. First by this instrument was it established that the range of perceived impressions in the skin is surpassed by that of the ear or eye. Using the unit of strength of physics, the eye recognizes 1-1,000,000 erg, the skin only the hundredth part, 1-10,000 erg. Indeed, the skin is so little sensitive that this apparatus could not be used to determine increase in excitation. For this a light pendulum was used, which consisted of a thread with a metal pearl on the end, and just above this a little ball made of elder With these two implements a number of interesting results were obtained. It had but recently been recognized that the dulling of perception in tabes, for instance, was only an exaggeration of the physiological condition. For one normally feels first touch and then pain, and in tabes it is only that the time between the recognition of touch and pain is increased.

In the same meeting von Bergmann presented a German soldier, who had been wounded in Africa, as an example of the power of resistance of the human organism. The man was attacked by a mob of natives, wounded on the head, right shoulder, and elbow, and shot in the breast. With great difficulty, and robbed of all his clothes, he dragged himself along for a distance of nearly twenty-five miles. A Hottentot girl helped him, and so he succeeded in reaching a physician, who found a hæmothorax. In spite of the already developed sepsis, the large wound healed, the bullet becoming encysted.

Simmhuber presented a case of anatomical irritation phenomenon of the pharynx and larynx, which, added to the two cases of Oppenheim and Spencer, makes the third on record. It occurred in a man who, in 1899, had double vision; and in 1901 right-sided apoplexy, with increase since August, 1903. Since then he had had headache, dizziness, staggering gait, and difficulty in speech. A constant rhythmical twitching of the soft palate, pharynx, and larynx, had been observed. The false vocal cords made forty vibrations to the minute. The lesion was to be looked for in the posterior cranial fossa.

In the Obstetrical and Gynecological Society, Nagel demonstrated a parovarian cyst, with a capactiy of 33 liters, the largest before reported having a capacity of only 23 liters.

In the same society Schäffer brought up again the old, but ever new, question of disinfection of the hands. There are three reasons which explain why the results of the various workers in this field are so different: Namely, the different methods of investigation, difference in the condition of the hands on different days, and, finally, variations in the vigor of manipulation. Therefore only those experiments in which special objects, as glass pearls and silk threads, have been used should be considered scientific. For ten years the speaker had carried on experimental investigations, and had arrived at the almost universally accepted opinion that we possess no antiseptic which, in a practical degree of concentration, can kill pus-forming bacteria on the hands in from five to ten minutes. The demonstrated cultures, with one exception, were not sterile. This one was from disinfection by alcohol, which the speaker used exclusively. In the discussion, Strassmann expressed his doubt of the efficacy of alcohol disinfection and his fear of the injurious effects of the alcohol on the skin. He used rubber gloves extensively. Kohlank stood for thorough mechanical cleansing; Blummberg, for bichloride of mercury; Olshausen, for the old Fürbringer method, with thorough mechanical cleansing. Hartmann and Bumm were of Olshausen's opinion. The last mentioned strongly favored rubber gloves.

ADENOIDS IN CHILDREN.

To the Editor of the Medical Record:

Sir: In the issue of the Medical Record for August 6, 1904, appears an abstract of a paper by Dr. Clarence C. Rice, entitled "The Conditions Which Interfere with Complete Success in the Operation for the Removal of Adenoids," which was read by him at a meeting of the Medical Society of the County of New York, on May 23, 1904, in which the statement is made that adenoids are always present in children with nasal catarrh.

In this opinion I believe the majority of nose and throat specialists will not concur, for I am confident that nearly all of them can point to experiences similar to those I frequently have had in which children thus afflicted did not concurrently present adenoids. In a paper published in the *New York Medical Journal* for June 30, 1900, bearing the title of "The Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis," I reported two cases of long-standing purulent rhinitis in which there was absolutely no trace of adenoids. At the time I stated that "I should regard these cases as decidedly contradictory to the statement of Herbert Tilley and others that purulent rhinitis of childhood is due to adenoids." Since that time I have seen other cases with similar symptoms in which adenoids were absent. I believe that adenoids are present in most children who are brought to us for advice concerning nasal disorders, but I am not yet willing to subscribe to the opinion held by some that nature has not been more considerate of these of her creatures than to afflict nine out of ten children with adenoids. As to the conditions which interfere with complete success in the operation for the removal of adenoids, I think Dr. Rice should place his second conclusion first, viz., that the lymphoid tissue was not thoroughly removed; but next in order as to the cause of failure I would suggest that failure to secure performance of the operation when the child is young, that is to say, before the seventh or eighth year, be considered.

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Progress of Medical Science.

Boston Medical and Surgical Journal, August 11, 1904.

Subperiosteal Fractures of the Humerus in Children.—J. S. Stone describes five cases illustrating the risk of overlooking subperiosteal fractures in children. Crepitus and abnormal mobility were absent, deformity was slight, pain and tenderness were not marked, passive motions were possible in all directions, but the deltoid could not be used. It occurs in children too old to have green-stick fracture. In subperiosteal fractures the radiograph shows slight lateral displacement with a transverse fracture. The toughness and strength of the periosteum prevent displacement and crepitus. After a fall on the hand, arm, or shoulder, inability to abduct the arm, with absence of the ordinary symptoms of fracture, should lead to careful search for localized tenderness anteriorly just below the head of the humerus and slight irregularity in contour at that point. The presence of these signs should establish the diagnosis of subperiosteal fracture.

The Physical Relationship of Finsen Light, Röntgen Ray, and Radioactivity.—Wallace C. Sabine tells us that in looking for that which all three of these forces have in common, we shall find it in their ionizing effect—the breaking of molecules into subatomic particles, charging the larger with positive and the smaller with negative electricity. This effect common to the three is perhaps the intermediate process preliminary to the final physiological result. Ultraviolet light differs from visible light only in the frequency of its vibrations, while visible light differs only in frequency from electro-magnetic waves. In wireless telegraphy the electric spark produces vertical electric waves and horizontal magnetic waves. Röntgen rays are in many respects similar to light rays. They are produced by a negatively charged particle abruptly stopped by striking against the platinum disk in the center of the exhausted bulb. The result is a very thin wave or pulse sent off into the ether. This thinness is the source of its great penetrating power. The radiations from radio-active bodies consist of the emission of positively charged particles, negatively charged particles and an ether pulse. The Röntgen rays and the gamma rays, or ether pulse, differ only in thickness. An atom is now known to be a composite body capable of being split up. When a part is torn from the atom the two parts so torn apart are called ions. This splitting up may be done in various ways; ionization may be produced by almost any violence, by electricity, by the passage of the Röntgen rays, by the radiations of radio-active substances. All three of these physical processes are electrical, the ultraviolet rays as well as the others. Their first effect is that of electrical violence upon the atom, which results in an increased atomic energy and a resulting ionization.

Causes and Treatment of Malpositions of the Uterus.—D. J. Brown classifies retrodeviations as follows: A, Virginal: (1) congenital; (2) puerile, in which a full bladder combined with a congenital shortness of the anterior wall are the factors; (3) senile atrophy; (4) overdistention of the bladder; (5) habitual constipation; (6) masturbation; (7) constitutional disease, as anæmia and chlorosis. B, Parous women: (1) puerperal metritis or subinvolution; (2) laceration or over-stretching of the pelvic fascia; (3) salpingitis; (4) pregnancy; (5) pressure of clothing; (6) traumatism; (7) neoplasms; (8) impotence in the husband; (9) wandering spleen. Anteflexion accompanies non-development of the uterus due to over-exercise or sewing-machine running, and shortening of the uterosacral ligaments. Immobile retroposition with anteflexion may follow labor and abortion with posterior adhesions. Excessive mobility of the uterus results from laxity of the ligamentous supports. The non-surgical treatment of the conditions considered must depend on the symptoms, length of displacement, and complications that exist. The uterus should first be replaced and retained by pessary or tampons. General tonics should be used, and hot vaginal douches, with the use of the knee chest position daily. When the uterosacral ligaments no longer retract the author recommends Goelet's operation for fixing the posterior surface of the cervix to the posterior surface of Douglas's cul-de-sac. The author is not enthusiastic over Alexander's operation. For anteflexion due to muscular relaxation he recommends electricity, stimulating hot douches and tonics. If operation is necessary he uses Dudley's operation. If there are adhesions, incise the posterior fornix, break up adhesions, and pack the cul-de-sac. Complete prolapse results from backward displacement with relaxed uterosacral ligaments, combined with a subinvoluted uterus and a relaxed vaginal outlet. The author believes ventrofixation and round ligament fixation to be unscientific. Rest in bed must be insisted upon; then the cervix may be repaired or made smaller and anterior or posterior colporrhaphy done.

Journal of the American Medical Association, Aug. 13, 1904.

A Case of Brass Molders' Ague.—Stephen R. Pietrowicz reports the case of a Pole, thirty-three years old, a brass molder, who came to this country fourteen years ago and began working at his occupation, in which he continually inhaled an atmosphere laden with minute particles of brass filings. One year later his symptoms began. He first noticed palpitation of the heart, accompanied by pain in the precordial region; also a dull pain in the abdomen, sometimes lasting for hours. Numbness and cramps in arms and legs were not infrequent phenomena. A prominent symptom was a fine tremor, well marked in the muscles of the face, hands, and fingers. Distinct chills were frequent. Constipation was obstinate. Appetite became impaired. He had severe bronchitic symptoms. He was confined to his bed, sometimes for weeks at a time. Recently severe headache, attacks of vertigo, dizziness, and a burning sensation in the epigastrium have been noted. His hair is falling out and his memory is failing. Examination shows a tongue heavily coated, with foul breath, and a beautiful green zone or border along the gingival margin of the gums, which cannot be removed by ordinary scraping. Patellar reflexes are exaggerated; ankle-clonus is present. Arteriosclerosis is marked. Iodide of potassium was given until physiological reaction appeared. Milk, given very hot but not boiled, afforded a great deal of relief. It was given with the idea that it would precipitate both zinc and copper into insoluble albuminates. No marked improvement followed the use of bromides and iodides. Large doses of tonics were given. On his entering the hospital it was found that anything hot was soothing to him and relieved his pain. Hot water was then tried to which was added gum camphor, 5 grains to a pint of hot water; he would drink at times two to three pints of this with great relief. Large mustard plaster over the entire abdomen gave him great relief. Total abstinence from all meat was followed by improvement, and he has since been put upon a strictly vegetable diet, with no return of symptoms.

The Medical News, August 13, 1904.

Difficult Cases of Infant Feeding.—Theron Wendell Kilmer regards improper feeding, and especially feeding with too large percentage of proteids, as the usual cause of difficult digestion in infants. Feeble digestion may begin at birth; it may be the result of acute disease. A baby may be a chronic vomiter because he is jounced or handled after feeding. The author begins treatment in a case of difficult digestion by stopping the food given, washing out the stomach daily, and flushing the colon and rectum. He gives only barley gruel for several days; then adds a teaspoonful of cow's milk to one feeding, and watches for curds. If none appear, he gradually increases the amount of milk. The baby is to be weighed naked every day. One should never feed a sick baby on special formulas, he says; they are only for healthy children. In some cases it will be necessary, when the baby vomits continually, or refuses food, to feed it with a stomach tube. It may retain the milk in this way. Condensed milk is not suitable for constant use, but may be of great value on a journey, or to tide over a hot spell when fresh milk cannot be kept.

Hereditary Syphilis.—Howard S. Kinne says that when syphilis is inherited it is the eldest child that suffers most, and often he alone. Hereditary syphilis is constitutional from the first; for the first two years the secondary and tertiary manifestations appear together, later they are tertiary alone, and about puberty they are apt to be marked. Hereditary syphilis impresses on the general nutrition a profound alteration. Hutchinson says it is difficult to diagnose hereditary syphilis; we must have combined snuffles, ham-colored eruptions, especially about the anus, general wasting, senile physiognomy, etc. The child may be healthy at birth and show no symptoms for six weeks. He then has ham-colored eruption and snuffles, hoarseness, anæmia, and wasting, with the look of an old man and a wrinkled skin. If the disease be not severe and treatment is successful the symptoms will be put off until puberty. The administration of mercurials to a syphilitic mother during pregnancy will reduce the liability of the offspring to be affected. Nutrition must be of the best. Mercury must be administered at once and later potassium iodide.

Report of a Case of Ruptured Ectopic Gestation.—John W. Coe reports a case of ectopic gestation which presented considerable difficulty in diagnosis. During her eight years of married life, the patient had had two previous attacks of abdominal pain, which had been diagnosed as renal colic. The last regular period occurred only thirteen days before the patient's first attack of abdominal pain, accompanied by a chill. One week later she had a sudden abdominal pain accompanied by nausea, vomiting, and

weakness. No tenderness or rise of temperature or pulse remained three hours after this pain. The urine was highly acid, of high specific gravity, and contained red blood-cells. It had not been drawn by catheter, but there was no vaginal hemorrhage. Two days later she again had pain, with rise of temperature and marked prostration and fainting. The red blood-cells were reduced nearly one-half, and there was a leucocytosis of 22,000. For two weeks there was irregular rise of temperature, with steadily improving general condition. A good-sized mass could now be felt on the right side of the abdomen. The diagnosis of extrauterine pregnancy was confirmed by the result of operation. The mass contained placental tissue and clusters of decidual cells.

New York Medical Journal, August 13, 1904.

Is Milk a Factor in the Spread of Tuberculosis?—J. O. Cobb has collected some statistics to show that tuberculosis is as prevalent in countries where cow's milk is not used as it is in those where it is a prominent article of food. In the Island of Guernsey the cattle are free from tuberculosis, yet the human inhabitants are afflicted with the disease. In Iceland it is prevalent, yet the cattle are said to be non-tubercnlous. In Alaska milk is not used, yet the Indians are affected by tuberculosis. The same is found to be the case with the Chinese, the Japanese, the Hindu whose religion prohibits the use of meat and milk, and in the Philippines. In none of these countries are cattle kept for the use of meat or milk for food. The author inclines to the opinion that it is a disease of filth and poverty. Tuberculosis among cattle as well as among the human race is a disease of contact. The ultimate source of this contagion is as yet unsettled.

Symptomatology of Morphinism.—Charles J. Douglas recalls some of the less known symptoms of morphinism. The first objective symptom is often languor and general debility in the morning. The patient is ill in the morning, well and even brilliant by night. He does his best work at night. At the same time he has a desire for food at night, and especially for sweet foods, candy, pie, cake, etc. Cigarettes are also grateful in plenty. Perfumes are desired. They are abnormally sensitive to cold, and do not love to bathe. They have poor memory and often misplace things. Procrastination is a common characteristic. The ethical side of the brain seems paralyzed and truthfulness is impossible. The moral symptoms are secondary to the physical suffering. The deleterious effects of morphine are dependent more on the length of time it is used than on the amount taken. Half a grain daily for ten years will produce more serious consequences than ten drains daily for one year.

Aberrant Thyroid Tissue, and Its Relation to Intratracheal Growths.—Jeremiah S. Ferguson reports a case of aberrant thyroid. Such aberrant masses of thryroid tissue occur more frequently above than below the thyroid bone. They are much more frequent than is ordinarily supposed. Gruber found twenty-three cases in three hundred autopsies. The author's case showed the mass lay on the right side of the trachea, extending around beyond its middle. There were several isolated fusiform masses in the posterior wall, close to the ends of the cartilaginous rings. A strong band of muscular tissue surrounded the thyroid mass, and many fibers ended among its cells. It had an irregular, apparently advancing border line; small border cell groups were separated by dense fibrous membranes, isolating them from the neighboring thyroid masses. These outlying groups were composed of small and less developed follicles, containing colloid material. These groups appeared to be pushing toward the inside of the trachea, but to be stopped by the dense fibrous membrane between the cartilaginous rings. The author thinks that the case is suggestive of an early stage of development of an intratracheal tumor, a stage in which none of the thyroid tissue had yet broken through the tracheal wall.

American Medicine, August 13, 1904.

A Plea for the More General Use of Ether, with Description of the Drop Method of Administration.—B. F. Stevens claims that ether can be taken just as easily and with much less danger than chloroform. It took an average of eleven minutes to produce surgical narcosis in the one hundred cases of which he kept notes; in forty chloroform anæsthesias it required an average of six minutes to induce narcosis. The disagreeable odor of the ether can be avoided by using ten or twenty drops of oil of gaultheria on the mask for three minutes before beginning with the ether. Ether is contraindicated, of course, in asthma, advanced pulmonary tuberculosis, chronic bronchitis, and marked arteriosclerosis. It should be borne in mind that when the heart ceases to beat when chloroform is being given, it is almost impossible to start it again, while in ether narcosis, the heart continues to beat a long time after respiration has ceased. A Laplace inhaler is used, which is easily cleaned With this mask he uses the drop method. The eyes should be protected by a large moist cotton compress. Before the patient is removed from the table he advised the giving of an anema of normal saline solution, which allays the thirst and is of value when much blood is lost. If the patient has been asleep twenty-five minutes or longer, he washes out the stomach with a warm solution of sodium bicarbonate, followed by warm normal salt solution.

Case of Acute Suppurative Pancreatitis.—Miles P. Porter reports the following case: Mrs. W., aged twenty-two, had one child and one miscarriage. Five years ago she had typhoid fever and had been having boils for four or five weeks prior to present illness. Family history is good. She was taken suddenly ill with pain in the abdomen and vomiting; eight hours later she had a temperature of 104 F. and pulse 110. She was menstruating when taken ill, but this stopped in twelve hours and did not return. Twelve hours later she went into collapse. The next day, twenty-two hours after onset of disease, the pulse was 160 and temperature 105.8° F. The abdomen was tender and distended. Black and grumous passages were examined microscopically and showed very few red cells. Her lips were not pale. At consultation it was decided that a positive diagnosis was not possible, but the probabilities were in favor of a ruptured tubal gestation. No operation was performed and death occurred sixty-six hours after onset of illness. Postmortem was done eleven hours after death, and the abdomen was found to be bathed in pus. The head of the panereas was about one-half destroyed. The uterus and appendages, the spleen, the liver and hollow viscera, were normal. It was highly probable that the infection was carried to the panereas by the blood stream from one of the boils.

Illustrative Cases of Myelogenous Leukæmia.—George H. Evans presents the histories of three cases of myelogenous leukæmia, and calls attention to the results of the *x*-ray treatment which has been and is being carried out in two of them. In one case the patient was symptomatically cured and, in the other, while there has been improvement, there has not been any marked improvement in the red cell count. Our conception of the pathology of leukæmia is for the present hopelessly tangled up. As the result of investigations of Pappenheim, Walz and Grawitz, Michaelis, Wolff, Taylor, and others the following theories may be presented: (1) The large mononuclear leucocyte is the mother cell, ordinarily capable of further differentiation into either the ordinary bosophilic cell, or into a neutrophilic myelocyte. (2) The two forms of leukæmia, lymphatic and myelogenous, are closely associated, and probably are forms or stages of the same disease. (3) Lymphocytes are formed in the lymphoid tissue of the bone marrow, and not exclusively in the lymph glands, as formerly supposed. (4) Myelocytes are formed in the bone marrow, and are the parent cells of the polymorphonuclear neutrophiles. (5) In myelogenous leukæmia, myelocytes are cast into the blood circulation, in all probability because of increased activity of the myeloid tissue of the marrow, which is the only tissue primarily affected in this disease. It would seem that the Röntgen rays, penetrating the structure of the spleen or other tissue, was capable of producing tissue changes, which alter, temporarily at least, the symptom-complex of this disease. Further investigation of this method of treatment by scientific men is demanded.

The Lancet, August 6, 1904.

The Relation of Inebriety to Insanity and Its Treatment.—Robert Jones speaks of the forms of mental disorder resulting from alcohol as gross dementia, maniacal, unrestrained excitement due to hallucinations, or permanent delusional states. The susceptibility of the brain and nervous system through inherited or other vice determines whether a given case shall be considered a lunatic, an inebriate, or a chronic drunkard. Of all the special symptoms characteristic of forms of alcoholic insanity the condition termed "paramnesia" is the most indicative. This is the failure of memory for recent dates, an impairment of nerve cells by which the brain is able to retain the images of past sensations and in consequence of which there is a marked loss of the power of associating ideas. All drinkers become subject to sensorimotor disturbances and tremors. After considering the sensory symptoms, susceptibility and general results of alcohol Dr. Jones says that the treatment of inebriety resolves itself into the general treatment of drunkenness and that of the individual, and this has become a question for the statesman, the reformer, and the philanthropists.

Serum Therapy of Anthrax.—Ivo Bandi gives a detailed account of two cases of general anthrax infection successfully treated by him with anti-anthrax serum. Examination of these cases clearly proves that, although isolated, they give stronger support to treatment with anti-anthrax serum than is to be drawn from a long series of cases of simple external anthrax successfully treated with anti-

anthrax serum at the outset under conditions which leave it doubtful whether the usual local treatment destructive of the original seat of infection might not have been of itself sufficient to arrest the progress of the disease. In both the cases described the clinical and bacteriological examination confirmed the diagnosis of exceptionally severe general anthrax. In both cases, but especially in the first, the serum was used when the signs of serious general poisoning were chiefly apparent in the œdema which had spread far from the primitive seat of infection, in grave disturbances of the circulation, and in the evident lesions of the kidneys. Moreover, in the first and most serious of the two cases the action of the serum was rapidly decisive when free cauterization of the primitive seat of infection had completely failed. The double action of the anti-anthrax serum—antibacterial and antitoxic—is plainly evident, its antibacterial power being shown by the immediate arrest of the progressive invasion of the organism by the bacillus, and its antitoxic power by the sudden improvement in the general condition of the patients and by the complete *restitutio ad integrum* of the renal function immediately after the use of the serum. The author would insist on the necessity of treating such severe cases energetically by injecting into the veins large doses of the specific serum. For while, on the one hand, no justifiable opposition can be made to the treatment when carried out with proper caution, in the practical result its antitoxic action is so immediate as to suggest rather a rapid neutralization of the toxins circulating in the system than a stimulating action of the specific principles contained in the serum on the natural defensive powers of the organism.

Some Points in the Diagnosis and Treatment of Heart Lesions.—John Hill Abram treats of eighty-one cases of heart disease that have come under his observation and, in a rapid résumé, the preponderance of mitral cases, nearly half the number, and the importance of rheumatism in their causation stand out prominently. Cases bearing upon points he wishes to emphasize are recorded. The treatment is outlined under the three following headings: (1) Compensation practically equal to the lesion. Excesses, mental as well as physical, should be warned against. Moderation in the use of alcohol and tobacco should be enjoined. General hygienic and dietetic measures should be considered. Even in this stage in mitral stenosis there is a risk of hæmoptysis or embolism. If hæmoptysis occurs, give a free purge and a dose of opium. If a female, aortic trouble is a bar to marriage. Well-compensated mitral regurgitation cases often pass through pregnancy without trouble; in stenosis cases grave symptoms arise and notably attacks of tachycardia or acute œdema of the lungs. In cases of mitral stenosis marriage should be advised against. (2) Compensation only equal to the lesion when the patient is at rest. In aortic cases, with throbbing in the neck vessels, headache and giddiness, the best treatment is a week in bed with limitation of fluid and regulation of diet and moderate purgation. Bromide and iron often give relief. General tonics and small doses of tincture of digitalis will help to place the case in subdivision No. 1. (3) Compensation unequal to the lesion. Limitation of fluids is often of great service. The bowels may be gently acted upon. In aortic cases excitement and even maniacal attacks may be present, and here trional or sulphonal and paraldehyde sometimes suffice, but opium is the sheet anchor. When engorgement of the liver and stomach had been marked good service had been rendered by the pill containing squill, digitalis, and mercury. In aortic cases with thickened arteries and increase in tension of the radial pulse, the best line of treatment is to limit the intake of fluids, open the bowels, and give renal diuretics. If cardiac stimulants are indicated he prefers strophanthus. Even in cases in which the pulse tension is low, digitalis is demanded, and he does not hesitate to give it in an aortic case when the mitral valve has yielded.

Deutsche medizinische Wochenschrift, July 28, 1904.

Treatment of Alopecia Areata by Direct Radiation.—Kromeyer compares the rays derived from the carbon electrodes as used by Finsen and those of iron, which were discarded soon after their introduction because it was believed that they had little penetrating power. He believes that the latter are the most practical however, as they can be used close to the skin without the intervention of the "pressure lens" in the Finsen apparatus. Six cases of advanced alopecia were treated by this method, which had resisted all the other known devices. The rays were applied for a period of about two weeks until a marked reaction was secured, followed by an interval during which the effects were observed. Then the treatment was repeated. All the patients developed a growth of hair which was permanent, in some instances the new growth was observed within eight days after the first treatment. Kromeyer does not believe that alopecia is a parasitic disease. The success of this treatment depends on the fact that the superficial irritation produced by the rays extends along the hair follicles and stimulates the root of the hair to a new growth.

The Immunization Treatment of Tuberculosis.—Carl Spengler proposes the use of tuberculin derived from cattle (perlsuchttuberkulin) for this purpose. This he prepared in a similar manner to that made from the human bacilli, and the dosage is similar to that of the old tuberculin. The injections are made in the forearm and the next one not made until the inflammatory reaction from the previous one has subsided. The general condition of the patient must largely determine the rapidity with which the injections are made. Where the latter are contraindicated or can only be done at prolonged intervals, the effects of the treatment can be hastened by tuberculin inunctions, which are especially applicable in children. As the result of clinical experience, the author found that the effects of this procedure in tuberculous patients were similar to those observed with very much weakened tuberculins derived from the human bacilli. The temperature reaction is comparatively slight and the subjective symptoms correspondingly diminished. The local reaction is more marked, however, than with the other tuberculins, and this is also accompanied by a more marked reaction in the tuberculous lesions. There seemed to be no toxæmia following the use of the preparation, as is often seen with the other varieties of tuberculin.

Clinical Experience with Renal Decapsulation in Bright's Disease.—P. Rosenstein reports the results of Edebohls' method of treating chronic nephritis in six cases, with an unsatisfactory outcome. One patient died as the result of the operation, one became worse, two were uninfluenced, and the remaining two were in some respects improved Rosenstein claims that the favorable results reported by Edebohls were influenced by the fact that his cases were not true instances of Bright's disease, but were simply inflammatory processes brought about by the abnormal mobility of the kidney. Moreover, among the cases reported by Edebohls were nine which were designated as presenting a unilateral Bright's, which Rosenstein insists does not exist, as the process, being due to toxins held in solution, is always bilateral. Rosenstein concludes that the renal decapsulation in severe Bright's disease is a very dangerous procedure, being attended by a mortality of 26 per cent. Permanent cure has not been attained in a single case of undoubted Bright's disease. The only improvement in Rosenstein's cases are as follows:—objectively, in one case the disappearance of a slight œdema, but no improvement in albuminuria; subjectively, in another case the disappearance of headache and visual symptoms which were present before the operation.

Berliner klinische Wochenschrift, August 1, 1904.

Lowering of the Freezing Point of the Blood in Cancer Patients.—K. Engel discusses the claims made by Israel and Engelmann that the freezing point of the blood in this disease was lowered, and which they ascribe to the fact that the blood becomes impregnated with toxic substances of an albuminoid nature. In order to arrive at a definite conclusion, the author instituted a special investigation in thirteen cases of carcinomata in various parts of the body. He found that in no case was there abnormal lowering of the freezing point. In a few there was a value of - 53 or -54. The question as to whether the concentration of the blood can be increased by the carcinoma itself, independent of its localization, cannot yet be definitely decided from the data at hand.

Atheroma of the Aorta in Rabbits after Injection of Adrenal Extract.—C. v. Rzentkowski injected three or four drops of a 1:1000 solution of adrenal extract into the ear vein of a rabit every two days. In three out of four cases it was found that the animals on autopsy presented cardiac hypertrophy, circumscribed calcification areas in the media of the aorta with a tendency to the formation of aneurysms, hepatic cirrhosis, and hyperæmia of the kidneys (two cases). Calsification was observed in one instance after the injection of only nine drops. The author is not prepared to state whether the process is really an atheroma. He considers that it is a primary calcification, accompanied by a small-celled infiltration of the surrounding diseased tissues, rather than a secondary calcification. It was found, moreover, that this process caused a marked diminution in the elasticity of the vessels, due to a peculiar degeneration of the elastic fibers. Probably an increase of blood pressure which extends throughout the entire circulatory system, is at the basis of these changes. It is impossible to say, however, why the calcification process should be thus localized.

Munchener medizinische Wochenschrift, July 26, 1904.

Influence of Anomalies of the Bony Thorax.—Bäumler discusses the effects of these conditions on the pulmonary percussion note and on the position of the heart, and calls

attention to the fact that unless they are carefully noted, mistakes may readily result. The form of the thorax and the position and curvature of the individual ribs have a marked effect on the percussion note of any given area of the lungs. The costal relations are dependent to a large extent on the condition of the vertebral column, and any slight variations in the latter markedly affect the form as well as the position of the ribs. When differences in the percussion note on both sides of the chest are detected it is essential that the symmetry of the two halves of the thorax should be carefully studied, particular attention being paid to the supraclavicular and supraspinal regions. It will be readily seen that this might modify the findings in a suspected case of pulmonary tuberculosis. Estimates as to the size and position of the heart are also influenced by anomalies of the chest. Thus, variations in the intercostal spaces due to changes in the curvature of the thoracic segment of the column will bring about apparent changes in the size and the apex beat of a perfectly normal heart.

The Hygiene of Smoking.—J. Bamberger believes that in considering the dangers attendant upon the habit of using tobacco, two classes of smokers must be differentiated. One includes those who smoke cigars with the aid of a mouth-piece or, if not, are careful not to keep the end of the cigar saturated with saliva. This class also includes the pipe smokers. The other contingent comprises those who chew the end of the cigar or keep it wet constantly. The first class is much less apt to be affected by the absorption of the various products of the dry distillation of tobacco than the second. In the former, however, the smoke may give off its toxic constituents in the moist buccal cavity, whence they are swallowed with the saliva, or the smoke is drawn in with the inspired air and so diffused over the lungs. The second class in addition also swallow the nicotine which has been dissolved out of the tobacco by the saliva. They are therefore exposed to greater danger, and if indulgence in alcohol is also added, the condition is aggravated. The "dry smokers" are found to suffer much less from disturbances due to the use of tobacco than the "wet smokers," and he would recommend that this precaution should always be insisted upon. The suggestion that a bit of cotton saturated with a solution of iron chloride be placed in the mouth-piece of a cigar holder, he fully recommends and claims that a certain quantity of harmful products are thus rendered innocuous.

Severe Nephritis Following Inunctions with Balsam of Peru.—A. Gassmann believes that the use of balsam of Peru in scabies is a procedure fraught with considerable risk, especially as it is very apt to be employed in persons with a delicate skin, women and small children, because it apparently is accompanied by no irritation of the skin. A number of instances have been reported in which the use of the balsam caused renal irritation, but the case instanced by the author is remarkable for the severity of the symptoms. The patient, a young adult of twenty-six, was perfectly healthy previous to the inunction on two successive evenings of about 25 gms. of Peru balsam mixed with vaselin. Five days later he presented the symptoms of a severe nephritis which was almost fatal. It was not possible to say whether any previous kidney lesion had existed, but if so, this was undoubtedly an acute exacerbation. The preparation was practically pure. There was probably an idiosyncrasy present in this case, but it would be well to determine this in every patient for whom large quantities of the drug are to be employed.

French and Italian Journals.

Cancer of the Body of the Uterus.—A patient who was suffering from cancer of the body of the uterus came under the care of M. H. Géraud. Géraud performed abdominal hysterectomy. The patient was a woman fifty-six years of age who had previously had a fibroma which had been cured during the menopause. A period of two years without discharge from the uterus separated the disappearance of the fibroma from the appearance of the cancer. Ten months and a half have elapsed since the hysterectomy was performed, and as yet there has been no recurrence.—*La Presse Médicale*, July 16, 1904.

Cerebral Abscess and Fetid Bronchitis.—M. Porot describes the post-mortem appearances in this case. The abscess was very limited in extent, and was situated in the right lateral ventricle, in the posterior part. The enveloping membrane was thick, and its structure showed that it had existed for some time. At the base of the abscess there was a small channel extending forward. This abscess co-existed with a right-sided bronchiectasis, which was extremely fetid. The odor of the cerebral pus resembled that of the lung. The patient entered the hospital with right hemiplegia, which had developed after a series of epileptiform crises. Sharp pain was felt on pressure of the extremities. The temperature was elevated. Expectoration was abundant and fetid. There were signs of bronchitis. The patient had been an epileptic since the age of five years. He died eight days after his entrance to the hospital.—*Lyon Médical*, July 17, 1904.

Treatment of Aneurysms by Subcutaneous Injections of Gelatinized Serum.—Gley is interested in the coagulating action of gelatin. He has made certain experiments in the past, which give grounds for stating that the coagulating property of gelatin is due to the very small quantity of calcium chloride contained in it. It is precisely this fact—the very small quantity of calcium chloride, that imparts to the gelatin its coagulating power. If this quantity were larger, the power of coagulation would not exist. Gley proposes to conduct further experiments in this subject. In the first place, he is going to study the effect of injections of sodium chloride, and later the effect of injections of decalcified gelatin. The results of these experiments will show the part played by gelatin, and also by calcium chloride in blood coagulation.—*Le Bulletin Médical*, July 13, 1904.

Diphtheritic Angina Developing in a Child in Spite of an Injection of Antidiphtheritic Serum.—E. Weill and M. Péhu report a case of this kind and emphasize the necessity of taking other prophylactic measures, such as isolation and disinfection. In the service of the writers, a child developed diphtheria on May 16. All of the other little patients, both those already in the hospital and those entering later, received an injection of antidiphtheritic serum. One child who entered the hospital on May 18, although receiving the injection, developed a membranous angina on June 5. Diphtheria bacilli were cultivated in pure culture from this membrane. It was discovered later that the first child had escaped from its isolated quarters to play with the second child. This was the only case of infection out of thirty-three. The writers state that even in strong doses the injections are not dangerous. The employment of this preventive measure should be general.—*Lyon Médical*, July 17, 1904.

Tuberculous Ostitis with Cold Abscess of the Lower Angle of the Shoulder Blade.—M. P. Bourgine describes this unusual case. The patient was a woman of fifty years. The family history was bad, the father and mother both dying of pulmonary tuberculosis. The patient had already been operated on for cold abscess of the cervical region. For six months she had suffered with pains at the lower extremity of the left shoulder blade. She had lost flesh and had no appetite. Auscultation revealed signs of pulmonary tuberculosis at the apices of the lungs. The tumor at the shoulder blade was as large as a mandarin. Fluctuation was not clear. Diagnosis lay between a lipoma and a cold abscess. Operation revealed a pocket of tuberculous pus. The lower part of the shoulder blade was the seat of ostitis, and at one point the bone was necrosed and perforated. The patient recovered comfortably from the operation.—*Journal des Sciences Médicales de Lille*, July 16, 1904.

Clinical Contribution to the Therapy of Trichiasis.—Francesco Baroggi reports the results of the operative procedures used for the cure of trichiasis in the clinic of the University of Pavia. During the last fifteen years there have been eighty cases of this disease operated on by the method of Jaeske-Arlt, with successful results in all but two cases. The ages were from seventeen to fifty-five years. The best results are obtained in adults, and especially in advanced age, when the cases present the greatest obstacles to the surgeon. The disease results from a chronic trouble of long standing, and has occasioned much suffering and injury to the cornea before the patient will submit to any operation. Nevertheless, by the Jaeske-Arlt operation the best results can be secured. Several cases had been operated on unsuccessfully by other methods, and ten had to be operated on twice, owing to the continuation of the original disease producing a recurrence.—*Gazzetta Medica Lombarda*, June 20, 1904.

Mucoid Ovarian Cysts.—Mauclaire states that these cysts generally involve only one ovary. They grow to enormous size. Recurrence is rarely observed after oblation. As the cyst develops it ascends into the abdominal cavity and becomes pediculated. From this fact possible complications may occur. Torsion or rupture of the pedicle is accompanied by intracystic hemorrhage. This torsion is especially frequent during pregnancy. The uterus may be displaced by a cyst, ascites may develop, or adhesions to the intestine may form. The contents of the cyst may suppurate. The cyst may rupture. The prognosis of the mucoid cyst is generally good. The growth should be removed at an early stage and pregnancy is not a contraindication to this operation. If both ovaries are involved total hysterectomy should be performed. When the stage of cachexia has been reached operation is contraindicated.—*Journal des Praticiens*, June 18, 1904.

Diplococci Polyarthritis.—Alfredo Baduel reports a case of polyarthritis following acute pulmonary trouble, in

which Fraenkel diplococcus was found in the secretions of the diseased joints and pleura. Since 1883, cases have been recorded in which pneumonia has been followed by involvement of the joints lasting some time. The diplococcus of Fraenkel has been demonstrated in these joints, and has been regarded as the etiological factor in the affection, the disease resulting from the toxins formed by the diplococci. The author's case was that of a man of thirty-seven years. He was attacked by bronchitis, which in about ten days developed into an acute pulmonary process with high fever, pain in the chest, and cough. A purulent effusion developed in the chest, and after some time the joints began to swell. All the joints became involved; they were painful and tender on pressure, but not reddened. The involvement of the joints was accompanied by fever, from 38° to 39°. The course was chronic, lasting some three months. The diplococcus of Fraenkel was demonstrated in the pus from the pleura, the blood and the serum of the enlarged joints. Its virulence was much attenuated, for injections into rabbits were only once successful in producing arthritis.—*La Riforma Medica*, June 29, 1904.

Congenital Serous Cyst of the Neck.—Latronche reports this case. The patient was a small child who had been left at the hospital, and consequently no history was obtainable. The tumor developed slowly without pain and without causing any functional trouble. On this account its exact beginning was unnoticed. It is on the right side of the neck and is now the size of a hen's egg. The skin over the growth is normal in color and temperature. The tumor is soft and clearly fluctuating. The fluctuation is entirely superficial. On pressing the growth, the beating of the carotid can be felt. The mobility is only partial, as the tumor adheres to the deep parts of the neck. The tumor is dull on percussion. Auscultation is negative. Since the entrance of the infant to the hospital, the tumor has increased in size, and now causes functional disorders. Breathing seems to be less easy, the child snores in its sleep, and it coughs and chokes while eating. Operation has not yet been performed.—*Journal de Médecine de Bordeaux*, July 10, 1904.

The Curative Value of Lumbar Puncture in Sydenham's Chorea.—G. B. Allaria believes that rachicentesis is a therapeutic procedure too little appreciated, which may quickly lessen the morbid movements, permitting better feeding and quiet sleep, and thus conducing to the rapid cure of the disease. He has treated twelve cases in this way. These he divides into two categories, those in which the fluid escaped under pressure, denoting an increased cerebrospinal pressure, which were benefited by the operation; and those in which there was no increased pressure, indicated by the escape of fluid slowly, by drops, which were not benefited. In one case the improvement was marked, movements being lessened on the day of puncture, and a cure accomplished in ten days. Two other cases were cured quite rapidly after the puncture. He considers the benefit to be due to the lessened cerebrospinal pressure from the removal of from 20 to 40 cm. of cerebrospinal fluid. This increase of pressure produces irritation of the cerebrum and causes the abnormal movements. He has observed no bad effects from the puncture, and has not found an anæsthetic necessary.—*Rivista di Clinica Pediatrica*, June, 1904.

Hypertrophic Congestions of the Kidney.—Le Dentu has had under his care a woman having a large tumor in the right hypochondriac region. It was at first thought to be a malignant growth of the kidney. There was no fever. An exploratory puncture was suggested. The needle penetrated into solid tissue. After this puncture, the kidney diminished in volume, and the patient gradually recovered. This case recalls one published by Terillon. This patient was a woman aged thirty-one years. She was the mother of two children. For several months she had suffered from pains in the right side. Her skin was pale. The diagnosis of floating kidney was made. The pains increased, simulating nephritic colic. In the right hypochondrium, a tumor was felt of the size of a large fist. There was no tuberculous history and no hæmaturia. The urine was normal. The left kidney was as low as the right but it was small and movable. The right kidney was in contact with the lower hepatic fossa, and was immovable. Attempts to return it to its normal position, were fruitless. Nevertheless, during the next few days, the tumor seemed to diminish in size, and it became slightly movable. On account of this improvement operation was delayed. In the absence of a clear antecedent history, it is always difficult to give the prognosis of a renal tumor. It is known that certain tumors disappear under the influence of rest or exploratory puncture. Especially must prognosis be guarded if the patient suffers from displacement of the kidney. A simple hypertrophic congestion might produce the phenomena above mentioned.—*Journal des Praticiens*, July 16, 1904.

Surgical Suggestions.

Treatment of Alveolar Abscess with Fistula.—C. C. Noble advises the application of trichloracetic acid through the opening in the gum. After two or three days the canal is thoroughly washed out with hydrogen peroxide and treatment repeated.

Wounds of the Pancreas.—In the treatment of wounds of the pancreas, Küttner recommends suture in preference to plugging; but care must be taken that the sutures are not inserted so deeply as to wound the superior mesenteric artery.—*Beiträge zur klinischen Chirurgie.*

Fistula in Ano.—In certain tuberculous patients, when anæsthesia and confinement to bed are undesirable, and when the sphincter is relaxed (as is usually the case in such patients), cure can be obtained by operating under cocaine. If, however, anæsthesia is desirable, a more rapid and certain cure can be obtained, in the subtegumentary variety of fistula, by dissecting it out rather than by incising it.—Walter C. Wood.

In cases of old fistulæ, by carefully dissecting out the scar tissue, and suturing the wound from the bottom, satisfactory results had been obtained, and the period of confinement is materially shortened. By injecting a strong solution of methylene blue the fistulous tracks can more easily be followed out than when a probe or fine bougie is used.—J. P. Warbasse.

Removing Needles from the Tissues by the Aid of the X-rays.—An original method of accomplishing this frequently necessary surgical operation is described by E. W. Shenton in *Medical Electricity and Radiology*. The needle having first been definitely located by means of the *x*-ray, the limb is turned about in such a fashion as to foreshorten the needle until it appears as a single point. At a point upon the skin corresponding with this end of the needle is placed an ink spot, upon the opposite side is placed another. It will be readily seen that a line joining these two points will pass through the needle in a line parallel with its axis. If the tissue now be taken between the thumb and finger and pressure be exerted upon the two ink spots, the needle will be caused to move toward the surface corresponding with its sharper end. The tissues are compressed slowly and evenly, and time is allowed between each pressure for them to regain their natural position. The needle will always travel toward the surface contiguous to its sharper end, and where this is too blunt to penetrate the integument, a prick with a scalpel will generally suffice.

Remove Neoplasms.—If possible, neoplasms should be removed wherever situated and whatever their apparent nature. There is always some uncertainty in the diagnosis, and benign tumors may become malignant.—Richardson.

Angioneurotic Erythema.—Joseph C. Bloodgood reports three cases in which neurectomy was performed with apparent permanent relief.

Pyorrhœa Alveolaris.—Hermann Printz advises the use of strong organic silver salts, applied by means of a platinum loop.

Warnings after Accidents.—Never forget to warn your patient that a Colles' fracture, even when treated with the greatest care, leaves some deformity; and that there may be loss of power in the deltoid after dislocation of the shoulder.—Fenwick.

Gastric Ulcers Treated by Excision.—Sinclair White reports five cases of gastric ulcer with evidences of perforation treated by excision. In each case the rupture was in the anterior wall of the stomach and the stomach contents reached the pelvis. A glass drainage-tube was passed into the pelvis through a small suprapubic incision and kept in for two or three days. Three patients recovered, and two died some time after operation as the result of ulceration of the mucous membranes along the line of suture.—*British Medical Journal.*

Book Reviews.

Der Einfluss von Boden und Haus auf die Haufigkeit des Krebses, nach Detail-untersuchungen in Bayern. Von Dr. Karl Kolb. Munich: J. F. Lehmann, 1904.

In a number of localities cancerous diseases have appeared with such frequency as to assume an almost endemic character. This frequency has been attributed to geological and physical characters of the soil and climate, and in this volume Kolb has studied in detail the conditions as found in a certain number of selected districts in Bavaria, where, among the foot-hills to the north of the Alps, cancer has been particularly prevalent and attended with a high mortality. The influence of the soil on the occurrence of cancer is dependent on the amount of moisture present. The death rate is increased in tertiary sections where the soil is clayey and more or less impervious, but is lessened where the soil is gravelly and porous. Chemical constituents have an important bearing on the case, the presence of clay favoring that of chalk, diminishing the liability to the production of cancer. Organic materials in the soil are also of importance. The upper layers, however, seem to be the ones which exert the most influence. The bearing of the habitation on the prevalence of cancer is entirely dependent on the soil on which it is built, and in certain instances it was found that particular groups of buildings presented a death rate six times that of the immediate neighborhood. The author believes that his observations, although necessarily incomplete, point to microorganisms as the cause of cancer. The probability is that they are widely distributed saprophytes, which in only comparatively rare instances find the proper host and conditions for a symbiotic existence. They are chiefly found in the soil of damp cellars, from which they find their way, in the form of dust, into the human organism. In the latter, the main points of entry are the alimentary tract and the female genitalia. Although the author describes the conditions as believed to exist in a particular locality, there are many suggestive points applicable to other regions.

Vorlesungen über den Bau der nervösen Zentralorgane des Menschen und der Tiere. Von Prof. Dr. Ludwig Edinger. Leipsic: F. C. W. Vogel, 1904.

Edinger's lectures are to students of neurology what Gray's Anatomy is to beginners in medicine. They are the most reliable source of information concerning the architecture and anatomy of the nervous system in any language. The fact that a highly technical treatise should have passed through seven editions in less than twenty years, shows that its worth has been appreciated. The text of the present edition has been completely rewritten and the illustrations materially increased in number. The volume is still cast in the form of lectures. Part I is taken up with a brief retrospect of the history and methods of investigating the central nervous system, the ganglion cells and nerves, fundamental conceptions, the construction of the nervous system from a physiological standpoint, and remarks on peripheral innervation. In Part II are discussed the development of the brain, the contour of the human brain, the peripheral nerves, roots, and spinal ganglia. The spinal cord has four lectures devoted to it, and no one can read the masterly presentation of the subject without admiring the author's grasp of the subject and his capacity for conveying it. The remaining lectures are devoted to the origin of the cranial nerves, to the oblongata, pons, and brain stem, the hind-brain, mid-brain, and fore-brain. The cortex of the brain is considered in a separate lecture, and here much new material has been added. In the last lecture a general survey of the subject is attempted. It is a work of supererogation to recommend this most valuable and entirely trustworthy work. It is essential to all students of neurology.

Elements of General Radiotherapy for Practitioners. By Dr. Leopold Freund Vienna. Translated by G. H. Lancashire, M.D., Brux, M.R.C.S. Eng.; L.R.C.P. Lond.; Assistant Physician to the Manchester and Salford Hospital for Skin Diseases. With 107 Illustrations in the Text and one Frontispiece. New York: Rebman Company, 1904.

Freund's original work was well received. It was an account of what the writer had observed, worked out, and found practical. The author was a pioneer in his line, and as such was looked to for guidance in a new realm of science. He wrote in the rational manner of frequent and free quotation from the writings of others, commenting upon and criticising their deductions. Much has been accomplished in the matter of history-making in ray therapy since Freund's work appeared. While advance in one direction has been in a measure suggested by the "Notes on Instrumentation," from the pen of Dr Clarence A. Wright, published in connection with the translation, the actual work of recent years of treatment is not sufficiently represented. The translator's work has been well done and with evident great care. The table of contents includes Elements of electricity; Treatment with high-frequency currents, Treatment with X-rays Becquerel rays, Treatment with heat and light rays, a short appendix and list of authors. The illustrations are chiefly of instruments and apparatus. The printer has made a book light in weight. The subject matter is in no wise so to be considered, but, in the rapid strides of the subject some of it must be considered as inadequately representing the present status. The work will always attract attention as representing Freund's personal exploits and findings.

Roentgen Ray Diagnosis and Therapy. By Carl Beck, M.D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital; Visiting Surgeon to St. Mark's Hospital and the German Poliklinik. With 322 illustrations in the text. New York and London: D. Appleton & Company, 1904.

This book fairly represents a large amount of literature that has appeared in recent times. The subject being so new and important it is quite necessary that learners should not acquire knowledge which they will be forced to forget and learn anew. Notwithstanding the statement in the preface concerning the prime importance of a knowledge of the principles of construction and operation of the implements used, out of a total of 460 pages, only seventeen are devoted to a consideration of this important subject of apparatus. We think the utility of the work to the general practitioner would have been enhanced had the author devoted more space to this subject.

Three hundred and thirty odd pages are given to the subject of diagnosis. In these fully one-half of the available space is occupied by shadow pictures. This we cannot but regard as a blemish, for it is now generally considered that whatever diagnostic value there is in a skiagraph lies in the negative and is lost in reproduction, especially in so poor a medium as a half tone. In the short section on the therapeutic applications of the rays, mention is accorded the different conditions in which the ray has been demonstrated as of undoubted value. The illustrations here are less numerous and of better quality than in other parts of the book. They are mainly of cases of cancer that have occurred in the practice of the author.

Although the book is intended only as a treatise on the *x*-ray, some space is accorded a consideration of the Becquerel rays, radium, the Finsen light, and high-frequency currents. Concerning the Finsen light, the author says that "we know that the ultraviolet rays are composed of the blue, violet, indigo, and ultraviolet portions of the spectrum, while the nature of the Röntgen rays is still x, that is unknown." Again, referring to the Finsen method, he says that "all in all, this mode of treatment cannot, ingenious as it is in its present state, compete with the Röntgen method." While this is in a way true, we do not think any comparison should be made between the methods. They are separate and apart, and anyone who has made the subject a matter of study, or who has seen the Lysinstitut at Copenhagen, cannot speak disparagingly of the Finsen method.

In the present state of our knowledge regarding radiodiagnosis and radiotherapy, any contribution on the subject is to be welcomed, especially from such an original worker and acknowledged authority as is the author of this book. We have pointed out some of what seem to us to be weak points in the work—the good there is in it will speak for itself. The beginner cannot go far astray with the author of this really excellent treatise as his guide.

The Extra Pharmacopœia. Revised by W. Harrison Martindale, Ph.D., F.C.S., and W. Wynn Westcott, D.P.H., H.M.'s, Coroner for Northeast London. Eleventh edition. London: H. K. Lewis, 1904.

The originator of this unique and most useful little book has died since the publication of the tenth edition, but the work of revision has been carried on by his son in coöperation with Dr. Westcott, a coadjutor in the work since its inception in 1883. More than three hundred new titles have been added, to make room for which a number of the older preparations were dropped. An entire new section, entitled "Radiology," has been added; this includes a discussion of radium, *x*-rays, the Finsen light, the high-frequency current, radiant heat, and reflected sunlight. There is little more to add concerning this new edition, except that the revisers have succeeded in maintaining the excellence of the work. We know of no more serviceable and more accurate therapeutic manual than this. It is of small size and readily portable, very complete in its treatment of drugs and their application, and accurate in statement—in short, an excellent book of ready reference in therapeutics.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Seventy-second Annual Meeting, Held at Oxford, July 26, 27, 28, and 29, 1904.

(Special Report to the MEDICAL RECORD.)

(Continued from page 278.)

SECTION OF MEDICINE.

Third Day—Friday, July 29.

Heart Disease in Pregnancy.—The first papers of the third session of the section were on the maternal heart in pregnancy and the management of cases of pregnancy complicated by heart disease and were communicated by Dr. J. MACKENZIE of Burnley and Dr. H. O. NICHOLSON of Edinburgh. The changes observed indicated impairment of the left ventricle and engorgement of the right side of the heart. Danger to be expected from conception would be indicated by evidence of failure of compensation, and from evidence of a degree of auricular paralysis associated with mitral stenosis. This diagnosis was founded on the occurrence of continuous irregularity of the pulse, a diastolic murmur without a presystolic murmur of the crescendo type, and the alteration of the jugular pulse from one where it was produced mainly by the auricle to one where there was only one wave and that synchronous with and due to the right ventricle.

Bradycardia.—Dr. G. A. GIBSON of Edinburgh read this paper, which was illustrated by tracings. In one case with a radial pulse rate of 26 there were for each beat three or four pulsations in the jugular vein indicating auricular contractions between successive ventricular beats. The most benefit in treatment he had obtained from drugs of the digitalis and strophanthus group, with graduated exercises.

Serum Treatment of Disease.—Dr. E. GOODALL introduced a discussion on this subject, limiting his remarks to antisera proper, antitoxic and antimicrobic, to be used in two kinds of cases—those of intoxication and those of infection. An historical account of serum treatment was given and shortly discussed in relation to the less amenable diseases, such as tuberculosis, pneumonia, and anthrax and in greater detail in regard to others. In regard to diphtheria the experience of the hospitals of the Metropolitan Asylums Board's fever hospitals was given. The education of the fatality first observed on the introduction of the antitoxin was shown as follows—before, the mortality in successive years was 59, 39, 30, 29, and after, it was 22, 17, 12, 11, and last year 9.6 per cent. of case mortality. In the tracheotomy cases before antitoxin there was a recovery of 29 per cent. only, since then there had been a recovery rate of 62 per cent., excluding a recovery rate of 82 per cent. of intubation cases. Since the introduction of antitoxin the number of paralysis cases had increased, but this was entirely among those brought under treatment at a late date, and many of whom it was to be assumed would have died in former days. Early antitoxic treatment greatly obviated the tendency to contract paralysis. The immense value of serum treatment in this disease was amply proved. In regard to tetanus, the spasms were a late effect and were comparable with the paralysis of diphtheria. Statistics went to show that every case of tetanus should be treated with antitoxin, especially the chronic cases, but it had to be admitted that the outlook was not promising.

In regard to snake-bite, reference was especially made to the need for multivalent sera. In regard to hay-fever, allusion was made to Dunbar's antitoxic serum and to some beneficial results which were obtained from its hypodermic injection; this, in fact, seemed to be the most efficacious remedy that had been brought forward. In regard to plague, the evidence seemed to be certainly in favor of the serum treatment. As to typhoid fever, it was very difficult to produce an immunizing serum. In a certain hospital in Paris in which serum was used thers was a mortality of 3 per cent., while in other hospital in which it was not used there was a mortality of 19 per cent. The need for recording the age of patients under treatment was strongly emphasized. The results were encouraging, but no more than that could be said. Antistreptococcic serum, an antimicrobic agent, had been used in many different conditions, especially in puerperal fever, but this condition was due to many causes, and it was not likely to do any good in sapræmic cases or in microbic, other than streptococcic, cases, besides this the serum should be for a particular strain of streptococcus. Erysipelas and plegmonous inflammation of the skin certainly seemed capable of amelioration by antistreptococcus serum. In reference to dysentery it was still doubtful whether it was a microbial or a toxic disease and its use was still problematical. The prophylactic use of sera was apparently applicable in diphtheria, it should be used in the case of tetanus in countries where it was epidemic. The suggestion had been made to use antistreptococcus prophylactically. Dosage and the question of standardization were discussed. The estimation of the standard of the minimal lethal dose seemed to be open to fallacious variation. Probably all standardization should be under the official supervision of the State. The earlier the treatment was undertaken the more likely a favorable result. The untoward effects of serum treatment, such as rashes and pains in the joints, were alluded to. There were probably no absolute contraindications of the serum treatment. Although serum therapy has won a great triumph in diphtheria, the same could not yet be said for other diseases.

Dr. C. J. MARTIN asked how far it was advisable to administer antitoxic sera intravenously. Reference was made to experiments on snake venom by Sir Thomas Fraser—an amount of toxin neutralized by a given amount of antivene *in vitro* was neutralized by the same amount if injected into a vein but required ten or twenty times the amount if injected into another part of the body, suggesting the slow absorbability of the antitoxin. If then there was need for hurry in treatment, antitoxin should be injected into a vein.

Dr. F. F. CAIGER limited his remarks to diphtheria and discussed the whole subject historically and generally. He had not had any very satisfactory results from multivalent sera in diphtheria. As to after-effects, they bore no relation to the antitoxic efficacy of the serum. He could give antitoxin in every case of diphtheria in a young child; in older patients he exercised some judgment in witholding it. Dr. Bulloch pointed out that while in the case of diphtheria and tetanus the poison produced was extracellular, in the case of other diseases the toxin was in combination with the proteid of the organism. Its solution in the latter case had been obtained in only the case of cholera and typhoid fever. Of other diseases in which immune body and complement were required to ensure the destruction of the organisms, the organisms involved were the common attackers of man, as for instance, the pyogenic cocci. In the last case there was not only no good reason for using the sera but there were even reasons for not using them. It was even likely that the immune body of man did not combine with the complement of the horse. The injection of serum might do harm by the complement being taken up by unattached immune bodies, leaving the bacteria unacted upon. Thus the therapeutic value of other than true antitoxic sera was doubtful. In the case of certain toxins the degree of protection was very slight, *e.g.* protection against more than three or four lethal doses of staphylococci could not be obtained. The method for the future would probably be vaccination of patients with the specific bacteria, so that they might themselves manufacture their own antitoxin.

SECTION OF OBSTETRICS AND GYNECOLOGY.

First Day—*Wednesday, July 27.*

THE President, Dr. F. H. Champneys (London), in opening the proceedings, welcomed Professor Olshausen (Berlin) and Prof. B. S. Schultze (Jena), who were present.

Treatment of Accidental Hemorrhage.—Sir A. B. MACAN, ex-Master of the Rotunda Hospital, Dublin, opened the discussion on this subject. He expressed his indebtedness to a paper on the subject by Dr. A. W. Holmes, which had appeared in the *American Journal of Obstetrics*, and said that, at the present time, there was no subject in obstetrics about which such opposite views prevailed as of the one under discussion; this was true, both of the more serious methods of treatment, as cæsarean section and accouchement forcé, and of the simple, as rupturing the membranes or plugging the vagina, and a really satisfactory method of treatment had yet to be found out. This, also, was the conclusion arrived at by Dr. Holmes in the paper already mentioned. He thought that the system of plugging the vagina and putting on a binder and perineal bandage was the most efficient method of treating all but the most severe cases.

The causes could be divided into (1) accident, (2) disease, and (3) failure in the mechanism of labor. All modern views agreed that disease was the most important cause. This might affect the placenta and membranes, or uterine wall, or might be a general blood disease, as scurvy or hæmophilia. As regarded the third cause, the abnormalities in the mechanism might be: (1) Bag of membranes persisting too long and pulling on placenta; (2) retraction ring rising too high in prolonged labor and causing diminution of the area of the placental site; (3) cord too short; (4) delay in delivery of head in breech presentation, the uterus contracting and so diminishing the placental site; (5) sudden escape of liquor amnii.

The conditions tending to arrest the hemorrhage naturally were: (1) Weakening of the heart's action; (2) increase in intrauterine tension from pressure of effused blood; (3) formation of thrombi. The causes of the hemorrhage remaining internal were: (1) Small amount; (2) the site of the bleeding being in the center of the placenta, the hemorrhage then goes on in concentric rings until the blood reaches the edge; (3) the position of the hemorrhage in regard to the os; (4) the tone of the uterus (5) the fetal head blocking the lower uterine segments. His view was that contraction of the uterus only arrested hemorrhage during the contraction and that retraction was necessary to arrest bleeding, the latter not occurring while the fœtus was in utero.

If the placenta came into the distensible zone between the internal os and the retraction ring, forming a slight degree of placenta prævia, it could not be reached with the finger, and so a differential diagnosis in these cases was impossible.

In internal hemorrhage a localized swelling of the uterine wall could sometimes be made out. In combined hemorrhage there were constitutional symptoms out of all proportion to the amount of blood lost.

The first indication was, if possible, to arrest hemorrhage without removing the child, and if that could not be done, then, second indication, we must empty the uterus. The third indication was to arrest postpartum hemorrhage. The fourth, to treat the resultant anæmia. He used plugging of the vagina and cervix with pressure on the abdomen by a tight binder to comply with the first indication. Herman Galabin and Holmes were against this. Smyly, during his masterhsip of the Rotunda, resuscitated plugging from the discredit into which it had fallen, but limited its use to cases in which the membranes had not ruptured. Pusefoy, a later master of the Rotunda, applied it to all cases.

Pusefoy advised placing the patient in the lithotomy position, using separate plugs of cotton wool soaked in perchloride solution, and applying a tight binder and a T-bandage; if the pains became vigorous he took off the perineal bandage and removed some of the plugs. He (Pusefoy) had treated forty-two cases in this way with two deaths. The last four masters of the Rotunda were firm believers in this method of treatment. If the hemorrhage could not be checked by this plan, he was entirely in favor of cæsarean section in preference to accouchement forcé. If dilatation of the cervix was decided on, he gave the preference to Trommel's modification of Bozzi's dilator, which had eight prongs instead of four.

Dr. GALABIN of Guy's Hospital, London, had met with two cases in which accidental hemorrhage was due to partial vesicular degeneration of the placenta associated with a living fœtus. He would hesitate to treat concealed accidental hemorrhage by plugging. He thought the danger of further hemorrhage and of shock was great in cæsarean section, and he would prefer to use Bozzi's dilator.

Dr. MUNRO KERR of Glasgow said that the statistics of the Glasgow Maternity Charity, showed twenty cases in three years.

The maternal mortality was 20 per cent.; and infantile 95 per cent. He believed in the method of treatment by plugging. Four extremely severe cases had been treated by accouchement forcé, and of these three died, two from postpartum hemorrhage; in such cases in the future he intended to do vaginal cæsarean section.

Professor BYERS of Belfast recognized two types: (1) Concealed; symptoms of bleeding with no blood appearing internally. He considered this the most serious complication of midwifery next to sepsis, as the uterine wall had lost all tonicity. He favored opening the abdomen in preference to accouchement forcé, having had disastrous results from the latter proceeding. (2) When some blood appeared externally; this was more favorable, as it showed the existence of some contractile power in the uterus. In these cases plugging gave the best results. Recent statistics of the mode of treatment at the Rotunda gave fifty-seven cases with one death. He also had experienced disastrous results from accouchement forcé.

Dr. JOHN CAMPBELL of Belfast packed the cervix as well as the vagina, using lithotomy position. Speculum and vulsella.

Dr. NICHOLSON of Edinburgh had found that the postpartum bleeding in these cases could be checked by packing with iodoform gauze soaked in adrenalin chloride solution.

The PRESIDENT would divide the cases into three classes, namely, those in which (1) nature will effect a cure. (2) Patient's life in imminent danger. (3) The case goes on all right if treated well, but may go wrong with bad treatment, and it was this last class of cases which could be best treated by plugging.

Dr. Macan, in closing the discussion, said he hoped that plugging would be extensively used in the slighter cases and the results reported.

Operation for Carcinoma Uteri in Germany.—Professor OLSHAUSEN of Berlin then read in English a paper on this subject. He said that those in favor of extensive abdominal operations for cancer were numerous in Germany and Austria, although himself and a few others favored the vaginal operations. On the question of removing glands, Mackenrodt removed all glands within reach; it was impossible to know which were affected. Glandular affection was usually late. It was impossible during operation to recognize infection of glands, for small ones were sometimes infected while enlarged ones were not. The removal of glands must involve removal of surrounding connective tissue, but operations like those which were carried out on the breast were quite impossible in this region. These operations on cases in which the growth extended beyond the uterus had a high mortality, and injuries to the urinary tract were very common, amounting to 39 per cent. He performed vaginal hysterectomy in 61 per cent. of the cases which came under his care. Up to 1903 (commencement of) he had operated on 671 cases with a mortality of

6 per cent. Since then he had operated on 137 cases with six deaths, or a mortality of nearly 4½ per cent. The statistics of 500 cases showed that at the end of two years after operation 78 per cent. were living; at the end of five years 30 per cent. Showing that more cases died between the end of the second and the end of the fifth year after operation than in the first two years. He held that the extensive abdominal operations lately advocated were not justified by the results, and thought that vaginal hysterectomy was the best surgical treatment for uterine cancer. Professor Olshausen was thanked for his paper, and this concluded the business of the sitting.

Second Day—Thursday, July 28.

Removal of Fibromyoma of Left Ovary 22½ Pounds in Weight.—Dr. J. Singleton Darling of Lurgan, Ireland, reported this case and showed the specimen.

Drs. Parslow of Birmingham, Fairbairn of London, and MacLean of Cardiff discussed the case, and all were of opinion that the tumor had the appearance rather of a fibroid of the broad ligament than of a true ovarian fibroma. A special committee of three members was formed to examine the specimen and report to the next meeting of the Section.

Two Cases of Urethrovaginal Fistula Treated by Operation.—Dr. F. J. McCann of London read this communication. The first case was delivered by forceps. Chronic retention of urine with dribbling from overflow followed. A slough separated, laying open the whole urethra and the base of the bladder. At the operation the bladder and urethral mucous membrane were separated from the vaginal over a considerable area, and the wall of the urethra and bladder united by catgut sutures. The bladder, however, was contracted and appeared to have lost all power; efforts were made to distend the bladder by fluid pressure, but incontinence persisted and patient now wears portable urinal. The same case followed version and craniotomy on aftercoming head, and a similar operation was completely successful.

The President said that he had found cases in which the bladder was contracted owing to the habit of very frequent micturition, and had successfully treated them by gentle fluid pressure of not more than a foot of water.

An Early Case of Chorion Epithelioma Following Hydatid Mole.—Dr. Smallwood Savage of Birmingham reported this case. There was a history of irregular hemorrhage for nine weeks, wasting, dyspnœa, and pain. On examination uterus reached to umbilical, the finger could be passed through os and felt soft, doughy mass in cavity. An anæsthetic was given and a large amount of hydatid mole removed. Two months later profuse hemorrhage, producing faintness, set in, and a fortnight later vaginal hysterectomy was performed. Five months had now elapsed since operation and the patient was in good health. The specimen, together with photographs and lantern slides of microscopical sections, were shown; the growth was seen to occupy an area the size of a sixpence on the posterior wall midway between cervix and fundus; it was wedge-shaped, with its apex to the peritoneal aspect. The sections showed villi, syncytium, and Langham's polyhedral cells.

A Case of Deciduoma Malignum.—Mr. Christopher Martin of Birmingham reported this case. The patient was fifty years of age and there had been no pregnancy for six years; severe uterine hemorrhage set in and the uterus was removed. Some weeks later hæmoptysis set in and patient died with secondary growth in the lungs. Microscopical section proved that the growth had all the characteristics of deciduoma malignum. The sections, together with the uterus, were shown, also a lantern demonstration of the photo-micrographs.

A Case of Chorion Epithelioma.—Dr. Thomas Wilson of Birmingham reported this case. The patient, a single woman, had been delivered of a hydatid mole some time previously, and when she was admitted to hospital she presented all the signs of advanced malignant disease of the pelvis and lower abdomen, and operation was considered to be out of the question. She died soon afterward and post-mortem examination showed a malignant growth of the uterus, which had passed through the uterine wall and invaded bladder and intestine. Microscopical sections showed the growth to be a typical chorion epithelioma. A lantern slide demonstration of the microscopical appearances in this case was also given.

Both Dr. Martin's and Dr. Wilson's cases were alike in the fact that the intrauterine growth was extremely soft and almost exactly resembled blood clot.

Suggestions for the Prevention of Puerperal Infection in Private Practice.—Dr. Byers of Belfast read a paper with this title. He pointed out that while the mortality from sepsis in lying-in hospitals had been almost banished, the mortality in private practice in the United Kingdom, as shown by the Registrar General's returns, was still almost as high as before the introduction of antiseptic treatment. The researches of modern observers had shown that there were no pathogenic organisms in the uterus and vaginal canal, but that they swarmed on the labia and hymen. The most potent cause of puerperal sepsis was vaginal examination, and, in his opinion, the best way of prevention was to dispense with vaginal examination almost entirely. The majority of labors might be perfectly satisfactorily conducted by abdominal examination alone, and he strongly advocated that more stress should be laid on the importance of abdominal palpation in the teaching of both medical students and midwives. When vaginal examination was absolutely necessary, the hand should be carefully sterilized with soap and water and perchloride solution. No lubricant should be used. He laid particular stress on the importance of avoiding contamination of the right hand, with which he made vaginal examination, after it had been cleansed, and advised that the labia should be cleansed with soap and water and perchloride, and afterward carefully separated by the fingers of the left hand before the right forefinger was introduced.

A paper by Dr. Munro Kerr of Glasgow, on "Cancer of the Cervix Complicating Pregnancy," concluded the business of the day.

Third Day—Friday, July 29.

A Further Contribution toward the Study of the Natural History of Tubal Gestation.—Dr. Addinsell of London read a paper with this title. He said the important question in those cases was the one as to whether it was better to operate at once or to wait. He narrated fifteen cases, four of which were operated on and recovered, and the remaining eleven recovered without operation. In the latter cases the subsequent history did not show that there was any later trouble from the effused blood. The patients should be kept in bed from the first onset of signs of hemorrhage. He drew attention to the danger of confusing these cases with cases of ordinary abortion. He laid down the following rules for treatment: (1) If the patient rallied from the primary shock—wait. (2) If there was a further attack of hemorrhage—operate. (3) If the pregnancy was diagnosed before there were signs of rupture—operate. (4) If hæmatocele had formed—wait. (5) If hæmatocele became infected—open from the vagina.

The So-called Ovarian Pain; Its Causes and Treatment.—Dr. Herman of London then introduced the discussion on this subject. He said this pain was felt at a spot about two inches anterior and internal to the anterior superior iliac spine, and pain on pressure there was thought to be due to duct pressure on the ovary. He had, however, by post-mortem experiments satisfied himself that the ovary was not actually pressed on when pressure was made at this spot, and the idea that pain was due to the ovary had been given up because pain in exactly the same spot occurred in hysterical men. He would divide the pain as follows:

1. Peritoneal pain. This was felt at the inflamed spot only and not in the back.

2. Reflected pain. This spot was in the area supplied by the tenth dorsal nerve, and disease of any of the genital organs might cause pain which would be referred to this spot. In this case the pain would also be felt in the loin and over the hip and the skin would be tender. Certain causes of this pain were alcohol, incomplete sexual intercourse, and recurring severe dysmenorrhœa.

3. Neurasthenia. This might be brought about by anæmia, tuberculosis, influenza, or by mental causes. The perplexing cases were those in which pain from organic diseases of the ovary was present in neurasthenic patients, and it was important to remember that the neurasthenic condition might cause the pain to persist even after the cause was removed. The pain was more common on the left side; the explanation of this must be that the left side of the body was weaker and less resistant to pain than the right; as in other diseases, as cancer of the cervix or retroflexion, in which both sides were equally affected by the disease, this left-sided pain was more common.

4. Hysteria. Modern views of neurologists regarded this as a disease of the cerebral cortex. It was characteristic of hysterical pain that it did not follow the anatomical distributions of the nerves, but it affected those parts which the patient regarded as natural divisions of the body, as the foot or the hand. In neurasthenic pain local treatment did no harm, but in hysterical pain local treatment was the worst possible treatment, as it fixed patient's attention on her condition. He next discussed the conditions of the ovary which have been said to be the cause of the so-called ovarian pain. These were sclerocystic disease and cirrhosis of the ovary. The first condition was, in his experience, usually associated with fibroid tumor of the uterus. As regarded the second, he did not believe that shrunken ovaries were generally painful, as alleged by Pozzi. Bland Sutton had pointed out that in so-called cirrhotic ovaries there was no evidence of chronic inflammatory change as in cirrhosis of the liver and kidneys. Cirrhosis of the ovary was not thought to be a disease until it became the custom to open the abdomens of women who had this pain. It had been stated that the cirrhotic ovary was the final stage of the sclerocystic, but there was no evidence adduced to prove this.

The reflected pain due to persistent severe dysmenorrhœa was the only one which could be cured by removing the ovaries. The neurasthenic pain should be treated by rest, food, and sleep, and the removal of the conditions which brought about the neurasthenic condition. As regarded treatment of hysterical pain, suggestion and moral treatment should be used. Operations to carry out suggestion were condemned. If the patient remained in the sorroundings where the condition began it would recur. Speaking generally, no conclusion as to surgical treatment could be drawn unless the cases were observed for a long time. He had used ignipuncture of the ovary; there was always immediate relief, but later the pains returned.

Mr. Bowreman Jessett of London said that pain in the region mentioned was sometimes due to disease of the appendix. He thought that sometimes acute pain was caused by sclerocystic disease and could be removed by excising the diseased portions of the ovary.

Dr. John Campbell of Belfast considered that the pain was sometimes due to a varicose condition of the veins of the broad ligament, and that this was due to a sedentary life and chronic constipation.

Dr. Herbert Snow of London thought that two important causes of the pain were the wearing of corsets and neglect of the bowels, the latter explaining the more frequent occurrence of the pain on the left side. He considered that a common cause of neurasthenia was endocervicitis.

Dr. Stanley Boyd of London pointed out how variable was the occurrence of pain in retroflexion and other pelvic diseases. She had found a varicose condition of the veins of the broad ligament in these cases. The only satisfactory test of the result of operative treatment was—Could the patient return to her usual work afterward?

Dr. MacLean of Cardiff distinguished two types of patients; the florid type, who were generally single, or, if married, sterile, and liked to be considered invalids, and the anæmic type. He had found that resection of the ovaries was often a failure.

Dr. Heywood Smith of London thought that if the pain of dysmenorrhœa began to be felt in the interval, that was a sign that some organic change was taking place in the ovary.

Dr. Cuthbert Lockyer of London had examined microscopically numerous pairs of ovaries removed for chronic pain, and had come to the conclusion, from the pathological point of view, that it was impossible to diagnose ovaries which had produced pain; and many of those he had examined contained follicles and stroma in such a condition that they would have been fully capable of carrying on their functions.

Dr. Inglis Parsons of London thought that sclerocystic disease was sometimes a cause of pain.

Dr. Rabagliati of Bradford thought that the pain was often of a gouty or rheumatic character, and that many of the subjects of it were edentulous and dyspeptic and in the habit of taking meals of tea and bread and butter at too frequent intervals. He advocated rest in bed and regulated exercises, which might be carried out by the patient herself after instruction.

Dr. Fothergill of Manchester called attention to cases in which the pain was associated with temporary enlargement of the ovary, and considered this was due to ovulation, which in his opinion often occurred independently of menstruation.

Dr. Hellier of Leeds advised the examination of each case under an anæsthetic.

Dr. Byers of Belfast would not open the abdomen unless something definite could be felt.

Dr. Forbes-Ross of London thought that there was no analogy between varicose veins in the broad ligament and varicocele in the male, because in the latter case the disease was due to the veins being unsupported.

Sir Arthur Macan of Dublin preferred the name iliac pain, and considered that left iliac pain was often due to disease of the cervix. He drew attention to the marked difference between the results of removing one ovary or both, the latter being so much more serious as regarded after-effects. He had no belief in partial operations on the ovary, as it was impossible to say whether all the diseased tissue had been removed.

Dr. Herman, in closing the discussion, said he doubted whether varix of the broad ligament was a cause of pain, as Pearse Gould had shown that in cases of varicocele in the male the pain was not due to the dilated veins. He had given up ignipuncture and resection of the ovary.

A paper by Dr. MacLean of Cardiff, on "Some Cases of Ectopic Gestation," concluded the business of the meeting.

Section of Surgery.

First Day—Wednesday, July 27.

The Surgical Section met in the Clarendon Laboratory, with a full attendance.

Address of the Chairman.—Horatio P. Symonds, F.R.C.S., Edinburgh, made the opening address, in which he reviewed Listerism and described his experiences in the hospitals at the time of the Franco-German war, and alluded to the first cumbersome methods of antiseptic treatment. He also mentioned the possible advantages of an open-air plan of surgical treatment.

The Present Aspects of Asepsis and Antisepsis.—Mr. P. F. Burghard, in the absence of Mr. W. Watson Cheyne, opened the general discussion on this subject. He read a paper reviewing the present status of surgical treatment,

and said that the modern standard of result was higher than the mere question of recovery. There must be no redness, swelling, or discharge from wounds after operations. He recognized the fact that absolute sterility was practically impossible, and that there were differences of opinion as to the best method of attaining approximate perfection, but not as to the principle involved. The speaker mentioned the usual three channels of infection: (1) The skin of the patient and surgeon; (2) the instruments, sponges, and ligature material, and (3) the air. He considered boiling the most applicable means of sterilizing instruments, etc., and rejected steam, except for trays, basins, etc. As to the use of antiseptics, they all took time and must have good access. They could not, moreover, be used in very strong solutions, but the speaker had had good results with weak solutions used in connection with aseptic methods. The ideal air-tight sterilized operating room was too complicated and was a practical impossibility. The use of antiseptics was a practical necessity on account of the danger of infection from airborne microorganisms. The method in use in King's College Hospital was then described, and the disinfection of the hands was discussed. In the opinion of the speaker, chemical disinfection of the hands was a practical necessity, and he had not found the use of gloves convenient or desirable on account of interference with palpation. He always used prepared and disinfected sponges and had never seen reason to regret such use. He also used certain sponges repeatedly. His dressings were usually moist and antiseptic, made so with 1-2000 sublimate or with the cyanide of zinc and mercury.

Sterilization of the Hands.—Mr. Leedham-Green of Birmingham followed Mr. Burghard with a paper which treated the matter largely from the bacteriological point of view. He had made an extensive series of experiments which seemed to prove that a bacteriological sterilization of the hands was a practical impossibility, no matter what method was employed. The germicidal power of alcohol was emphasized, and the excellence of the soft-soap-alcohol-sublimate method for the hands was insisted upon. Some of the newer and much used methods were condemned as being inferior to this.

Mr. G. Barling considered the hands the chief source of infection and the air the next in importance. In his experience, catgut should be prepared under the supervision of the operator himself, since that prepared by the manufacturers has not been found bacteriologically trustworthy. He called attention to the great bacteriological difference between the hand at the beginning and at the end of an operation, and stated that he placed his chief reliance on aseptic methods of operating, on keeping the wounds free from blood, and free from post-operative mechanical disturbances.

Mr. H. Stiles of Edinburgh emphasized the need of thoroughness, no matter what plan was adhered to. He devoted much attention to his assistants, and believed in being gentle in preparing the skin. He advocated the use of a mixture of lysol, green soap, and alcohol for the operative field, and did not fear infection from the air. He reported one hundred operative cases of hernia in children in which no infection occurred and in which practically no dressing was used. He used no antiseptic solution during operation, liked the use of superheated steam as a sterilizer, and preferred not to allow his house surgeon to do dressings.

Mr. R. Montserrat of Liverpool mentioned the fact that some regions required much more effort in order to secure sterility than others, and remarked that he was a thorough believer in gloves of which he used rather thick ones. He also advocated the flushing of wounds with saline solution.

Mr. G. Hamilton of Liverpool spoke in favor of simplicity and said that he had his assistants wear gloves though he himself did not do so. He had found the permanganate-oxalic method for the hand to be very reliable and he further advised that the number of assistants be kept down as much as possible.

Mr. J. Bush of Bristol described some personal methods. He did not like washing wounds with antiseptic solutions, but used moist antiseptic dressings.

Dr. Rodman of Philadelphia thought that it was easy to get surface sterility on the hands, but that this was not easy to maintain. He described the chlorinated lime soda method of hand-cleansing and characterized it as very severe. He was a thorough believer in the use of rubber gloves and saw no valid objection to them. He emphasized the powers of alcohol, and believed in flushing the wound at the end of an operation.

Mr. C. W. Cathcart of Edinburgh said that our sterilizing method must be simple and must afford the greatest good to the greatest number. He did not see the necessity of restricting too rigidly the number of spectators, but insisted on observance of details in field of operation. He saw no objection to the flushing of wounds with a 1-2000 sublimate solution.

Professor Macewen of Glasgow put himself down in favor of aseptic surgery. He used a 1-20 carbolic solution with glycerin for the hands after the usual scrubbing, and used gloves in some septic cases. He aimed at keeping the wound dry and used gauze swabs, not sponges.

Mr. Burghard, in closing, said that he did not place too much confidence in apparently discouraging bacteriological results. The actual results were too good for us to be thus downcast. Care and attention to detail were what produced good results, and he agreed that simplicity was very important. He not did find gloves satisfactory and got good results without them.

Cysts of the Neck.—Mr. G. H. Edington of Glasgow then read a paper on median cysts of the neck. He said that he divided such cysts into four classes, thyroglossal, ranula, dermoid, and sebaceous. He detailed a number of his own cases and showed a series of photographs.

A short discussion followed and the meeting then adjourned for the day.

Hysterectomy.—Mr. Bland-Sutton of London delivered an address on this subject, devoting most of his time to indications and plan of operation. Cancer was, of course, of the first importance, and the earliest operations, which were by the abdominal route, were failures. The introduction of vaginal hysterectomy marked a great advance, but it soon became evident that, in cases of malignant disease, the remote results of the operation were not good. The choice of operation depended to a considerable extent on the localization of the disease, and the fact that primary cancer of the fallopian tubes might occur and that it simulated cancer of the body of the uterus must be remembered. Operative treatment for such conditions did not give good results, but statistics were improving. He also called attention to deciduoma malignum as a disease occasionally requiring hysterectomy, and mentioned Teacher's collection of 188 cases in which he believed that the efficacy of the operation was sometimes shown. Fibroids and also sarcoma were other important conditions for which hysterectomy might be required. The speaker emphasized the fact that operations for fibroids might be extremely serious, especially in the case of large soft growths. He did not believe that fibroids ever became sarcomatous, such supposed instances being in his opinion malignant from the start. Hemorrhage, septic inflammation, and impacted fibroids were conditions which might require hysterectomy. Aseptic ligature and intraperitoneal treatment of the stumps were two important advances, but the question of panhysterectomy *versus* supravaginal amputation was still somewhat *sub judice*. The ideal method was enucleation, but this was possible in only 10 per cent. of all cases, and it offered no guarantee of continued immunity. However, the matter might often be placed before the

patient fully, and she could be left free to decide what she cared to have done. The speaker liked supravaginal operation for fibroids because it left the vaginal vault almost normal and diminished danger to the ureters. This latter matter was important, for in 152 panhysterectomies, at the Johns Hopkins Hospital, there were nineteen instances of injury to the ureters. Supravaginal operation was not so useful when the cervix was large, soft, or septic. He did not think that the remnant of the cervix was specially prone to the development of carcinoma. Saving the ovaries might be valuable for the patient, and leaving even a small portion was of advantage before the age of forty years, but afterward of no great importance. In about 20 per cent. of his cases he left one or both ovaries. There was a notable parallelism between the ovaries and the thyroid gland in both of which organs cancer might occur after forty, in the period of involution of the organs. A condition of diffuse adenomyama strongly simulated carcinoma and might demand hysterectomy. Two other conditions to be noted were acute sepsis and diffuse fibrosis, following sepsis. The speaker emphasized the fact that there was no need of sentiment in regard to the uterus, and that it should be treated in the same way as any other organ when it required surgical intervention.

Retroperitoneal Neoplasms.—Mr. Alban Doran reported a remarkable case of successful removal of a very large fibrous retroperitoneal growth, weighing thirty pounds, and he made some remarks upon the occurrence of such tumors. He designated his case one of fibromyoma of the mesentery. He exhibited the specimen and said that with such cases the mortality was of necessity high, and the technique difficult. In a large majority of cases, a diagnosis of ovarian cyst had been made. A point which would assist the diagnosis was the fact that over these tumors the resonance was likely to be irregularly dull and tympanitic in patches. In this case the patient was put on a course of strychnine for a week before the operation, and hot saline solution was used in the abdomen at its close.

Mr. Lockyer reported two cases, one, a large cystic fibromyoma removed without hysterectomy, with recurrence in two and a half years, when abdominal panhysterectomy was done; and another case in which panhysterectomy was done for menorrhagia with abdominal tumor. He believed that myomectomy was advisable in cases of true cervical fibroids.

Treatment of Uterine Fibroids.—Mr. Shaw-Mackenzie of London spoke in reference to medicinal and minor operative means of treating fibroids, and mentioned the usual drugs which were said to be useful. He mentioned benzoate of mercury as having a marked hæmastatic action.

Uterine Cancer.—Mr. Stanmore-Bishop of Manchester reported 107 cases of malignant uterine disease from 1893 to 1899, of which five were now living; and seventy from 1899 to 1902, of which twelve were free from disease up to the present. This indicated progress, in his mind. He agreed that even without cure relief might be afforded for a year or so in cases of malignant disease. Nearly all his patients had been operated upon by the vaginal method, which he preferred. He thought it possible for fibromata to become sarcomatous. Of the abdominal methods he preferred panhysterectomy to supravaginal amputation.

Dr. Galabin of London said that he preferred the operation by the vaginal route in cancer of the cervix, and had sometimes done it for disease of the fundus. In one case of great vaginal narrowing he made an accessory iliac incision with gratifying result. Hysterotomy was applicable to a few cases of uterine fibroids. He always decided on panhysterectomy if there was any suspicion of disease in the cervix.

Dr. Murdoch-Cameron stated his disbelief in any medicinal or electric treatment of fibroids. He mentioned a case in which he had found it advantageous to use an elastic ligature on the cervix before he could gain access to the uterine arteries.

Dr. Stanley-Boyd thought that it was desirable to keep the cervix, when possible, so as not to interfere too much with the pelvic floor, but in the presence of cancer he believed in very radical operations.

Dr. Scharlieb preferred panhysterectomy because it is more radical and may therefore obviate later trouble.

Mr. Bland Sutton, in closing, emphasized the unanimity of those present in regard to the indications for operative treatment, and said that he did not wish to be considered as in favor of any particular method.

Intravesical Separation of Urine.—Mr. Bickersteth then read a short paper on this subject, and showed some apparatus and specimens. The method shown was that by means of an instrument which divided the bladder by a longitudinal rubber dam into two chambers, and the speaker noted some very satisfactory results in diagnosis. He said, also, that he considered the character of the flow of great importance, as well as the urinary ingredients. He had found the methylene blue method very good with the apparatus when one kidney was not functionating.

This was followed by a paper, by Mr. A. H. Tubby of London, on "Muscle Grafting in Paralysis of the Serratus Magnus," with some cases. There was a short discussion, after which the Section adjourned for the day.

In the afternoon, at the Radcliffe Infirmary, a number of short papers were read and some clinical demonstrations were given.

Third Day—Friday, July 29.

This morning the interests of the Surgical Section were divided between the regular meeting and the address on "Chloroform" in the Hall of Balliol College, given by Sir Victor Horsley. In the regular meeting there was an extremely busy morning.

Hepatic Drainage.—Dr. Deaver of Philadelphia read this paper, using the term to include drainage of the biliary tract. He enunciated the infective theory of inflammatory processes in the biliary apparatus, and noted the fact that some infections were caused by the passage of the bacillus coli communis through visceral walls into various structures. Cirrhosis of the gall-bladder was occasionally due to ascending infection with one of several varieties of bacteria. The speaker then described the pathological appearances of the gall-bladder and liver in case of partial or complete common duct obstruction, and went on to the question of the time of operation. He agreed with Mayo Robson, that as soon as gallstones gave rise to serious trouble an operation should be done. He considered cholecystostomy indicated in acute infections, in chronic pancreatitis, and in certain other chronic conditions, and cholecystectomy only in chronic obstruction with ulceration and thickening of the bladder, in gangrene, and in cancer. As a point in operative technique, he recommended dissecting away the gall-bladder from the neck upward, after having secured the cystic artery. Most cases of gall-bladder surgery did well when the operation was performed in time. The question was largely in the hands of the general practitioner, who should make an early diagnosis and then call the surgeon. In conclusion, the speaker declared that inflammatory lesions of the biliary apparatus were of infective origin, that the complications influenced the mortality, that prolonged drainage was the salvation of infected cases, and that hepatotomy was only useful in the presence of abscess.

Mr. Jordan Lloyd said that he thought some gall-bladders ought to be removed because strictures might exist even after the disappearance of the stones. He agreed that excision should begin at the neck, and thought accuracy of diagnosis was not so great as it might be.

Dr. Deaver, in closing, said that he thought that a diagnosis could usually, in his opinion, be made with sufficient accuracy to warrant operation.

Carcinoma of the Mammary Gland.—Dr. RODMAN of Philadelphia then read a paper on this subject. He emphasized the futility of incomplete operation, and offered the following conclusions as indicating his position on the matter: (1) Cancer is increasing in frequency. (2) The young are bad subjects, partly on account of their active lymphatic circulation. (3) Early diagnosis and early operation are necessary. (4) When in doubt be ready to do what is radical. (5) The prognosis is worse when the growth originates in the sternal half of the gland. (6) The sound skin should be removed freely. (7) The pectorals should always be removed, and there are no bad effects from this. (8) Remove the supraclavicular glands. (9) There is no special danger in wounds of the axillary vein, the sheath of which should be removed. (10) Always use drainage. (11) An interval of five years should be allowed before claiming a cure. (12) Twenty-one surgeons and over six hundred cases give operative mortality of nine-tenths of one per cent. (13) General practitioners must be induced to make earlier diagnosis, and so avoid internal metastases. The speaker had had excellent functional results after the most extensive operations, and reported some remarkable figures after three and five-year intervals.

Certain Defects in the Usual Operation for Mammary Cancer.—Mr. W. S. HANDLEY of London read a paper with this title. His main point was that the cancerous advance was along the deep fascia in all directions, and that consequently the removal ought to be just as far downward in the abdomen as upward. He did not think that spread of the disease was so likely to occur in the skin. He suggested a modified S-shaped incision, so planned as to extirpate more of the fascia.

Mr. STILES said that he did not think that English surgeons were, as a rule, radical enough, and believed that the good ultimate results in America were due to the extensive operations which were done. He always removed both pectorals, dividing them at their origin, and treated the arm in the abducted position. He agreed that the sheath of the vein should be removed.

Mr. HAMILTON of Liverpool adopted a somewhat less radical operation and saw most of his recurrences in the axilla.

Mr. MONTSERRAT of Liverpool advocated radical operation and removal of the pectorals.

Mr. CHILDE of Southsea insisted on removal of pectorals, and had not had to do skin grafting operations.

Dr. Rodman, in closing, insisted that it was impossible to clear the axilla and Mohrenheim's fossa properly without removal of the pectorals, and he thought removal of the venous sheath extremely desirable.

Freyer's Prostatic Operation.—Mr. W. T. WALKER described and illustrated with lantern slides the anatomy of Freyer's prostatic operation. He went into the histological structure of the capsule of the gland, and made some remarks on the relations of the urethra.

Mr. P. J. FREYER then reported a series of operations by enucleation upon the enlarged prostate. His oldest patient was eighty-four, and from him he removed an enlarged gland weighing 6¼ ounces; his youngest patient was fifty-three years old. The largest tumor shown weighed 14¼ ounces. The speaker noted the fact that a small growth might sometimes cause as much or more obstruction than a large one, and this he attributed to the variable tension of the rectovesical fascia. In 110 cases, three were found to be carcinoma, and in the series since the introduction of the operation there had been eleven deaths, mostly in very old men. He believed this to be a very satisfactory record, since all the patients reported great functional improvement.

Cause of Enlarged Prostate.—Dr. HERRING then made some remarks on this subject. He said that various alleged causes were mentioned, such as adenoma, adenofibroma, sclerosis, hypertrophy, etc., but in his opinion the change was a chronic inflammation due to bacterial action. He exhibited a large number of injection specimens to show the continuity of the ducts of the gland with the urethra.

(To Be Continued.)

Therapeutic Hints.

Trichophytin.—Experiments by Mario Truffi to determine whether or not the toxins produced by the fungus of ringworm might excite a useful reaction if employed in ringworm, after the manner of those of tuberculin in lupus vulgaris, have been entirely unsatisfactory.—*Monatsschrift fur praktische Dermatologie.*

Dysmenorrhœa.—

℞ Gelsemii fl. ext. .....
Belladonnæ tinct. .....āā ʒss
Ms. Sig. ♏ v t. i. d.

The above will often relieve pain in the most obstinate cases. —TAYLOR.

Tonsillitis.—

℞ Sodii sulphocarbolatis ..... gr. x
Sig.: Repeat every two hours. May be taken dry or dissolved in water. —GEO. M. MCBEAN.

Tonsillitis.—

℞ Tinct. guaiaci ammon. ..... ʒvi
Tinct. cinch. comp. ..... ʒvi
Sodii chloridi ..... ʒji
Pulv. acaciæ .....q. s.
Aquæ destill .....ad. ʒiv
M. f Mist. Sig. Shake well. Add teaspoonful of mixture to wineglass of water and use as gargle three times daily. —*Medical Times and Hospital Gazette.*

Ptyalism.—

℞ Tinct. myrrhæ ..... ʒiij
Potass. chlorat. ..... ʒss
Sodii chloridi ..... ʒij
Aquæ destill .....q. s. ad ʒviij
Misc. fiat sol. Sig. Use as mouth wash. Repeat every two hours

Psoriasis of the Scalp.—

℞ Pyrogallic acid ..... gr. xv
Salicylic acid ..... gr. xv
Resorcin ..... gr. xv
Chrysophanic acid ..... gr. vi
Ichthyol ..... gr xv
Oil of cade ..... ʒiv
Lanolin ..... ʒiv
M. —*The Medical Press.*

Articular Rheumatism.—

℞ Menthol .....1 part
Chloral hydrate .....2 parts
Chloroform .....3 parts
M. Ft. Pigment. —S. HERBERT PERRY.

Tooth Powder for Syphilitics.—

℞ Potassium chlorate ..... ʒss
Powdered soap ..... ʒiss
Oil of gaultheria .....q. s.
—W. D. TRENWITH.

Acute Bronchitis.—

℞ Vini antimonialis ..... ʒii
Spt. ætheris nitrosi ..... ʒiv
Liq. ammonii acetatis ..... ʒii
Tr. opii camphorat. ..... ʒii
Aquæ .....ad. ʒviii
M. et Sig. 2 teaspoonfuls every 3 or 4 hours.
—YEO.

Hypodermic Treatment of Syphilis in the Infant.—

℞ Biniodide of mercury 0.05
Iodide of sodium 0.05
Distilled water ..... 10 c.c.
M. Inject ¼ for a dose, into the lumbar region.
—M. SCHWAB.

Calcium Chloride as a Hæmostatic.—

℞ Calcii chloridi (crys.) ..... ʒiv
Syr. opii ..... ʒiii
Aquæ ..... ʒiv
M. Sig. To be taken in 24 hours—renewed until hemorrhage stops. —BARTIGNON.

Diuretic.—

℞ Ext. convallariæ .....
Pulv. convallariæ ..... āā gr. i
For one pill, to be given morning and night.
—MARTIN.

Acute Tonsillitis.—Apply once or twice a day a solution of silver nitrate 60 gr. to 1 ounce—this may abort the disease in one case out of four. —Ingals.

Injurious Effect of Potassium Iodide upon the Eyes.—Galezowsky advises strongly against the use of potassium iodide in syphilis of the eyes. An account of the dilatation of the cerebral blood-vessels it may prove injurious to the retina. In the same manner the state of the nasal and ocular mucous membranes of some people render them peculiarly susceptible to corneal complications developing under the influence of the potassium iodide.

Progressive Muscular Atrophy.—Inject strychnine from $\frac{1}{50}$ gr. up to $\frac{1}{20}$: after two or three weeks omit for a week. —Sir Wm. Gowers.

Avoid complications, avoid exposure to cold and wet, avoid stress, particularly if there be bulbar paralysis. Be careful in feeding to avoid bronchopneumonia from food lodging in the bronchi. —F. W. Mott.

Eye Bruises (Black Eye).—

℞ Acidi acetici dil. ..... ℥v
Tinct. arnicæ ..... ℥i
Ammoni chloridi ..... ℥i
Aquæ ..... ℥v
M. et ft. lotio.

—*Merck's Archives.*

In Painful Chronic Rheumatism.—M. Dieulafoy recommends poultices of bread crumb moistened with spirits of camphor and coated with the following:

℞ Camphor ..... ℥ii
Ext. of opium ..... ℥i
Alcohol ..... q. s

This is placed on the affected surface covered with gutta-percha, held in place by flannel bandages and kept on for eight or ten days.

Tapeworm.—Omit breakfast, the bowels having been thoroughly evacuated the day before. In the early morning give two capsules, each containing 10 gr. of tannate of pelletierine. After this has acted on the bowels, give

℞ Oleoresinæ aspidii ..... ℥ii
Ætheris ..... ℥ii
Hydrarg. chlorid. mit ..... gr. xii
M. et div. in capsulæ, No. xvi.
Sig. i every ten minutes.

To prevent the worm being broken, the evacuations of the bowels should be into warm water.

—Gerhard.

Acute Smygdalitis.—Paint with tincture of iodine, follow by warm water gargle. If no decided improvement follows in twenty-four hours repeat the application.

—Floersheim.

Cystitis.—

℞ Potassii bromidi.....
Sodii bromidi..... āā ℥ii
Ext. belladonnæ sol ..... gr. iv
Ext. buchu..... ℥i
Syr. sarsap. comp..... q. s. ad ℥iv
M. Sig. ℥ss. t. i. d.—after meals.

—Pepper.

Dipsomania.—

℞ Quininæ sulph..... gr. ii
Zinci oxid ..... gr. ii
Strych. sulph ..... gr. $\frac{1}{30}$
Acid arseniosi..... gr. $\frac{1}{100}$
Pulv. capsici..... gr. ii
M. et. ft. pil., No. i. Si. t.i.d.

—Mann.

Chronic Rheumatism.—

℞ Salicylic acid.....
Ess. of turpentine.....
Lanolin..... āā ℥x
M. ft. unguent.

—Huchard.

Dysmenorrhœa.—

℞ Tr. Gelsemii ..... ℥i
Ten drops three times a day, beginning seven to ten days before time of menstruation.

Trunecek's Serum for Arteriosclerosis consists of sodium chloride, 4.92; sodium carbonate, 0.21; sodium phosphate, 0.15; sodium sulphate, 0.44; potassium sulphate, 0.40; magnesium phosphate, 0.35; water, 100. Dose, 1.0 (m xv) hypodermically.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Theory and Practice of Infant Feeding with Notes on Development. By Henry Dwight Chapin. A.M., M.D. Second Revised Edition. 8vo, 342 pages, illustrated, muslin. William Wood & Company, New York. Price, $2.25 net.

A System of Practical Surgery. By various authors. Vol. IV. Translated and edited by William T. Bull, M.D. Surgery of the Alimentary Tract. 8vo, 757 pages, illustrated, half morocco. Lea Brothers & Co., Philadelphia.

A Textbook of Alkaloidal Therapeutics. By Drs. W. F. Waugh and W. C. Abbott. 8vo, 405 pages, muslin. The Clinic Publishing Co., Chicago.

A Compendium of Chemistry, Including General, Inorganic, and Organic Chemistry. By Dr. Carl Arnold. Authorized translation from the eleventh edition. By Dr. John A. Mandel. First Edition. 8vo, 727 pages, muslin. John Wiley & Sons, New York. Price, $3.50.

Transactions of the Fifth Annual Meeting of the Rocky Mountain Inter-State Medical Association. 8vo, 132 pages. Illustrated. Muslin.

The Extra Pharmacopœia of Martindale and Wescott. Revised by Drs. W. Harrison Martindale and W. Wynn Westcott. Eleventh edition. 32mo, 809 pages, leather. H. K. Lewis, London, England. Price, 9s. 6d.

Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the Fiscal Year 1903. 8vo, 572 pages.

Die Tuberkulose als Volkskrankheit und ihre Bekämpfung durch Verhütungsmassnahmen: Ein Mahnruf an das deutsche Volk. Von Dr Max Salomon. 8vo, 59 pages. S. Karger, Berlin, Germany.

Theorie und Praxis der Augenglaser. Von Dr. E. H. Oppenheimer. 8vo, 200 pages. Illustrated. August Hirschwald, Berlin.

What We Owe to Experiments on Animals. By Stephen Paget. 12mo, 72 pages. The Scientific Press, Ltd., London. Price, 1s. 6d. net.

The Case against Anti-vivisection. By Stephen Paget. 12mo, 104 pages. The Scientific Press, Ltd., London. Price, 2s. net.

Precis des Maladies des Enfants. Par le Dr. L. Baumel. 8vo, 600 pages. F. R. de Rudeval, Paris.

The Hayfield Mower and Scythe of Progress. Volume 1. Numbers 1-26. By The Hayfield Mower. 8vo, 175 pages. The Hayfield Mower, Boston, Mass. Price, $1.25 net.

Adolescence: Its Psychology and Its Relation to Physiology, Anthropology, Sciology, Sex, Crime, Religion, and Education. By G. Stanley Hall, Ph.D., LL.D. Volumes 1 and 2. 8vo, muslin. Vol. 1, 589 pages. Vol. 2, 784 pages. D. Appleton & Company, New York.

A Textbook of Operative Surgery Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. By Dr. Warren Stone Bickham. Second edition. 8vo, 984 pages. Illustrated. Muslin. W. B. Saunders & Company, New York. Price, $6 net.

A Textbook of Physiology. By Isaac Ott, A.M., M.D. 8vo, 563 pages. Illustrated. Muslin. F. A. Davis Company, Philadelphia. Price, $3 net.

Transactions of the American Roentgen Ray Society—Fourth Annual Meeting—Philadelphia, Pa., December 9 and 10, 1903. 8vo, 259 pages, muslin, illustrated.

Fifth Annual Report of the State Board of Insanity of the Commonwealth of Massachusetts for the Year Ending September 30, 1903.

A Course in Qualitative Inorganic Chemistry. By Arthur L. Green, Ph.C., M.D., Ph.D., and Charles E. Vanderkleed, Ph.C., B.S., A.C. Fourth edition. 12mo, 158 pages. Arthur L. Green, Lafayette, Ind.

The Doctor's Leisure Hour. By Porter Davies, M.D.; The Doctor's Recreation Series, Charles Wells Moulton, General Editor. 8vo, 352 pages. The Saalfield Publishing Co., Akron, Ohio.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 13, 1904:

	Cases.	Deaths.
Measles	95	8
Diphtheria and croup	211	23
Scarlet fever	50	2
Smallpox	...	1
Varicella	9	...
Tuberculosis	328	153
Typhoid fever	86	18
Cerebrospinal meningitis	...	24

Mortality in India.—India is perhaps most commonly known to us as a land of famine and plague and cholera and a population of 300,000,000. The recent blue book issued by England tells some astounding facts about the Indian people. The death rate is given as 17.3 for upper Burma, 44.1 for Punjab, an average of 31.49, or just double the average in England and Wales. And yet, in spite of that, the birth rate for the country was 39. per 1,000, two and a half times that of England and Wales. and rising in one province to the enormous figure of 56.9. It nowhere fell below 23.9.—*Boston Transcript.*

A Red Cross Home.—The Kansas City *Star* describes at length a project of Dr. Joseph Gardner of Bedford, Ind., for establishing a central home of the International Red Cross Society. In order to render this project effective, Dr. Gardner has donated to the Red Cross a tract of 782 acres, four miles south of Bedford, as a "thank offering to humanity." In giving the tract to the Red Cross Dr. Gardner suggested that it would make an admirable location for the American storehouses, invalid homes, hospitals, and nurse school supply depot of the Red Cross in this country. This suggestion has been approved by the Red Cross officers. It is abundantly supplied with pure water, and its perfect drainage, high location, and sufficient transportation facilities make it an ideal place for extensive public institutions. Hospitals and homes for infirm nurses will be established by the Red Cross.

A Training School Yell.—The *Capital* of Topeka, Kan., prints the following as the yell of the class of '04 at the Wichita Training School for Nurses:

Staphylococcus, streptococcus,
Microbes all!
Sterilize and fumigate,
Watch them crawl!
Big germs, little germs,
Short and tall;
Fat germs, lean germs,
We kill them all!
Antisepsis, that's our call,
We're the largest class of all!

When and When Not to Operate on the Mastoid Bone.—H. Gradle gives the following operative indications in acute mastoiditis. The least suspicion of intracranial extension based on persistent one-sided headache or on any cerebral symptoms gives an immediate vital indication. Whenever a perforation threatens, it should be anticipated by operation, and if it had opened spontaneously through a narrow fistula the danger of pus under tension should be obviated by better drainage. Perforation is inevitable whenever the posterior wall of the meatus of the ear begins to sag, whenever the soft tissues behind the ear show inflammatory infiltration (not merely a pale œdema) or when infiltration begins around and beneath the tip of the mastoid. When the characteristic signs of mastoiditis, viz., pain and tenderness, continue to increase after the third day, or even increase rapidly after the second day, immediate operation is the safest course. When the discharge of acute otitis with mastoid symptoms does not diminish at all in the course of about two weeks of appropriate treatment, chronicity must be expected, even though the mastoid signs diminish. Hence, an operation is proper If the mastoid pain and tenderness begin to diminish after two or three days of climax, the operation may be deferred. Those cases in which the mastoid symptoms remain stationary after the first two or three days belong to the debatable class in which it is difficult to say whether to operate or to wait. If mastoiditis follows ostitis, the discharge of which has ceased, the need of operation is greater than when there is still discharge from the middle ear. Streptococcus infection means greater danger and more need of operation than the presence of the pneumococcus or staphylococcus in the pus of the middle ear. We must generally be prepared for operation, however, until recovery has begun. In cases of doubt an unnecessary operation may be safer than any unreasonable delay. In all acute cases the only operation to be considered is the opening of the mastoid. In chronic disease of the middle ear, it is not proper to resort to operation in the absence of any urgent symptoms until a thorough trial has been given to non-operative treatment. If after all conservative methods of treatment have been tried sufficiently long, there remains a discharge free from odor, the danger to the patient is not greater and probably less from the disease than from the radical operation. If the discharge remains fetid, danger from the disease is as great if not greater than from the operation, while the latter offers at least complete exemption from future danger if not the certainty of a cure. Caries of bone likewise may enforce the indications for operation, but not in every instance. A prompt radical operation is the only safe course in all instances in which irritative symptoms indicate active extension of the disease.—*Illinois Medical Journal*

Health Report.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended July 13, 1904.

		CASES.	DEATHS.
SMALLPOX—UNITED STATES.			
District of Columbia, Washington	July 30–Aug. 6	1	..
Illinois, Peoria	July. 1–31	4	..
Louisiana, New Orleans	July 31–Aug. 6	1	..
Massachusetts, North Adams	July 31–Aug. 6	2	1
Michigan, At 72 places	July 23–30	Present	..
Missouri, Saint Louis	July 31–Aug. 6	2	..
New Hampshire, Manchester	July 31–Aug. 6	1	..
New York, New York	July 31–Aug. 6	3	..
Ohio, Zanesville	July 2–30	3	..
Pennsylvania, Johnstown	July 31–Aug. 6	1	..
Tennessee, Nashville	July 31–Aug. 6	1	..
Wisconsin, Milwaukee	July 31–Aug. 6	1	..
SMALLPOX—FOREIGN.			
Brazil, Rio de Janeiro	June 26–July 3	200	117
Canada, Winnipeg	July 23–30	..	1
Colombia, Barranquilla	July 18–24	..	1
France, Marseilles	June 1–30	..	3
Paris	July 16–23	17	1
Rouen	June 1–30	..	3
Great Britain, Glasgow	July 22–29	7	2
Liverpool	July 16–30	6	..
London	July 9–16	7	..
Manchester	July 9–16	2	..
New-Castle-on-Tyne	July 9–16	10	1
Nottingham	June 16–23	2	..
Sheffield	July 16–23	1	..
India, Bombay	June 28–July 12	24	..
Italy, Palermo	July 16–23	..	1
Mexico, City of Mexico	July 17–24	2	2
Russia, Moscow	July 9–16	5	5
Odessa	July 16–23	1	
Warsaw	June 25–July 2	..	20
Turkey, Constantinople	July 17–24	.	10
YELLOW FEVER.			
Brazil, Rio de Janeiro	June 26–July 3	3	1
Mexico, Merida	July 24–30	1	1
Tehuantepec	July 24–30	4	1
Vera Cruz	July 24–30	1	.
CHOLERA.			
Persia, Teheran	July 9	Severe epidemic	
Straits Settlement Singapore	June 10–18	.	1
Turkey, Bagdad	June 30	3	1
Villages	June 30		404
PLAGUE—INSULAR.			
Hawaii Honolulu	Aug. 4		1
PLAGUE—FOREIGN.			
Egypt	July 2–9	31	15
Formosa	June 25–July 2	35	37
India, Bombay	June 28–July 12	.	73
Peru, Callao	June 25–July 2	.	2
Lima	June 25–July 2	4	1

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THE SUBTLE POWER OF RADIUM.*

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ASSUMING that few members of even so prominent a group of American surgeons as comprise this association have been able to secure specimens of the strongest radium by which to judge of its value to medical science, it gives me pleasure to put on record such observations as I have been able to make during fifteen months with the best radium made by the laboratory of the Curies in Paris. I was able, by cabling a very early order, to get fifteen centigrams (2¼ grains) of the strength 300,000, which was part of the larger amount used by them in their experiments for calorimetric determinations (now historic).

With this and other strong specimens obtained later, including one of German manufacture, denominated a million activity, I have been able to verify most of the interesting work of the foreign observers, and to add some of my own, which will be of special interest to this audience.

Omitting the historic and almost romantic narrative of research and discovery of radium, we may start at the point where M. Curie delivered to M. Danysz of the Pasteur Laboratory a few grains of the same strength as that which it has been my pleasure to use, for the purpose of animal experimentation. In the early spring of last year the first report was made by him to the French Academy. For the purpose of my paper, I will merely extract a few statements.

If the radium, sealed in its glass tube, be placed in contact with human skin for three hours, more or less, it produces a painful burn, followed by sloughing and slow cicatrization, somewhat like the Röntgen ray burn.

With animals, the guinea-pig being specially susceptible, the hair falls and burns follow on the skin. If suspended some inches above young mice, a week old, they are soon killed, exhibiting these symtoms: after three or four hours, irritation, followed by "dopy" condition, progressive paralysis of their hind legs, convulsions, and death. Examination shows congested and inflamed brain and spinal cord.

When seeds are exposed to radium for a few days before planting, they either do not grow or show feeble power.

When two groups of meal worms are placed in jars, in one of which radium is suspended, many of the radiumized worms die—but those which live on show such retardation, that while those of the control test pass through the cycle of life, becoming beetles, which lay eggs, which grow to worms during the allotted three months, and repeat this cycle three or four generations, the radium worms still remain meal worms, veritable Methuselas, as it has been said.

*Read at the St. Louis meeting of the American Surgical Association.

While these experiments were going on, a sufficient amount was furnished also to M. Danlos in the hospital, and experiments were conducted which showed a strong curative power over lupus and superficial epitheliomas, with even destructive effect when too long exposed.

These results resembled those of Finsen light and Röntgen rays, but were more inexplicable as they seemed to emanate from a spontaneous indestructible, unlimited source, emitted by the radium salt, through its glass tube.

My own experience has been largely in an experimental therapeutic line, in application to some forty cases of types of disease, illustrating mostly its action on superficial morbid growths.

Time permits mention of only a few. First and simplest of all, I would like to record a fact which I have not seen mentioned elsewhere, that the ordinary wart (verruca vulgaris), no matter how long existing, has disappeared in five cases to which I have applied radium by laying it in contact for an hour, from one to four times. In three or four days, a pink zone appears about its base and it begins to flatten, and usually disappears inside of ten days, leaving a smooth skin.

This illustrates the retrograde action in morbid cell growths, which may also be seen in tumors of lupus or malignant type.

I am able to show a photograph of an ulcerating lupus of the temple in an elderly subject, which I had been treating for eight years with the usual result of brief cures, and recurrences. One year since he presented himself after a year's absence with a worse condition than ever—I covered the sore with gutta-percha tissue and held the radium tube against it by bandage for an hour and a half. He went to his country home, and I did not see him for a month. Then he presented himself entirely healed. I am able to show you the photograph, taken before and after.

In one case of a most painful and intractable epithelial ulcer of the ear, spreading during two years, and eating away the upper rim (Fig. 1), I tested the comparative action of Röntgen rays and radium. The ulcer was an inch long by a half inch wide. I covered half by lead plate and exposed the other to radium for a half hour; then at the same seance I exposed the other half to *x*-rays for two minutes.

Repeating this every other day, I found rapid healing under both methods. On both, the hard edges flattened, ulcer filled up with pink granulations—newly cicatrizing skin appeared at the edges. By the sixth time the radium was ahead in its efforts, and islands of new skin appeared half healing the sore. After two applications more, however, the *x*-rays had caught up and gone ahead. The patient being anxious to leave town (this being June of last year), I gave a few more two-minute applications of *x*-rays and sent him home to the country. The ulcer very soon healed completely, with soft cicatrix, and has never shown the slightest tendency to recur. (Fig. 2).

Three months later I took a cast which

contrasts with the other one taken before radium treatment. On the second cast we notice a thick spot (red in the original) one-third inch long, on the lower portion, which the patient says is just like the one above as it first began—but he has one also on the other ear. It would not be possible to find two coincident growths more alike, and they gave me an opportunity to compare radium with

Fig. 1.—Epithelial cancer of the ear treated by radium.

x-ray in different localities. To one, I applied my radium a half hour; to the other, *x*-ray as before (two minutes.) Colored casts shown at the meeting but photographs only shown here.

Three applications of each caused absolute disappearance of both. For three months nothing could be seen on either ear. Then the *x*-rayed spot showed a little thickening, which one applica-

Fig. 2.—Same as fig. 1, showing the results of treatment; the patient remains cured after one year.

tion of two minutes cured for good. The radiumized spot has never come back. One year has elapsed, and his ears are without a blemish. A second case (Fig. 3), of two years' growth, resisting all treatment, was speedily cured by six applications.

Considering larger malignant masses, I am able to show you two casts showing positive result of radium only. Along the scar line of an operation done two years before, by me, for cancer of the breast, there came three small nodules in a line, which grew to represent the size of a man's thumb. I laid the radium tube upon these every other day for an hour; a different place each day. On two occasions a blister formed, but quickly healed.

All three masses were slowly reduced in size until after three months (twenty applications), I took the second cast, showing the growth only about one-quarter the original bulk. A retrograde

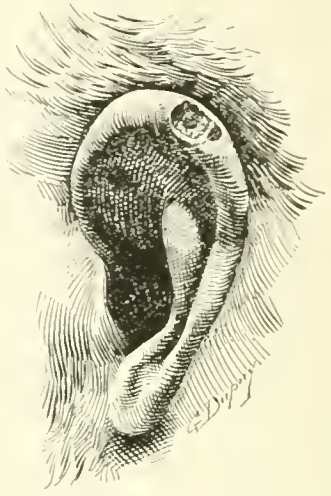

Fig. 3.—Epithelial cancer of the ear, before treatment; a cure was effected by six applications of one hour's duration each, of radium (300,000).

action had everywhere supplanted the progressive growth.

I now desire to record one more marked illustration of the power of radium, and one which gives me greater hope of its utility in surgery than any illustration I have seen.

A lad of seventeen years came to me eight months ago with a soft tumor of the lower jaw-bone bulging within and without. (Fig. 4).

It replaced the substance of the bone, except its lower border, from the middle line toward the left for an inch and a half. In thickness it was one inch, and in vertical measurement the same.

Two incisor teeth and the canine were so loosely

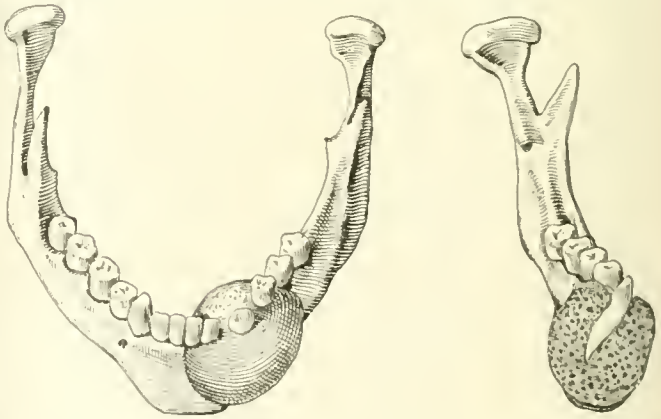

Fig. 4.—Exact representation of a giant-cell sarcoma of the jaw of rapid growth during two months; prior to treatment by radium rays.

imbedded in it that one might have pulled them out by a string. Pressure of one finger under the tongue and one outside gave a soft and almost fluctuating sensation.

On the inner side an ulcerating surface rose half way up on the teeth; and from this a deep piece was cut out for microscopic study. It revealed a giant cell sarcoma. Two submaxillary lymphatics were felt in the neck. From a surgical point of view, it could only be looked upon as a tumor of great malignancy, as it had grown but two

months, and under usual procedure would have required the mutilating operation of excision of at least the half lower jaw.

I decided to give trial for at least two weeks to

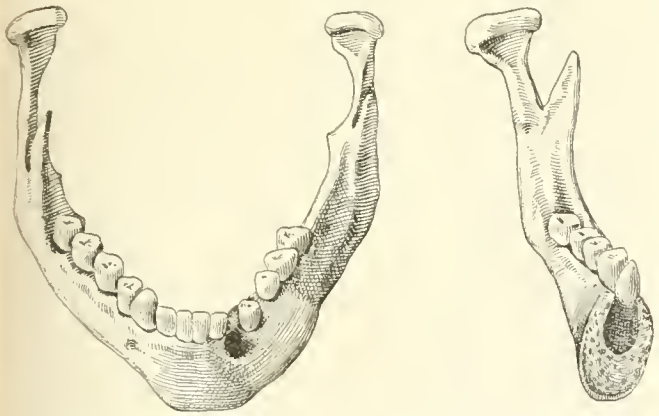

FIG. 5.—Giant-cell sarcoma of the jaw six months after treatment by radium rays was begun.

radium treatment, and continue if anything hopeful followed.

Having taken casts, photographs, and measurement for identification, I attacked the portion under the tongue first, as being most accessible to watch, and as presenting an ulcerated surface, the area of one's little finger nail, on a soft mass growing inward.

I used two grains of French radium (300,000) in its glass tube laid upon the part inside the teeth, with a bit of lead plate to protect the tongue. After four applications of one hour each every alternate day, a marked change was shown. The purple exuberant ulceration grew pink and small and the whole soft internal tumor was shrinking. After the eighth application the entire interior portion had flattened and become hard.

At irregular dates during the next two weeks I made brief applications to this inner aspect.

The effect was so encouraging that I now attacked the outer part. The radium was laid between the gum and lip, but blistered the mucous membrane.

I then determined to plunge it directly into the tumor, although I feared its radiation would be lost in the circulating fluids, as shown by animal experiments in France and Germany, and by myself in the Laboratory of St. Luke's Hospital.

It is usual for a tube of the strongest radium, when sterilized and embedded either in muscle, cellular planes, or peritoneum of an animal, to be encapsulated and apparently inert for from one to three months. I ventured, however, to pierce the tumor by a fine knife placed in front of the teeth and thrust vertically to the lower bony shell. The tumor was uniformly soft, so that the knife penetrated almost by its own weight, and when it was withdrawn blood flowed freely, but was checked when the radium tube was pushed into the knife channel. The tube was half filled by the radium, which occupied nearly an inch in length, and was therefore all buried in the tumor. I left the radium *in situ* three hours. On its removal a piece of gauze, with powdered boric acid rubbed into it, was laid over the spot, and held there for ten minutes.

The treatment was repeated three times weekly for fifteen times. During this period there was a slight but progressive reduction in the bulk of the tumor. Twice I allowed a long interval to elapse because I saw an inflammatory swelling, which at once quieted. The thrust of the knife was usually made at a new point, and it was most interesting to note a gritty feeling of ossification beginning in some places, and less hemorrhage as shrinking progressed. Daily the loose teeth became firmer and stood straighter in their places, which corrobor-

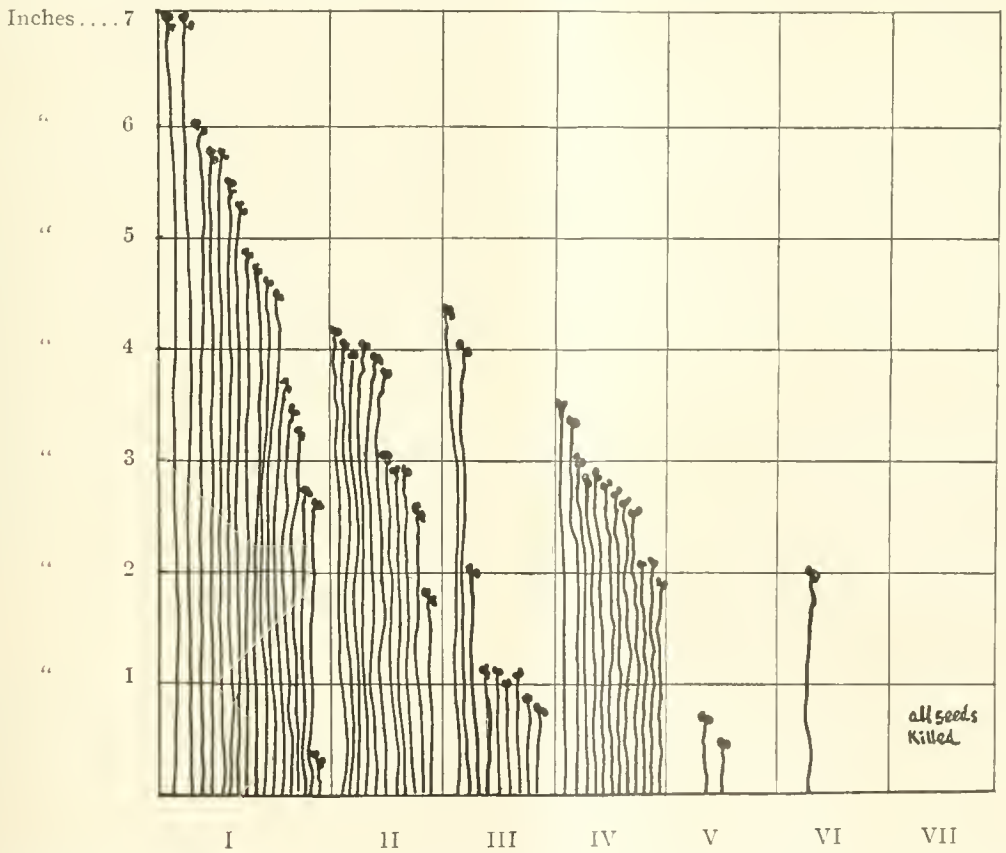

FIG. 6.—Diagrammatic representation of seed growth following exposure to radium rays; twenty seeds in each exposure; I, without exposure, 17 seeds grew; II, exposure for 2 days, 11 grew; III, 3 days, 9 grew; IV, 4 days, 12 grew; V, 5 days, 2 grew; VI, 6 days, 1 grew; VII, 10 days, none grew.

ated my feeling of satisfaction, up to eight weeks of treatment.

Then was noticed a dry black spot near the canine tooth, which spread until a small central piece of the tumor sloughed, leaving a cavity but not affecting the teeth.

Finally a severe grade of inflammation attacked the skin over the tumor and also the half lip, producing a brawny swelling wholly unlike infection but like the inflammation seen in applications of radiant energy elsewhere. This appeared three weeks after the last application of radium, and was so severe that I feared I had done too much and that an external slough would result. A soothing lotion controlled it, however, and after four days it rapidly subsided. During the succeeding four months no treatment has been given, and retrograde shrinkage of all the peripheral remnant of the original growth has followed with progress toward an apparent cure (Fig. 5). The teeth remain firm. The walls have retracted to nearly a natural line and ossific changes have established themselves. A recent examination of a small bit punched out of the center with difficulty, still shows giant cell element, however. This is of great interest and will be spoken of later.

Meanwhile two considerations of the action of radium on growing cells may occupy our attention as they enter into the discussion of the action of this unique force.

The first, is its effect on growing seeds. The second, a microscopic study of its action on malignant cells.

The accompanying illustration (Fig. 6), from photographs of seeds grown for two weeks after being in contact with the tube of radium for varying periods before planting, shows that plain seeds grew seven inches tall, while radiumized seeds were retarded or killed. Rapeseed was used, grown under glass.

To study the immediate effect of radium on cancer under the microscope, I made this experiment.

A mammary cancer required amputation, the breast presented a solid growth, and two secondary superficial flat nodules, each a half inch in diameter. One week before operation I laid the radium tubes on sound skin within the field of operation, for twelve hours, and obtained a lively effect.

On each of six days I chose a different place, once over a secondary growth, and once by direct thrust into the substance of the tumor, where it remained for twenty-four hours. The entire series was then submitted to careful pathological study, after amputation, with these results:

On healthy skin, complete superficial necrosis of the skin took place, with evidence of deeper inflammation shown in leucocyte infiltration into the cellular tissue, and about all the vessels and nerves, with some thrombosis of the small vessels.

Where the superficial cancer area was, there was a marked change. Dissolution and retrograde change in nests of cells near by the radium and less at a distance.

Where the radium was thrust into the tumor, sections were made at right angles to the line of the tube, and a marked sphere of influence was uniformly shown for a quarter of an inch, on all sides. The nests of carcinoma being unchanged outside that limit as far as could be seen, but within it there remained none but degenerated and disappearing cells. What would have been the effect had the pathological change gone on, cannot be said as regards that specimen, because the operation had ended what retrograde changes had been initiated. Microphotographs, casts, and models, of these and other cases, can be studied at the radium exhibit in the government building of the St. Louis Exposition.

To supplement this research, however, I have removed one of the three masses in the patient noted in the early part of this paper, who has had treatment for three months. This mass which had shrunk to one-quarter the former size under radium, showed structure of malignancy still, but with predominance of fiber structure.

What then is my conclusion from the above observations? It is this: Those malignant cells which have escaped destruction and retrograde change, show a striking quiescence; which may mean death of the vital force which makes them malignant. In this connection we cannot fail to be reminded of the seeds which do not grow, and the meal worms which are arrested for an indefinitely long period.

We do not know what constitutes the malignancy of cells. It may not be of germ origin, but merely the erratic and disorderly growth of cells, which have lost their innervation, and grow wildly. A regenerating power may be supplied by the so-styled bombardment by particles of radium atoms carrying each its charge of negative electricity. This must be, as yet, speculative.

The element of heat production is certainly not enough to produce destruction, but an effect such as is shown by Röntgen rays, which seems capable of setting up an inflammation of an entirely unusual type, irritative rather than bacterial, is certainly produced. Whether extreme stimulation is the cause of destruction of some cells; and moderate stimulation the regenerating effect on others to bring them into the line of orderly growth again, will have to be shown by further study. Bactericidal action of radium seems to me to be too feeble and inadequate to account for all we have seen.

It stands proved then, that we have to deal with a very subtle force, unlike that of Finsen light or Röntgen rays, though strongly resembling them in effect; and efficient in some cases in which these fail. The Becquerel rays given off by radium may be rated, as much stronger than Finsen light, as they are weaker than Röntgen rays. It is to be hoped that larger amounts of strong radium may be available for many observers of larger opportunities to aid in further research.

13 West Fiftieth Street.

Heine's Homœopathic Joke.—Ughetti's work, "With Physicians and Clients," contains an anecdote about Heine which is not yet worn threadbare. Returning from a journey to the south of France, Heine met a friend in Lyons, who gave him a large sausage that had been made in Lyons, with the request to deliver it to a mutual acquaintance, a homœopathic physician in Paris. Heine promised to attend to the commission and entrusted the delicacy to the care of his wife. But as the post-chaise was very slow and he soon became ravenously hungry, on the advice of his wife, both tasted of the sausage, which dwindled with every mile. Arriving at Paris, Heine did not dare to send the remainder to the physician, and yet he wished to keep his promise. So he cut off the thinnest possible slice, wrapped it in a sheet of paper, and enclosed it in an envelope, with the following note: "Dear Doctor —From your scientific investigations, we learn that the millionth part of a certain substance brings about the greatest results. I beg, therefore, your kind acceptance of the accompanying millionth part of a Lyons sausage, which our friend gave me to deliver to you. If homœopathy is a truth, then this little piece will have the same effect on you as the whole sausage. Your Heinrich Heine."

CONCERNING SHOCK.*

WITH A CONTRIBUTION TO ITS PATHOLOGY.

By FRANK P. VALE, M.D.,
WASHINGTON, D. C.

In spite of the advances made in surgery in the past half century, since the introduction of anæsthesia and the doctrines of antisepsis, there remains one most dangerous factor in all operations—a condition we call shock. Anæsthesia has robbed surgical intervention of many of its previous terrors, an aseptic technique has practically eliminated the dangers of wound infection—shock, however, remains an unknown quantity, an undeterminable factor in most instances.

From the writings of the surgeons of the first half of the century previous to that just closed, this dreaded factor in modern surgery, most dreaded because now the least determinable, does not seem to have attracted much attention. Nor is this strange when we remember what, as they appear to-day, elementary problems engaged attention. They had not an inkling of the healing of an amputation wound by first intention, almost as many weeks as now days being required in its treatment. Primary and secondary hemorrhage were disasters but imperfectly combated. "The few who survived the bleeding lingered through all the miseries of a nine months' cure, tedious and imperfect, with a conical, ulcerated, and tender stump."[1] The dangers of wound infection were a closed chapter for the next century.

Yet even at this date—early in the eighteenth century—the primary, often fatal, effect of serious trauma, as that produced by firearms, and which we now describe as shock, had been noted. It is in what purports to be the first treatise on gunshot wounds by LeDran in 1737,[2] that we first find a description of this primary effect of an injury. "Such wounds," he writes, "require the surgeon's greatest attention, because they are all complicated, and the bullet, or whatsoever body it is, thrown by gunpowder, acquires such a rapid force that the whole animal machine participates in the shock ('secousses') and agitation which is communicated to the part the moment it is struck. It is scarcely possible that a solid body, driven by gunpowder, should strike any part without communicating at the same time an agitation proportionable to the quantity of matter, to its velocity, and to the resistance of the part. This agitation is technically termed 'commotion,' and we learn from daily experience that it is often communicated to the whole machine, whereby the nervous system (?) is galled and irritated, which puts it in a state of erethism or tonic convulsion, a source of serious accidents. Thus some wounded experience torpor and dulness (*un engourdissement general avec pesanteur*); others have repeated faintings; some have convulsive movements, as hiccup, vomiting, irregular shiverings, or a general rigor; some become yellow, green, or leaden colored, etc."

The symptoms of shock, then, are first described in connection with gunshot wounds, it being conceived that the bullet or ball, in proportion to its velocity and mass, communicated a motion or agitation to the part, which often extended through the whole body, thereby irritating the nervous system. Indeed, nearly one hundred years later, little has been added, and these conceptions are little modified. Thus, in 1826, Travers describes the "Proximate cause of death in these cases as a species of functional concussion, by which the influence of the brain over the organ of circulation is deranged or suspended" —not a great advance over the organic concussion or "commotion" of LeDran.

*Being part of "An Essay on Shock," awarded the Essay Prize (January, 1903) of two hundred and fifty dollars by the Medical Society of the District of Columbia.

To within recent years we find this concussion theory persisting. Fischer,[3] in 1870, writes: "Shock is produced simply by the concussion of the part, independent of pain or loss of blood." Groeningen, also a frequently quoted German authority on this subject, in 1885 ascribes the nerve irritation and exhaustion to the "vibratory" effect of the injury.[4] And in one of our 1901 textbooks[5] shock is described as the result of reflex paralysis of the vasomotor nerves "caused by *traumatic concussion* of a part of the entire body."

Travers is often referred to as having first employed the term shock in its present sense. As early as 1747, however, in an English translation of the treatise of LeDran, above quoted, we find it employed practically as to-day. "The shock with which the patient finds himself, as it were, thunderstruck at the time of the blow, together with the commotion and agitation, may be followed by fatal consequences." (*Le saisissement dont le malade se sent quelquefois frappé à l'instant du coup et la commotion peuvent avoir des suites funestes.*) And Sir Astley Cooper in his lectures[6] mentions "shock" to the nervous system as the most severe manner in which injuries, producing fatal consequences, destroy life—describing a case admitted to Guy's Hospital early in his career, in which death followed a few hours after a crushing injury to the knee, though there was neither a wound nor hemorrhage.

Certainly, however, in Travers' work on irritation,[7] which is really a treatise on surgical pathology—an old dictionary indicating that the doctrine of irritation taught of the immediate and remote effects of injury—we find a more complete consideration of our subject than at any previous time. "Although," he writes, "the fact of death ensuing upon injury of parts not essential to life, even when unattended by hemorrhage, and upon operations not usually esteemed hazardous, has not escaped observation; writers and teachers seem to have contented themselves with the bare statement of it, either from an impression that, being equivalent in effect to death on the spot, or being due to idiosyncrasy, moral or physical, the further consideration of the subject in a practical view was unavailing." Travers' work thus called attention to this condition, and marks an epoch in its history. Thereafter we find a rapidly increasing literature, yet nearly fifty years elapsed before any material addition was made to our knowledge of shock.

In 1834 it was the subject of the graduating thesis of Delcasse. "*La commotion*" he defined as the general or local agitation experienced by certain parts of the body as the result of a fall or a blow. The "*chocs*" were supposed to be transmitted in greatest force through the osseous system. He introduced one important new statement: "It is an arrest of innervation, without which all organs fall into inactivity, their functions suspended."

Dupuytren[38] likened the stupor following wounds to syncope from hemorrhage, the loss in shock being a "hemorrhage," so to speak, of "nervous fluid" or nerve energy. In 1859 Gross[39] somewhat amplified this idea.

Savoy,[8] in 1860, states that death from shock is due to sudden and violent impressions on some portion of the nervous system, acting through it on the heart. This, he writes, is confirmed by the condition found post mortem—the heart full of blood, its cavities distended, and venous system engorged.

In 1870 LeGros Clark,[37] following Ferneux Jordan,[40] described shock as a vital depression—a collapse of energy from a diversion of force—characterized by an influence exerted primarily on the nervous system

and heart, and secondarily on respiration, assimilation, secretions, and senses. Shock resulted from impaired nerve function.

EXPERIMENTAL INVESTIGATIONS.

The first experimental light thrown on the pathology of shock was in 1872. The oft quoted experiments of Goltz are the starting point of our modern conceptions. In his physiological investigations of the heart, in frogs, diastolic arrest was noted following a blow on the abdomen; and though the heart resumed its functions after a pause, it remained pale and transparent, but little blood flowing into it during diastole, and consequently its slow and laborious contractions forced scarcely any into the arteries. On opening the abdomen the vessels were found distended and engorged; if the frog was held in a vertical position scarcely a drop entered the heart, but if held horizontally a small amount of blood trickled in and the circulation was thus feebly maintained.

Here evidently was the explanation of the small weak pulse of low tension, clinically such a prominent feature of shock. The symptomatic resemblance of this condition to hemorrhage was manifestly due to the large amount of blood withdrawn from the general circulation and stagnant in the large abdominal veins. In shock the patient was said to bleed into his own vessels—a so-called "intravascular hemorrhage."

Certainly this was an attractive theory, but as Mansell-Moulin[9] pointed out in 1879, if dilatation of the abdominal vessels was the main factor in the production of shock, the general vasomotor paralysis following section of the cervical cord would result in immediate death. "The extreme loss of blood pressure in shock," he said, "is only a lesser degree of that which takes place normally during the death of an animal."

It was but a short step to the extension of this theory of abdominal vasomotor paralysis to one of general vasomotor paralysis, which to-day is generally accepted. The most recent noteworthy experimental contributions to the pathology of shock have been made by Crile.[10] He also regards general vasomotor paralysis, due to exhaustion of the vasomotor center, as the essential feature of shock. His experiments have dealt in an exhaustive manner with the low blood pressure of shock.

There is abundant evidence of impairment of the vasomotor mechanism in shock, but it has never been demonstrated that there exists a vasomotor paralysis which can be likened to that following section of the spinal cord, which alone approximates the low blood pressure of shock. And some of the experiments of Höber[11] demonstrate that the reduction of blood pressure, following section of the cord, is greatly increased with the shock induced by the intraperitoneal injection of 25 c.c. of a 5 per cent. soda solution—this being added, the excessive reduction of pressure invariably determining a fatal issue.

My investigation of the changes in the specific gravity of the blood and tissues following section of the spinal cord demonstrated that the complete vasomotor paralysis thus produced, drained the tissues of fluid, just as does a hemorrhage. While on the contrary in shock I found the very opposite condition to exist, which leads me to the conclusion that vasomotor paralysis at all comparable to that following cord section—which is essential to the accepted explanation of the low blood pressure of shock—does not exist, and that we must therefore look for other factors in the production of the low blood pressure of shock. In fact it seems to me we have sufficient data to enable us to say that shock is not due to the exhaustion of any one nerve center, or paralysis of any one system, but that the function of every organ, tissue, and cell in the body is depressed as the result of a powerful impression on the nervous system, which dominates all the functions of life.*

Experiments I have performed suggest that an outpouring of lymph into the tissues, in excess of normal, and consequent inspissation of the blood, is one factor which, added to the lower vasomotor tone occurring in shock, aids in the excessive reduction of blood pressure so characteristic of that condition. This loss of fluid by the blood in shock, a state of vital depression but little short of death itself, conforms to the act long well known that after death fluid passes into the tissues from the blood-vessels. This loss of fluid by the blood and corresponding gain by the tissues as death occurred, was sought for and noted in rabbits—as demonstrated by a gain in the specific gravity of the blood and loss in specific gravity of the tissues. In traumatically produced shock (in contradistinction to the shock or collapse of burns and peritoneal irritation or inflammation) I invariably noted this same increase in the specific gravity of the blood and corresponding loss in specific gravity of the tissues. My experiments were suggested by those of Copeman, Sherrington, Lazarus-Barlow, Cobbett, and Roy. In all respects they agree with them, only adding to their investigations a study of the variations in the specific gravity of the blood and tissues in shock produced by a different set of causes, and demonstration that not only is there an inspissation of the blood in burns, as shown by Sherrington, and in peritoneal injuries, as shown by Cobbett and Roy, but also from a variety of other shock-producing influences. I found in all cases of shock, with the exception of those produced by burns and peritoneal inflammation in which there was excited a local outpouring of lymph at the site of injury, an invariable fall in the specific gravity of the tissues, of several degrees, in one case as much as ten degrees; and a corresponding increase in the specific gravity of the blood, except in those cases in which it was reduced by complicating hemorrhage. When there was a local outpouring of lymph, as in burns and peritoneal injuries or inflammation, this local demand drained the other tissues, so that, instead of a fall in the specific gravity of the tissues throughout the body, there was an increase; a marked fall in specific gravity occurring of course in the tissues at the site of injury and local demand. When, however, in my experiments, the burn was not severe, and the local outpouring of lymph not great, the usual fall in specific gravity of the tissues throughout the body occurred. I suggest that, as the regulation of the output of lymph is in all probability a function of the endothelial cells of the capillary walls, the local loss of serum by the blood in burns and peritoneal inflammations is in consequence of the local damage, whereas the general outpouring of lymph into all the tissues in the shock produced by other injuries is to be attributed to the general arrest of cell activity which characterizes shock. Of further evidence of this general arrest of cell activity I shall have occasion to again refer in extenso. The specific gravity of the blood was increased in all cases of shock, including burns and peritoneal injuries, unless reduced by complicating hemorrhage.

Fischer, in 1874,[12] noted the resemblance of a patient in shock to one in the algid stage of cholera. Cobbett[13] again calls attention to this resemblance. In cholera there is a great loss of fluid by the blood; post mortem it is often almost tarry in consistency. Following the experiment of Sherrington and Cope-

*Since this was written Porter & Quimby (*Boston Medical and Surgical Journal*, October 22, 1903), from a different line of experiments, have concluded that exhaustion in the vasoconstrictor neurons cannot be the essential cause of shock.

man [14] on the increase in specific gravity of the blood in shock, produced in dogs by intraperitoneal manipulations, Cobbett and Roy demonstrated that this increase in the specific gravity of the blood was due to a loss of fluid by the blood, which might amount to as much as one-third of its original volume. Cohnheim, in the sixties, had shown that the inspissation of the blood in cholera accounted, in a measure, for the fall in blood pressure and feeble circulation in that disease, by the enormous increase in frictional resistance in the capillaries—resulting in such retardation of the flow that the entire circulation was affected.

In the experiments of Cobbett and Roy dogs were employed, the observations on specific gravity of the blood and tissue being taken frequently and extended in each instance over a period of twelve to eighteen hours. The peritoneal cavity was widely opened, the intestines usually being divided between ligatures. From the very beginning of the experiment the specific gravity of the intestinal wall diminished, and that of the skeletal muscle—representing uninjured tissue—increased; the blood, however, showing no marked change for the first hour or two, but later always an increase in its specific gravity. From this then it appears that fluid was poured out from the blood into the injured peritoneum and subperitoneal tissues, the blood in turn making good its loss from the other tissues of the body, so that no change was noted in its specific gravity for the first hour. At length, however, the supply from the uninjured tissues was exhausted, after which no further rise in the gravity of the skeletal muscles was noted; but the specific gravity of the blood began markedly to increase, and at the end of twelve or eighteen hours in some experiments, was as much as fourteen degrees higher, and the blood was so thickened as to flow with difficulty except from the largest arteries. The failure of the tissues to compensate for the loss of fluid by the blood was also marked by circulatory disturbances; the pulse became more rapid and feeble, the blood pressure falling rapidly two or three hours before death.

To confirm this loss of fluid, specimens of blood were mixed with a solution of oxalate of potash to prevent clotting, and then the volume estimated by whirling in the centrifugal machine. The result agreed with the increase in specific gravity. In clinical support of these experiments Grunbaum is quoted as having noted a rise in the specific gravity of the blood of five to seven degrees, after abdominal operations lasting an hour or more; this increase occurred, however, during the operation and was not delayed as in their laboratory experiments. Demonstrating thus a loss fluid by the blood, Cobbett is led to compare prostration after abdominal operations to the collapse of cholera, dysentery, typhoid fever, and other diseases characterized by a great loss of fluid and consequent inspissation of the blood. The prostration following peritoneal injury he therefore describes under the head of collapse, in contradistinction to the prostration accompanying various other injuries, to which he restricts the term shock.

The experiments of Cobbett and Roy were corroborative of those of Sherrington and Copeman made several years before, adding, moreover, much additional information. The latter investigators in 1893, in a paper on the specific gravity of the blood in various conditions, had noted an increase in its specific gravity in shock. They had desired to observe the effect of tying the splenic vein; an hour and ten minutes after securing the ligature the specific gravity of the blood in the ear was five degrees higher, and in eight hours seven and three-tenths higher. The same increase was found to occur after simply placing the ligature, without tying it; and again when the abdomen was opened, but immediately closed, though the increase was greater if the abdominal contents were disturbed. A forerunner or accompaniment of this increase in the specific gravity of the blood was constant evidence of circulatory disturbances—the ears would become anæmic, heart rapid, respirations rapid and shallow. In another paper, Sherrington demonstrated this same increase in the specific gravity of the blood in shock produced by scalding the animal's legs.[16]

These experiments agreeing in all respects with others of his own on the pathology of œdema and hydræmia, Lazarus-Barlow[16] accepts, in the main, the distinction made by Cobbett between the prostration characterized by the loss of fluid by the blood, as in burns, peritoneal injuries and various intestinal diseases, which has been termed collapse, and the prostration universally termed shock, which he states is characterized by general vasomotor paralysis. In the former condition the loss of fluid by the blood and tissues explained the cholera-like appearance of the patient. In shock the engorgement of the abdominal vessels, Lazarus-Barlow suggests, would have the same effect in abstracting fluid from the tissues. For he had shown[17] that increasing the volume of the blood in the body, by bandaging the extremities, caused an outporing of fluid into the tissues and decreased their specific gravity. After a few hours had reëstablished the normal equilibrium between the blood and tissues, removal of the bandages had the opposite effect on the amount of blood in the body, and increased the specific gravity of the tissues. He suggests the stagnation and accumulation of blood in the abdomen in shock would have the same effect—that of draining the tissues of fluid. But, as I have already pointed out, my study of the specific gravity changes in the blood and tissues has shown that there is not, in shock, a vasomotor paralysis sufficient to produce such an effect.

Quite analogous to the experiments of Goltz are the numerous clinical instances of sudden death from blows on the abdomen, or on the vagus in the neck. Brown-Séquard in 1858[18] pointed out that electrical stimulation of the vagi could produce immediate death, without convulsions or agony, just as after a prick in the region of the apex of the calmus scriptorius, the "noeud vital" of Flourens, or after irritation of the ganglia of the abdominal sympathetic. Death thus produced was characterized by rapid fall of temperature, late appearance of cadaveric rigidity and putrefaction, long duration of the "properties" of the cord, nerves, and muscles, but most distinctively by the arterial hue of the blood in the veins.[19] This latter phenomena was first observed by John Hunter nearly one hundred years before, while bleeding a patient during syncope. What could account for it but an arrest of the activity of nutrition in the various organs and tissues—a diminished production of CO_2 and lessened consumption of oxygen? Scarcely less remarkable was an apnœa, which would naturally give rise to an arterial blood overladened with CO_2, so that the existence of an aerated venous blood would indicate that a most powerful cause was operative in the arrest of metabolic processes. These phenomena were so readily produced by irritation of the cervical cord, that putting some tension on it, by violently bending the neck, sufficed. In this case it might have been suggested that the aerated venous blood was due to irritation of the vasodilator nerves, but Brown-Séquard found that when this arrest of metabolic processes oc-

curred there was also contraction of the blood-vessels; and if one-half the dorsal cord was cut the phenomenon did not occur in parts separated from the brain. In shock experimentally produced he also noted this phenomenon of aerated venous blood.

Laffont, in 1886,[20] in studying the cardiac effects, in dogs, of electrical excitation of the intact vagi, also noted this phenomenon of aerated venous blood. After stimulating the left undivided vagus for ten seconds, there was an arrest of the heart for four minutes, cessation of respirations, minute contraction of capillaries—producing cadaveric pallor of the tissues—and venous blood remained arterial in hue; the only evidence of the persistence of latent life being the contracted pupils.

Roger[21] has made a similar observation. His experiments on shock led him finally to conclusions in accord with those of Brown-Séquard—to the effect that the arrest of metabolic processes is the one constant and essential phenomenon of shock. He produced shock in frogs by crushing the head; there was only a momentary arrest of the heart, its functions soon being resumed. Strychnine was then injected under the skin or into a lymph sack, without convulsions appearing, though they promptly occurred in a control frog. If a lighter blow was struck, the convulsions began as soon as the animal recovered from the temporary stupor produced. Injecting .012 milligrams of strychnine into the abdominal vein of a frog with head crushed, and the same into a control, the latter had violent convulsions at the end of thirty seconds. In the shocked animal there was no response to stimulation until the end of six minutes, and convulsions only at the end of ten—but they were then more marked than in the control, though the condition of both frogs was the same at the end of half an hour. That this absence of the effects of strychnine is not due to circulatory disturbances, feeble heart, and contracted capillaries, Roger shows by maintaining an artificial circulation with a cannula in the aortic bulb; .02 to .03 milligrams were then injected without producing convulsions, .04 milligrams, however, causing a notable increase in the reflexes; having colored the solution, he was able to demonstrate that it had reached the cord.

Contjean,[22] however, contends that in Roger's experiments the strychnine never reached the cord—the crushing blow on the head having opened the carotid, lingual, and occipito-vertebral arteries, which supply blood to the cord. "If one crushes the brain, optic lobes, and even a part of the medulla," he writes "without injury to the occipito-vertebral vessels, and then injects one-quarter of a milligram of strychnine into the abdominal vein, convulsions occur as in the normal animal. And even in a frog with crushed head and consequently 'opened' vessels, if .02 milligrams is injected through a cannula into the abdominal aorta, convulsions occur if the two aortic arches, above the axillaries, are first tied." Nor was he able to confirm Roger's statement that if the frog was only stunned, by a lighter blow on the head, the strychnine effects were postponed, attributing such a result to the weakened circulation alone. On the contrary produce convulsions by the injection of whatsoever dose of strychnine one desires, if the head is crushed they cease immediately; from which he argues that the absence of "strychnisme" in shock is due to an inhibitory effect of the injury on the spinal centers.

I endeavored to ascertain the truth in these conflicting statements, which I have often seen quoted but never further elucidated. I used varying doses of strychnine, from those almost immediately fatal to those showing only slightly exaggerated reflexes at the end of several hours. Contjean's statement that strychnine convulsions always disappear on the production of shock I demonstrated to be true, not only in frogs but in rabbits; in fact, *a priori* it should have been expected, for this inhibitory influence of various injuries is in accord with abundant clinical and experimental experience. My experiments fully corroborate the statement of Roger that in frogs, during shock, the injection of strychnine does not produce its usual effects, and that in lesser degrees of shock it is only as the frog recovers that these effects appear. I noted also the same delay in the appearance of strychnine convulsions, or their entire absence during shock in rabbits. In rabbits one thing that especially attracted attention was that death often occurred immediately or soon after a dose of strychnine, during shock, which, except for the existence of shock, would not have proved fatal. In frogs, in place of a crushing injury of the head, which would "open" the vessels supplying the cord and thus prevent the effects of strychnine, as claimed to occur by Contjean, I inserted into the mouth a small pair of artery forceps and crushed the forebrain without laceration of surrounding parts, leaving the forceps *in situ*. Roger also produced shock by discharging a Leyden jar through the lumbar cord, and obtained the same results as by crushing the head.

I have also corroborated the statement of Roger[23] that the reflex excitability of the cord, after a small dose of strychnine, is greater in a shocked frog than in a control; and that likewise after a large enough dose to exhaust the spinal centers the excitability of the exposed cord to electric stimilation is much greater in the shocked frog; from which he argues that the absence, or the delay in the appearance, of the characteristic effects of strychnine in shock cannot be attributed simply to an inhibitory or paralyzing effect of the injury on the nerve centers.

Clinical experience supports this experimental evidence as to the relative insusceptibility to strychnine in shock; Mayo Robson[24] and other English surgeons recommend that as much as three-fourths of a grain be given during an operation if necessary. That the effects of the drug appear as the shock is recovered from is shown by the untoward, at times fatal, results of this practice.[25] Other drugs are equally without their accustomed effects in shock; Dupuytren said that if he could but see the effects of opium or alcohol he was assured his patient would recover.

I subsequently learned of the experiments of Van Engelen,[26] which are further confirmatory of those of Roger. Shock was produced both by "percussions" on the head, and by the discharge of a Holtz machine. He demonstrated also that the rate of absorption is much retarded in shock. Normally a solution of ferrocyanide of potash injected under the skin showed itself by a characteristic blue reaction with perchloride of iron, in the lymph sacks of the tongue, in four or five minutes, and in the peritoneal cavity in fifteen minutes; whereas in shock it did not appear in the mouth for fifteen or twenty minutes, nor in the peritoneal cavity for twenty to forty-five minutes. But delayed absorption cannot explain the delayed or absent strychnine convulsions, in view of the experiment of Roger, in which a colored solution demonstrated the presence of the drug in the tissues of the cord.

With these experiments in mind and those of Brown-Séquard and Laffont, in which the most characteristic effect was the arterial hue of the venous blood, one is forced to accept the conclusion of the former, that in shock there is an arrest or inhibition of the processes of "exchange," *i.e.* an arrest of metabolic processes—a general arrest of cell activity.

Contjean states, that though this appearance of the blood has been frequently noted by numerous clinicians, and many physiologists, in his experiments—shock being produced in guinea-pigs by crushing the head—it was by no means constant. In my experiments on rabbits this phenomenon of aerated venous blood was only noted after twenty-four to forty-eight hours in prolonged shock, as that produced by injuries to the spinal cord; also in shock produced by section of the cervical cord, and promptly followed by death, the venous blood from the right side of the heart being identical in color with the aerated arterial blood from its left side. Generally the blood became at first darker than normal in shock, and later, if the venous blood had assumed an arterial hue, additional injury again rendered it somewhat darker—which would be naturally expected from the slowing of the respirations and circulation. I have in mind an experiment of Brown-Séquard,[27] on a guillotined criminal, which may be interpreted in support of my assumption, that in spite of the arrest of metabolic processes, waste products may remain in the tissues capable of reducing the oxyhæmoglobin of the blood. Eighteen hours after the death of a criminal, defibrinated, red, arterial blood was injected into the arteries of the hand, and returned by the veins dark venous in color; several times the blood was reinjected, after aeration, with the same result.

In support of his contention that the phenomena of shock are not due to fatigue, Roger states that the contraction of the gastrocnemeus of a frog, in response to a given electrical excitation, is more energetic in shock; and further, relates the effect of faradizing the central end of the left vagus, both vagi being divided in the neck—the venous blood became arterial in hue on the left side but not on the right, faradization of the central end of the right vagus being without effect. Modification of the rhythm of the respiratory movements is an active phenomenon, but repeated several times its effects are less marked, the centers are less excitable. In the same manner, he writes, the bulbar centers had lost their excitability after stimulation of the left vagus, and were incapable of reacting to stimulation on the right side: the phenomenon was consecutive to an excitation and not due to fatigue, otherwise each new stimulation would produce it.

Though modification of the respiratory rhythm through stimulation of the vagus, is an active phenomenon, the subsequent loss of excitability can only be attributed to fatigue of the centers. And so in shock, though the arrest of cell activity may be primarily an active process, in the nature of an inhibition, the nerve centers are overwhelmed and exhausted by a species of overstimulation as the final result. Foster[28] says, with regard to the nature of shock, that in part at least it can be explained by regarding the lesion as a very powerful stimulus, which partly by way of inhibition, but still more by way of exhaustion, depresses or suspends, for the time, normal functions.

In support of the theory of exhaustion of the nerve centers in shock, is the resemblance of the persistent and often increasing debility which follows various injuries—and described by Jordan in 1863 as chronic shock—to neurasthenia or so-called nerve exhaustion. In this connection a histological study of the central nervous system in shock for comparison with the changes in the nerve cells due to fatigue, as described by Hodge[29] and others, would be most interesting.

That mental impressions can produce profound changes in the organism we have abundant proof. One might mention the frequently quoted death of an infant, on being put to the breast of its angry mother; and the authentic cases of the hair turning gray, over night, from mental shock—such an instance being recorded in a recent number of the *British Medical Journal*.[30] There is every reason to suppose that the pathological changes we have described characterize equally the shock produced by psychical influences, which is typified in the attack of syncope. Hill[31] concludes that syncope is due to a sudden and temporary paralysis of the vasomotor center. The observation of John Hunter, over a hundred years ago, on the arterial hue of venous blood in syncope, indicates there is the same general arrest of cell activity as in shock, the feeble heart and paralysis of the vasomotor mechanism being here also only a part of the effect of the impression on the nervous system.

EXPLANATION OF SYMPTOMS

Shock results from an overwhelming impression on the nervous system, either physical or mental, arresting more or less completely the functions of every cell in the body. There results an outpouring of lymph into the tissues in excess of normal and consequent inspissation of the blood—as shown by an increase in its specific gravity—which is one important factor, added to an impaired vasomotor tone, in the production of a greatly reduced blood-pressure. That the enfeebled action of the heart is largely secondary to the lowered blood-pressure is shown by the experiments of Goltz, Cobbett, and Roy; and clinically by the immediate effect in restoring the force of its contractions, from a temporary rise in blood-pressure produced by an intravenous injection of salt solution.

The experiments of Goltz would appear to explain also the cases of sudden death from blows on the abdomen, many examples of which are so be found in medical literature. In warm-blooded animals only temporary arrest of the heart can be produced by irritation of the peripheral end of the vagus; yet clinically it would seem that permanent arrest can be brought about reflexly through the cardio-inhibitory center. The phenomenon of aerated venous blood—resulting from the general paralysis of cell activity and arrest of metabolic processes—witnessed by Brown-Séquard, Laffont, and Roger, after excitation of the vagus, would indicate a systemic effect in shock from this class of injuries as well.

The wan, pinched features are due to the empty peripheral vessels and feeble circulation; undoubtedly, however, most marked where there has been an excessive fluid loss by both the blood and tissues, as in peritoneal injuries.

The cyanotic lips and livid skin are transient, and I believe correspond to the period during which the venous blood in rabbits was observed to be yet darker than normal. A statement made by Norris[32] must be here quoted. He observed under the microscope that where there was spasmodic contraction of the smaller arteries, a reversal of the blood current into the capillaries took place, which continued until they were full, in which condition they remained until relaxation of the artery again permitted blood to be propelled through it.

The lessened secretions, partial and often complete anuria, is due to the lowered blood-pressure. The feeble circulation and lessened activity of all the organs and general arrest of metabolic processes explain the fall in body temperature; if there is a definite thermogenetic center it undoubtedly is also influenced in the general depression of all activities. Höber attributes the fall in temperature to the engorgement of the abdominal vessels and increased dissipation of heat through the abdominal walls.

The shallow, slow respirations recorded in the protocols of Höber and others, and noted by my-

self, is in accord with the phenomenon of aerated venous blood.

Impaired consciousness is due to the overwhelming nature of the impression on the nerve centers, the feeble circulation augmenting and prolonging this effect. Brown-Séquard called attention to the inhibitory effect on consciousness of an insignificant prick in the region of the "bec du calmus;" it was not due to contraction of the cerebral vessels, as it occurred after both sympathetics were cut. In an effort to produce sudden death by a prick of the "noeud vital" I noted this loss of consciousness, the explanation of which at the time was not apparent.

Diagnosis.—The prostration of shock is so characteristic as to cause but little difficulty in its recognition. Late appearance of its symptoms creates a strong suspicion of an overwhelming bacteriological infection. Fat embolism, which otherwise at times might enter into the differential diagnosis, rarely occurs before the end of thirty-six hours, and usually not for three or four days. Sudden arrest of the functions of the kidneys, already crippled by pathological changes, is excluded by previous urinary analyses; generally also sufficient urine can be removed by the catheter for diagnostic purposes.

Collapse due to hemorrhage is practically the one condition to be excluded. Fifty years ago Vierordt[33] showed that after a severe venesection the red blood cells might drop as low as 40 per cent. of the number in the blood first drawn. This fact we apply daily in the diagnosis of internal hemorrhage. As long ago as 1839 John Davy[34] recorded a fall in the specific gravity of the blood in animals "blooded" to death. I do not know that the estimation of the specific gravity of the tissues will ever be of any practical value, yet the variations I have observed experimentally, in hemorrhage and shock, would suggest that we have here a differential sign of considerable importance. In experimental shock an increase in the specific gravity of the blood and decrease in that of muscle was constantly noted. Any hemorrhage more than offset the rise in specific gravity of the blood, due to shock; the muscle, however, continued to show the fall in specific gravity characteristic of shock, unless the hemorrhage was considerable, when there was an increase—due to the fluid abstracted to supply the loss by the blood. My experiments indicated that in hemorrhage, muscle tissue was not drawn on first to supply the fluid lost by the blood—but probably first the peritoneal and other large serous sacks.

In estimating the specific gravity of the blood I can see no advantage in the modification of Roy's method[35] proposed by Hammerschlag[36]; but the latter is preferable for muscle, as only one specimen is required in the demonstration of the specific gravity.

Note.—Since this paper was written I have had a few opportunities to corroborate clinically the experimental findings above recorded, as to the alterations in the specific gravity of the blood in shock.

Case I.—Mrs. D. Operation lasting one and a half hours for closure of a fistula due to a piece of gauze left at a previous laparotomy. Before operation; blood-pressure 140; specific gravity of the blood 1053. End of operation: blood pressure 135; specific gravity of blood 1058. 4 P.M., four hours later, found my patient suffering from mild shock: skin cold and pale; vomiting small quantities of brownish fluid containing red blood cells; temperature subnormal; blood pressure 130; specific gravity of the blood 1063. 6 P.M., patient has had thirty minims of tr. digitalis and one-fifteenth grain of strychnine hypodermically, and a quart of hot salt solution per rectum: blood-pressure 140; specific gravity of the blood 1055. 11 P.M., blood-pressure remains 140, but the effects of the salt solution having passed off the specific gravity of the blood has risen again to 1058, dropping to 1053 the next day.

Case II.—Mr. E. was thrown from his bicycle, while riding rapidly, by colliding with a carriage, the pole striking him violently in the abdomen. Twenty hours after the accident there was evidence of the peritoneal injury in the distension and tenderness of the abdomen; specific gravity of the blood 1063. Forty-eight hours later, these symptoms having subsided: specific gravity of the blood 1058.

Case III.—Mr. McM. Brought to my office suffering from mild shock produced by a fall from a rapidly moving electric car. Specific gravity of the blood 1066. Twenty-four hours later 1064.

Case IV.—Mr. D., member of the district Fire Department, fell twenty feet through the pole shute of the engine house, fracturing his clavicle; was picked up "bathed in a cold sweat." I saw him within half an hour; he had partly recovered from the first effects of the fall. Specific gravity of the blood 1063, which later was found normally to be 1058.

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Mercuric Cyanide as a surgical disinfectant has the advantages over corrosive sublimate of not forming precipitates in the presence of albumins and of rapidity of action.—Charles Harrington.

THE CLIMATE OF TIDEWATER VIRGINIA.

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Upon the climate in which he resides, more than upon any other one thing, depends man's healthfulness, comfort, and well-being. Even his mental and moral make-up are influenced by climatic surroundings. The range of climatic variation in which he may live in comfort and pleasure, without an actual struggle for existence, is remarkably small. In the frozen north his energies are consumed in the effort to keep warm. If too far south, the enervating effects of heat render him sluggish and indolent.

If the atmosphere is too dry, evaporation from the skin and lungs is increased. The blood is less diluted and operates as a stimulant to the nervous system. Excitement and sleeplessness follow. This condition is increased if atmospheric pressure is decreased by the high altitude of a mountain climate. If there is an excess of moisture, particularly if combined with the increased air pressure of the low altitude, nervous depression with quiet sleep, decreased elimination of carbon dioxide, and slower circulation of the blood are induced.

If the prevailing winds are from the wrong direction and their velocity is great, the burden of life is greatly increased. There is but a limited area of the earth's surface in which the elements of latitude, range of temperature, proximity to the ocean, and prevailing winds, together with an agreeable amount of moisture and a large proportion of clear days, are found happily blended into one harmonious whole. In the western hemisphere no one spot so nearly meets all the requirements of a perfect coast climate, as eastern or tidewater Virginia, centering around that finest and most beautiful of our American harbors, Hampton Roads.

At this time when the eyes of the world are turned upon this section through the efforts in behalf of the proposed Jamestown Tercentennial Exposition in 1907, it is but fitting that we present a brief analysis of the natural conditions which make the climate an ideal one for residence. Its latitude, 37, is the natural average for the country, 47 reaching nearly to the northernmost point of New England, and 27 to the southern end of the Florida peninsula. This latitude is not far south of the center of population for the country, which is kept from receding southward more rapidly by the large cities, which by the force of their attractive power hold it near the line of Washington. The geologic study of this section shows strata of loams, sands, gravels, clays, and marls. Bed-rock was struck at a depth of 1170 feet in a well bored six miles northwest of Old Point, on the Chesapeake shore. This bed of crystalline rock has its outcropping in the neighborhood of Richmond and slopes to the sea. Excellent artesian water may be obtained, especially a few miles inland, by boring to varying depth. A well on Jamestown island, the site of the first English settlement in America, yields an abundant supply of fine water at a depth of 248 feet.

The alluvial soil is extremely productive, two crops of garden truck and other products being raised each season for local use and shipment. In geologic formation, this district is specially favored. Four large rivers, which are really tidal estuaries, free from overflow, traverse it from the northwest to the southeast, dividing the territory into a succession of long ridges with natural drainage in each direction. It is to this fortunate natural formation that this section is indebted largely for its climatic and other advantages. The entire area is thus divided into a series of peninsulas with salt water on three sides of each. The prevailing winds being from the water, moderate the temperature both in winter and summer.

These prevailing winds are abundantly laden with ozone, of which ocean breezes always contain a superabundance. The natural growth of pine adds still further to this ozone supply, as the wind blows across the peninsulas. Besides opening up the country to navigation, these streams, together with Chesapeake bay and the ocean, furnish a never-failing supply of the choicest oysters and fish, far into the interior. This supply of cheap and wholesome food adds largely to the health and comfort of the inhabitants.

The physician who is considering the question of change of climate for his patient desires information as to the range and average of temperature, humidity, sunshine, prevailing winds, prevalence of zymotic diseases and past experience in cases of a like nature. This we shall endeavor to give, comparing the climate of Hampton Roads with that of several centers of population and resorts to the north.

The data are compiled from the U. S. Weather Reports, and are the average for a period of thirteen years. The records for the region bordering on Hampton Roads are selected as being representative of the whole, and because this is the center to which all visitors come. It is the harbor in which Christopher Newport and Capt. John Smith in 1607, with their band of English settlers, cast anchor after their long voyage across the Atlantic.

To them the placid water of this the finest of our Atlantic harbors was a haven of rest, and the first landing place after entering the capes was surely a point of comfort. In this harbor, in which the navies of the world may, and probably in 1907 will, float, have transpired many events of national history. It was here that naval warfare was revolutionized, when, on March 9, 1862, the ironclad *Virginia* met in battle the first turreted *Monitor*.

At the entrance to Hampton Roads, is one of America's famous resorts, Old Point Comfort, with Fort Monroe, which effectually guards the approach to the nation's capital, and other important cities. Adjacent to Old Point is the town of Hampton, the oldest continuous English settlement in America, the site of the National Soldiers' Home and the Hampton Normal and Agricultural Institute. A few miles further up the shore is Newport News with its great shipbuilding plant. On the opposite side of Hampton Roads are the cities of Norfolk and Portsmouth, fast becoming what location and climate have destined them to be, a great center of commercial enterprise.

Temperature: Winter.—Freezing weather rarely begins before the latter part of December, occurring in spells, lasting usually for two or three days. Entire winters frequently pass with only several of these spells, during which the thermometer falls below the freezing point for a short while. The average winter temperature is 41.9, nearly 10 above freezing. That of Atlantic City, which ranks high as an all-the-year resort, being 33.4, less than 1½ above freezing. New York is 31.4; Boston, 28; Rochester, N. Y., 25.7; Burlington, Vt., 21.1; Toronto, Canada, 19.7.

Summer.—The average during this season is naturally rather higher, though in neither case is the range of temperature as great as farther north. Hampton Roads, 77.4; Atlantic City, 70.4; New York, 71.5; Boston, 69.1.

Spring.—The average for the spring months is 57.1, which is about ten degrees above that of Atlantic City and New York, while the averages of the other places named still hover around the freezing point. It is during this period that we have simply

perfection in climate, with the beauties of budding vegetation weeks ahead of the less favored northern homes.

Autumn.—We again, during this period, have a repetition of the spring season, some even thinking it more delightful. The average temperature is 60.4, while at Atlantic City it is 56; New York, 54; Boston, 51. During this period,as in the spring, all the pleasures of an out-door life may be indulged in to their full.

The Annual Range of Temperature is 96.5; Atlantic City and New York, 106; Boston, 114.5; Rochester, 110; Burlington, 121.8.

Humidity.—After temperature the most important element in the consideration of climate is the degree of humidity. In this respect, too, this section is specially fortunate. While it does not rank in the class with the extremely dry climate of New Mexico and Arizona, yet it stands ahead of all the Atlantic resorts in point of dryness of the atmosphere. For the spring months the mean relative humidity for Hampton Roads is 67.8; summer, 71.8; autumn, 74.8; winter, 72.6; for the year, 71.8. Atlantic City for the year is 79.4, a difference of 8½ points in favor of the former. The average for New York is 69.7; Block Island, 84.5; Nantucket, 80.5. We are even ahead of Jacksonville with its average of 72, and Charleston with 73.8. San Diego, Cal., has the advantage of only 2.3 per cent., the humidity of that place being 69.5.

Sunshine.—Of almost greater importance to the visitor than even temperature or humidity, is the question of how much of the time can be spent out of doors. The Weather Bureau sums this knowledge up by giving the number of fair and clear days for each point. Again Hampton Roads is ahead with 258.8 of such days during the year; Atlantic City, 255; New York, 252; Boston, 237.6; Rochester, 204.8; Burlington, 216.7; Toronto, 181. The amount of snowfall is usually small, and winters may pass with scarcely a time during which the ground is covered for twenty-four hours. Exceptions, however, occur, as during the remarkable winter of 1903 and 1904, when visitors and the young people of our town enjoyed the novelty of skating on Hampton River.

Wind.—The range of temperature may be satisfactory, the degree of humidity just right, and the number of clear days abundant, yet if the wind continues to blow cold and strong, the pleasures of outdoor life are destroyed.

Nature here has favored tidewater Virginia again. Cyclones and tornadoes are unknown, and even during severe windstorms the velocity is less than at points both to the north and south. During the spring and summer the prevailing wind is from the southwest, autumn from the northeast, and in the winter from the north. During much of the time the winter wind is from the water, which greatly modifies the weather.

It is the low velocity, however, which deprives the wind of unpleasant effects. For Hampton Roads it is 7.7 miles per hour; Atlantic City, 9.9; New York, 9.2; Boston, 9.1; Rochester, 9.6; Toronto, 10.

For the student of climatology this summary of the weather condition of tidewater Virginia, is alone sufficient data upon which to base the conclusion that here may be found, happily blended, the climate sought for by sufferers with many forms of disease.

To these climatic advantages may be added the almost entire freedom from malaria and other zymotic diseases, except in a few isolated spots with local causes at work. The cases of typhoid fever which occur are usually of a mild type with a death rate of about 8 per cent. These are generally due to individual carelessness in using water from shallow wells with insanitary surroundings.

What home-seekers, health-seekers, and pleasure-seekers desire to know in connection with the place under consideration, is its comparative immunity from disease and the class of patients that may expect benefit from a sojourn in it. Here vital statistics may be somewhat misleading on account of the insanitary mode of life of the negro population and their greater rate of sickness and death.

As an illustration, while the entire death rate during the year 1903 in Hampton and Elizabeth City County was 16.29 per 1,000, the white rate was 10.5, the colored 22.02.

The same condition prevails in Norfolk, Newport News, and elsewhere. Of the 269 deaths in Elizabeth City County during 1903, 56 were of individuals from sixty-five to one hundred and four years of age.

Persons who visit this section derive all the benefits which may be received from a stay at the seashore anywhere. In addition to this, with the beneficial effect of the relatively dry atmosphere, pleasant sunshiny weather, freedom from severe winds, and an abundance of wholesome sea and garden products at their source of supply, individuals find their appetite increased, digestion improved, and an increased amount of sleep induced.

Tissue changes are accelerated, increased functional activity is induced, and convalescents and chronic invalids soon take on new life and improvement.

Patients with a *tuberculous* and *scrofulous* tendency are benefited by a stay in this climate. This is particularly the case with young children.

Cases of *chronic rheumatism* from the interior do well. The tendency to constipation which sea-air induces should be guarded against by a mild remedy In *heart affections*, especially accompanied by dilatation and an atheromatous condition. high altitude should be avoided. Such patients find this climate specially advantageous. *Asthmatic*, *anæmic*, and *neurasthenic patients* and those suffering with amenorrhœa and any form of sluggish organic functioning, on removal to this locality will, through the stimulating effect of the air, together with an outdoor life, find prompt improvement. The climate is well suited for *Bright's disease and diabetes mellitus*. There is probably no place better adapted to the needs of the feeble aged than this, as is evidenced by the condition of the old men at the Soldiers' Home in Hampton.

Tuberculosis is comparatively rare amongst the white population. The majority of such patients during the early stage and before hæmoptysis, do better in a high, dry climate. Late cases are benefited here.

Dr. Nash says that "persons coming to Norfolk from the New England States with pulmonary disease almost invariably improve."

Major Johnson says "cases of phthisis pulmonalis as a general rule, seem to do very well. Incipient cases do not do as well as those farther advanced."

A patient now under observation, with high temperature, digestive derangement and the involvment of the upper half of one lung, speedily entered the road to recovery, upon being placed during the rigorous winter of 1903 and 1904 in a room with windows and door wide open, and a strong breeze passing over the bed.

Sea-bathing.—It is not the purpose of this paper to dwell upon the advantages of sea-bathing except incidentally to the subject as a whole. As a rule, those who are benefited by the climate, receive additional aid, as well as pleasure,by a daily plunge in the surf, followed by a vigorous rub Persons with heart disease, or internal hemorrhage

should avoid sea-bathing entirely. Convalescents, thin and anæmic persons, should do so under a physician's direction, avoiding a too prolonged stay in the water. Warm baths of sea-water may be beneficial when cold are not.

Desiring to obtain the experience and opinions of other members of the profession, the following circular letter was mailed to a number of the members of the Seaboard Medical Association:

"Dear Doctor: The proposed Jamestown Exposition has caused the eyes of the country at this time to be turned toward this section. It is a fact, which is doubtless known to you, that people residing in the up-country have the idea, generally, that the inhabitants of tidewater Virginia, are continually shaking with malarial chills, and that this is anything but a healthful locality in which to live or visit.

"Desiring to obtain information for use in the preparation of a paper on the climate of tidewater Virginia, I will esteem it a favor if you will answer, by number, upon a postal card or otherwise, the following questions: (1) To what extent and in what form does malaria prevail in your practice? (2) How does its prevalence compare with that of former years? (3) Have you found the Anopheles mosquito to be the responsible cause for such cases as you have seen? (4) Does typhoid fever prevail to any extent? (5) What is the usual source of water supply with such patients? (6) Do any preventable or other diseases prevail greatly? (7) General remarks as to the healthfulness of your locality and tidewater Virginia as a whole. (8) Have you observed special advantages of the climate upon any class of patients from away?"

The replies received are remarkably uniform, and show a general freedom from zymotic diseases, with a steady improvement in the sanitary condition of the towns, reaching to the country districts. In Norfolk, Portsmouth, Hampton, and Newport News, since the introduction of paved streets and sewers, with the general abandonment of wells and cisterns, malaria has almost entirely disappeared except for the imported cases, and typhoid fever has become much less frequent. Dr. Herbert M. Nash alone, during the past fifteen years, has signed one hundred death certificates of persons between eighty and ninety years of age.

Dr. Chas. R. Grandy says: "In Norfolk proper, which is well paved and sewered, there are no anopheles, though there are at times considerable numbers of the genus culex. Our town water supply is filtered and is as good as any in the State. I have never heard of a case of typhoid fever being traced directly to it. I certainly consider this section, as a whole, a healthful one."

Dr. Herbert Old says: "The type of all diseases is the mildest I have ever seen, and I don't believe that there are more than forty days in the year in which the youngest infant can't be out of doors." I have known of asthmatic cases benefited by remaining at Virginia Beach, and young infants take on lost flesh there readily."

Dr. R. L. Payne says: "The healthfulness of Norfolk is remarkable and the death rate (white population) very small."

Dr. Southgate Leigh says: "I look upon this section as a remarkably healthy one. People from the north and west do well here. The climate is mild, winter and summer. I lived in New York City for some time, and comparing the two climates I believe that we have it here cooler in summer and warmer in winter."

Dr. R. L. Murran of Portsmouth says: "I conider tidewater Virginia, as a whole, one of the most healthful localities in the United Sates, as our death rate substantiates." "8. Beneficial to all kinds except lung trouble."

Dr. Edw. E. Field says: "7. A very healthful locality. "8. Yes, upon those who are run down and upon children with enterocolitis but not on consumption."

Dr. Robert Sturges of Tanner's Creek says: "7. Better could not be asked." "8. All cases demanding mild temperature could certainly be benefited."

For the Yorktown peninsula, between the James and York rivers, the reply of Major J. A. Johnson, surgeon for the National Soldiers' Home with several thousand inmates, is so concise that his answers will be introduced entire, as embodying the observation of the present writer, and the experience of other physicians. "(1) I have never seen a case of true malaria in the Home that was not imported. The few cases that I have seen were in men who had been on furlough in Baltimore. Cases were usually of the tertian type. (2) Have not seen a case of malaria in five years. (3) Cannot say [as to anopheles]. (4) No [as to prevalence of typhoid]. (5) Newport News water supply. (6) No [as to prevalence of preventable disease]. (7) Universally healthful, enjoying immunity from epidemic and contagious diseases. (8) Cases of phthisis pulmonalis as a general rule seem to do very well. Incipient cases do not do as well as those farther advanced."

The Newport News Water Company derives its supply from natural springs some miles up the peninsula, and supplies Newport News, Hampton, Phœbus, Old Point, National Soldiers' Home, and Hampton Normal and Agricultural Institute, with the thickly populated territory intervening. Statistics on this point, gathered during 1903 by the writer as County Health Officer, showed only one case of typhoid fever in which the use of hydrant water alone was reported.

The following charts compiled from the U. S. Weather Reports will be found useful by those desiring comparative data:

		Average mean temperature.	Range of temperature	Mean relative humidity.	Average No. fair and clear days.	Prevailing direction of wind.	Average velocity of wind in miles.
Hampton Roads	Spring	57.1	82.0	67.8	64.1	S.W.	8.8
	Summer	77.4	49.5	71.8	68.0	S.W.	6.8
	Autumn	60.4	76.0	74.8	65.3	N.E.	7.2
	Winter	41.9	75.0	72.6	61.4	N.	7.9
	Year	59.2	96.5	71.8	258.8	S.W.	7.7
New York	Spring	47.5	91.0	65.8	63.7	N.W.	9.8
	Summer	71.5	52.0	70.1	67.8	S.W.	7.6
	Autumn	54.3	93.2	70.7	63.8	N.W.	9.3
	Winter	31.4	73.0	72.3	56.7	W.	10.2
	Year	51.2	106.2	69.7	252.0	N.W.	9.2
Boston	Spring	44.8	104.5	66.1	58.7	N.W.	10.0
	Summer	69.1	57.0	69.7	63.2	W.	7.4
	Autumn	51.0	103.5	71.3	60.9	W.	9.0
	Winter	28.0	82.5	71.4	54.8	N.W.	10.1
	Year	48.2	114.5	69.6	237.6	W.	9.1
Atlantic City	Spring	47.2	79.0	77.5	63.7	N.W.	11.3
	Summer	70.4	54.0	82.0	69.1	S.	8.5
	Autumn	56.0	84.0	78.8	63.9	W.	9.9
	Winter	33.4	78.0	79.9	58.3	N.W.	10.1
	Year	51.9	106.0	79.4	255.0	N.W.	9.9

Persons desiring to visit this section will find first-class hotels in the Chamberlin & Sherwood Inn at Old Point; the Augusta, in Hampton; the Warwick, in Newport News; the Monticello and Atlantic, in Norfolk; Hotel Monroe, in Portsmouth, and the Colonial Inn at Williamsburg. Among the seaside summer resofts are Buck-roe Beach Hotel, near Hampton, and the Virginia Beach and Ocean View Hotels, Near Norfolk.

PYLORIC STENOSIS IN INFANTS.*

By J. G. WILLIAM GREEFF, M.D.,
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Pyloric stenosis in early infancy is still a rare disease. It is true there are now a number of cases of so-called congenital pyloric stenosis on record, but among the fifty or sixty odd cases reported, there are perhaps only thirty which were seen in infants. Since this condition has been known, it has been called congenital, but in looking over the cases reported, and judging from my own case, I have come to the conclusion that we have to deal with an acquired condition, not a congenital one.

Landerer, in 1879, was practically the first to report cases of congenital pyloric stenosis (I am using the term "congenital" when referring to cases reported under that name), and Maier, in 1885, gave an account of some twenty-one cases, observed post mortem. All of these were in adults. Since then, according to Monti, Williamson in 1841, and Davoski in 1842, have each reported one case. Hirschsprung, in 1888, was the first to observe this condition in infants, and then came Henschell, Finkelstein, Gran, Schwyzer, Thomson, Stern, J. H. Nicoll, and a number of others.

As yet, nothing is definitely known as to the possible origin of this condition. All authors, with the exception of one or two, as I shall show, are of the opinion that it is congenital. At any rate, Henschell's view, according to Stein, is that pyloric stenosis can occur through a family tendency to hypertrophies. This would point to the parents as a causative factor. In how far heredity can play a rôle has not been demonstrated, and I have been unable to find any case in which it has been known that any antecedent suffered from a similar condition.

A number of cases have been reported that got well, and it seems to me that the symptoms were very much like those of severe gastrointestinal catarrhs. The chronic cases of gastritis often show symptoms very much like those observed in the stenosis, especially when vomiting is very constant. However, a great many of the cases diagnosed as severe cases of gastritis may be cases of stenosis. In how far some of the constitutional diseases, as syphilis and tuberculosis, can be held accountable as a possible factor in bringing about this condition we do not know. Finkelstein says (I am not quoting him verbatim) that it is necessary first to consider whether we really have to deal with a congenital stenosis or with an acquired one; acquired as a result of secondary hypertrophy resulting from marked proliferating inflammation. One reason why it cannot be acquired, he thinks, lies in the fact that we have the sharply defined region of the hypertrophic pylorus in both directions. This, Maier defines as characteristic of a congenital stenosis, in contradistinction to the acquired form of stenosis, in which we have the hypertrophic gradually blending with the pyloric part. Another reason why this stenosis should be looked upon as congenital, Finkelstein gives in the fact that neglected infants, suffering for months with diseases of the digestive organs, have never shown any such excessive changes post mortem. He goes on to say: If such a gastritis could develop without any such predisposing and complicating moment, why can we not find a second paradigma? The proliferating gastritis in adults takes years to develop, and it hardly seems probable that such great changes could take place in a few weeks, or even months. However, it might possibly make a difference whether we have to deal with a rapidly developing stomach of an infant or with a fully developed organ in an adult.

*Read before the New York County Medical Society.

Pfaundler's theory, which I gathered from M. Schmidt's very interesting article: "Ueber Hyperemesis Lactentium; Ihr Verhältniss zur congenitalen hypertrophischen Pylorus-Stenose bezw. zum Pyloruspasmus und ihre chirurgische Heilbarkeit durch Ueberdehnung des Pylorus," is widely divergent from that of any of the other authors. He denies the existence of the congenital occurrence, and also doubts the presence of an actual hypertrophy in a real case of stenosis in infants. Pfaundler bases his assertions on the result of numerous exact anatomical examinations from autopsies on children. He makes a distinction, according to the state of contraction of the stomach muscles and the resulting form, between systolic and diastolic stomachs; stomachs which, after exhaustive histological and functional examinations, were found to be absolutely normal. An intermediate state between the two, he calls half-systolic stomachs. Now, his description of a systolic stomach is almost identical with that of the congenital cases. He found, in such systolic stomachs, the wall in the immediate neighborhood of the pyloric ring changed to a protruding swelling, thickened, rigid, and covered with folded mucous membrane.

The pylorus itself is very narrow, in consequence of the persistent contractions, and often not even permeable to a very small-sized probe. Water could be forced through only under high pressure. Very frequently the last portion of the wall projected for several millimeters into the duodenum so as to resemble the cervix uteri.

Microscopically, the abnormal thickness of the wall was shown to be due to an abnormal breadth of all muscle layers, especially the circular muscles, and they were well able, according to the histological picture, to stimulate a hyperplasia.

The dimensions which Pfaundler found in the normal stomach, when in this state of contraction, coincide exactly with the dimensions of the pylorus found by the writers on pyloric stenosis. Pfaundler found that the systolic and half-systolic stomachs, which would not even admit the passage of a very small cound, became permeable after the muscular rigidity relaxed. Pfaundler's résumé of the question is virtually the following: (1) The pylorus of absolutely normal stomachs can persist in a state of contraction, thereby giving it the appearance of a ring-like tumor of hyperplastic walls and narrowing the lumen of the gut, or even closing it absolutely. (2) Hirschsprung, Henshell, Gran, Stern, and others describe anatomical and histological pictures of congenital pyloric stenosis, which coincide with those of these systolic stomachs. (3) According to the observations of a number of authors and Pfaundler himself, there are conditions in early infancy which point to a stenosis of the pylorus.

I will now relate my case, in which it was possible for me to make the diagnosis intra vitam.

Child a boy, born November 25, 1902. Normal labor. For the first two weeks the baby seemed quite well, though the stools were not always satisfactory. Child was bottle-fed from fourth day on, getting two ounces every two hours, day and night, one part milk, two parts water. It started vomiting when two weeks old, became very restless; had temperatures, bad smelling stools. When I first saw the child it was twenty-three days old, crying constantly. It looked very puny; skin in loose folds. Stools and urine scanty; vomiting almost after every feeding; either immediately or two or three hours after.

On account of its illness the child had been put on various artificial foods. Upon examining the child, I found a poorly nourished infant, with very little adipose tissue; the skin, when picked up, stood in folds; fontanelle size of a ten-cent piece. Lungs and

heart normal. Liver slightly enlarged; spleen normal. The stomach was very much enlarged and distended. The lower curvature could be made out three finger breadths below the umbilicus. The intestines were never distended, after calomel had been given and the bowels were thoroughly irrigated. I stopped all milk and gave thin gruels, of barley water first and later of oatmeal. One-fifth of a grain of calomel was given for three doses. I washed out the stomach and ordered washing of the bowels twice a day, and stomach washing once every day. I saw the child again two days later, on the 20th of December; he still had a temperature of 102.6°; had not had any movement for two days; urine was very scanty, and vomiting continued. I ordered argentum nitricum 0.1 to aq. 90.0; a teaspoonful before each feeding. Bowel irrigation continued twice a day.

December 21, temperature normal; vomiting persistent; amount of mucus less. Stomach washing showed no bile; odor very sour. No free hydrochloric acid. Bowel irrigation showed mucous casts and some thick matter. For the next two days the temperature rose, with remissions, to 100.80, and went down, to remain at normal on December 25.

On December 24 I engaged a wet nurse; the child took the breast eagerly, but vomiting persisted just the same, coming in great gushes, either immediately after each feeding or after every two or three feedings. The child was very restless, crying almost constantly; it seemed hungry and would take the breast again immediately after vomiting, and then usually keep the food down. This also immediately after the stomach washings. The stools were very scanty. The weight of the child was 8¼ pounds at birth, and remained about the same until after it began vomiting, two weeks after it was born.

The vomiting at first came irregularly and at great intervals, but the child gradually lost weight and came down to between 6 and 6¾ lbs. in about ten days; from then until its death, when the weight was 6 lbs. 2 oz., the child lost weight slowly, and even apparently gained a little at times. And this was the reason that, although I had made the diagnosis of pyloric stenosis after seeing the child a few days, we did not consider an operation. My diagnosis was confirmed by Drs. Seibert, Caillé, and Holt. Dr. Holt advised operation, which was performed by Dr. Bull. The operation of gastroenterostomy was selected, and a posterior gastroentereostomy was done. Child died from shock twelve hours after operation.

At the time of the operation the pylorus was seen as a thickened mass, about 2½ centimeters long and 1½ in diameter. The boundaries of the tumor were sharply divided by a slight constriction from the stomach and duodenum.

I was able to perform the autopsy, and removed the stomach and part of the intestines. The intestines throughout were very small, more especially the small intestines, the large intestines having been seemingly dilated through the enemas. The stomach measured, in the greatest diameter, between the cardiac end and pylorus, 12 cm.; between the small and large curvatures 7 cm. The stomach was opened along the small curvature and found empty. Microscopically, the mucous membrane showed signs of catarrhal inflammation. The mucous membrane was folded, this being more marked at the pylorus. The stomach wall throughout was hypertrophied; this showed itself to a very marked degree at the pylorus, and a very small probe could hardly be passed through it. It could plainly be seen that the thickening at the pylorus was due to a muscular hypertrophy.

The microscopical examination confirmed our findings. It more particularly explained the condition. The glands seemed to be partly normal and partly hypertrophied to a moderate degree. The epithelial lining in a condition of more or less cloudy swelling; in some places so pronounced as to completely pale the nucleus. The fibrous connective tissue surrounding the glands it slightly hypertrophied and contains a varying number of inflammatory corpuscles. The muscles and connective tissue layers are in a condition of pronounced hypertrophy and hyperplasia, affecting both the circular and longitudinal muscle bundles to an almost equal degree, though perhaps in a larger number of specimens the circular muscle layer is more pronouncedly hyperplastic. A small number of inflammatory corpuscles is present throughout the layers. The fibrous connective tissue is partly in a condition of œdematous infiltration, while here connective tissue corpuscles and inflammatory corpuscles are fairly numerous. Capiliary blood-vessels are present throughout the specimens in rather large numbers, the endothelial lining in many being thickened.

When I first saw the child, it appeared to be suffering from a severe gastrointestinal catarrh. The continual vomiting, the temperature, the ill-smelling stools; in short, all the symptoms of a gastroenteric catarrh were present. Not having seen the child regularly at first, I could not gather, as I did afterward, anything characteristic about the vomiting. If this condition of gastroenteritis is present with a stenosis, these symptoms may, by predominating, prevent us at first from making a correct diagnosis. We often find scanty urine and stools in ectatic stomachs, and we often have marked peristalsis in catarrhal conditions, especially with hyperacidity, which, without a doubt, can lead to a temporary spastic stenosis. Fortunately, this is usually quickly amendable to the proper treatment. But if, after treating the catarrh, these symptoms persist, in the absence of temperature we may make the diagnosis of a stenosis. The symptoms of such a condition are: An enlarged stomach, determined by palpation or artificial distension, marked peristalsis, persistent vomiting after even small quantities of food are given. The food remains in the stomach an abnormally long time, often the entire quantity of several feedings. The stomach tube gives us valuable aid in this.

The absence of bile in the vomit; the constant absence of any distension of the intestines. The examination of the stomach contents shows, in almost all cases, the absence of free hydrochloric acid, absence of peptones, and usually the presence of acids, lactic and fatty acids. Unless a catarrh is present, there is little mucous. As to a differential diagnosis, there are hardly any conditions that need be considered.

Cancer of the pylorus has not been recognized, so far as I know, in very young infants, and I think we need only differentiate between this condition and a gastritis or gastrointestinal catarrh. I have indicated above how this may be done.

The prognosis is always a grave one. The mild cases will recover if the diet is regulated, and other proper measures resorted to, and any other complication, as catarrh, is removed.

If there is no quick response to palliative treatment, we may consider the advisability of an operation. It is fair to wait a week or so, but the weight must be carefully controlled, and the general condition of the child taken into consideration.

Of operations, we have the choice between Loretta's operation, the digital divulsions of the pylorus, gastroenterostomy, and the Murphy button. Cantly and Dent describe a few casse, in which pyloroplasty

was done, with good results. I, personally, do not think that we ought ever advise an operation. The case should be treated, I think, as in severe cases of hyperacidity in adults. Leave off all food by the mouth for a few days; wash out the stomach, give anti-fermentation medicines, alkalies, and when feeding is begun do so by the teaspoonful. Massage may be tried, and hot applications may be made over the stomach.

This case might, as I described it, be classified among those of congenital pyloric stenosis, but as I mentioned in the beginning of this article, I cannot agree to this. If I start with the fact that the child took nourishment for the first two or three weeks without any appreciable distress (in a great many cases reported the symptoms did not begin until a great deal later in life), had stools, and that the condition of the child at first was not a poor one, we can assume that a sufficient amount of chyme passed the pylorus to permit of normal nourishment, and that other conditions than the present supposition of an anatomical, so-called congenital stenosis, must be present. In my case there is no doubt in my mind that the stenosis formed during the last weeks of life.

Unfortunately, we know very little indeed about the physiology and the mechanism of the infantile stomach before birth, and during the first period after birth. If we take into consideration that the stomach passes first from a passive condition to a very active one, as it is called upon to do a great amount of work for the rapidly developing child, we are justified in assuming that a condition, as we find it in our case, develops in a short time. I have not made mention that through chemical influences, emanating partly from the secretions of the stomach, partly the food taken, or from an inherited disposition of the individual (reflex actions), conditions are brought about which may cause an increased working of the pylorus with the consecutive hypertrophy and stenosis. There are undoubtedly cases which might be considered as congenital; but I think only in so far as a congenital tendency to a narrowing of the pylorus is concerned, just as we might have it in other parts of the intestines, as, for instance, Schwyzer described it in his case, and that the full picture of a stenosis is brought about by a spasm from some such cause, as I have indicated above. Then, on the other hand, these causes in themselves would be sufficient to cause a pyloric spasm without any congenital tendency being present. Some of the patients mentioned in the literature had suffered for a period of varying length with acute or chronic gastrointestinal catarrh. How else can we explain the fact that a great many children acquire this condition later in life? If we take all these facts into consideration, I think we ought to admit that the etiology of a congenital formation will not hold good for a great many cases, and it is to be hoped that by careful observations of such other cases, and especially the consideration and study of the mechanism and chemistry of the stomach during the first period of life, we will gain further knowledge.

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24 WEST NINETY-FIRST STREET.

THE MODERN VIEW AS TO THE ETIOLOGY AND TREATMENT OF ECZEMA.

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THE causation of eczema has for centuries been a source of mental anxiety and controversy amongst the medical profession, arising from a misunderstanding of its inherent nature, cause, and progress. At the present day physicians, in respect to eczema, are divided into two classes, viz., those who maintain that eczema is a parasitic disease and those who claim that it is a purely constitutional ailment. Differing thus in this first and most important particular, it is small wonder that we have not heretofore been united as to the proper treatment, or that the pharmacopœia does not contain an effectual remedy. A modern dermatologist, assuming the parasitic theory as proven, has divided these parasites into twenty-three classes, but with this, at present, we have no concern, for we seek in the first place to satisfy ourselves that eczema is a parasitic disease, and then to find the most effectual method of curing it. Dr. J. A. Fordyce of New York, in his address as chairman before the Section on Cutaneous Medicine and Surgery, at the fifty-fourth annual session of the American Medical Association, at New Orleans, May, 1903, amply endorsed the parasitic theory of eczema, when he stated that "the constitutional causes of the disease are the contributing factors which favor the reaction in the skin; the real cause is probably the chemical products of the staphylococci. It is this toxin which is slowly generated from the staphylococci usually present in the skin follicles, and which under favorable conditions permeates the perifollicular tissues, that produces the phenomena which are called eczema."

While admitting that eczema may be primarily caused by a constitutional trouble or defect, the removal of such constitutional ailment is not in a large majority of cases followed by a cure of the eczema; this is, in my opinion, one of the many nails in the coffin of the "non-parasitic" theory, effectually destroying the argument that it is a purely constitutional trouble. Again, when the eczema seems, to all appearances, cured, the patient has a relapse, or, I should say, a return of the complaint; this does not prove the "non-parasitic" theory, but simply shows one of two things: either that the parasiticide used has not been sufficiently penetrating, or that the existence of some constitutional disturbance which is primarily responsible for the eczema, has set up a hyperæmia of the skin, with

the result that the parasites and their toxins become the exciting factor in the production of the eczematous lesion.

Various writers divide eczema into many classes, but in my opinion there are but two, *wet* and *dry*, but of these two classes many phases.

In cases of "wet" eczema, in which, through a mistaken notion of the physician, surface healing applications have been applied and the surface of the skin healed sufficiently to cover up the disease, the "toxin" which is generated by these parasites is accumulated under the skin and is liable to break out in a fresh place any moment. This discharge, through being dammed back, is now of a yellow mattery color, with an offensive odor, but upon the application of a penetrating stimulating parasiticide this discharge with its contained toxin, is thrown off by the stimulation of the skin and gradually becomes of a less yellow color, but still of a gummy consistency. This gummy consistency gradually gives way to a clear watery discharge which soon exhausts itself, much to the patient's satisfaction and comfort. In passing, I might state that while the discharge is of a yellow color there is danger of inoculation, thus proving again the parasitic theory, but when the discharge becomes of a clear color all danger of contagion is passed. The great mistake we have hitherto made, is in applying too early in the treatment surface-healing remedies, which have the effect of covering up the disease, only to let it break out again in a more virulent form.

Another mistake has been the use of a grease as the basis of all our ointments; moreover an animal grease has been invariably employed, and this has had the effect of feeding the parasites, while the other constituents of the prescription generally used, such as oxide of zinc, have healed and hardened the surface so that any penetrating parasiticide of the pharmacopœia is necessarily retarded in its action.

I hold that eczema is a parasitic disease, and the only thing necessary to produce an eczema is the congestion of the skin, which may be produced by constitutional ailment or defect, or by outside influences, such as cold or chill; and further I am of the opinion that the parasite, having been once called into activity, as it were, the primary cause can be cured, but the effect, *i.e.* the parasite, remains until destroyed by a parasiticide sufficiently penetrating to establish contact, and sufficiently stimulating to restore the skin to its natural activity.

While stating that, in a large percentage of cases, the local application of a penetrating, stimulating parasiticide is all that is necessary to complete a cure of the eczema, I do not want to deprecate the constitutional treatment, but the latter treatment is only useful as an adjunct; for instance, in the case of what has been called a "neurotic" eczema, it is necessary by constitutional treatment to restore the nervous system, but complete restoration of the nervous system has not, in a large number of cases, been followed by a cure of the eczema, and that is why I assert that where constitutional treatment is indicated, it is only necessary as an adjunct to the local treatment.

Dr. J. A. Fordyce of New York writes: "It is easy to say that eczemas are produced or modified by gouty states, indigestion or some indefinite general disturbances, but the more closely we study our cases in the light of modern knowledge as to possible sources of infection the fewer cases are met with which cannot be better explained by some local toxic or microbic irritant."

Malcolm Morris, in his work, "Diseases of the Skin," while not accepting the parasitic theory of eczema as proven, admits that "it is impossible to believe that parasites known to possess certain pathogenic properties can be present in such numbers as they have been proved to be by competent observers without having a considerable effect on the character and severity of the disease."

Be that as it may, the fact nevertheless is evident that in every case of eczema an effective parasiticide is absolutely necessary, and when a penetrating stimulating parasiticide is employed, success follows the treatment. Then, again, we must take into consideration the unwritten law of cause and effect; we can cure the eczema caused primarily by a varicose vein by a stimulating, penetrating parasiticide, but unless we continue the application of the parasiticide as a preventive, or remove the primary cause (the varicose vein) the patient is bound to have a return of the eczema. I have recently been using a mixture of Juniperus oxycedrus, stavesacre, Pinus silvestris, and Eugenia caryophyllata, prepared without any animal fat. This is a parasiticide, capable of deep penetration, and at the same time harmless to the tissues. I have found it so deeply penetrating that the itching is stopped upon the first application, and, in time, repeated applications permanently remove the irritation; eventually all the cases under my control have yielded to this treatment.

In applying a stimulating parasiticide, it is necessary to commence with weak applications so as to avoid over-stimulation, for the simple reason that, while we can cure a natural eczema, by over-stimulation we produce what has been incorrectly termed an "artificial eczema." The latter, being a non-parasitic ailment, can soon be cured by ordinary non-parasitic and non stimulating remedies or by non-stimulating parasitic applications. The parts most liable to over-stimulation are the genitals and the scalp. Malcolm Morris, in the book above mentioned, says: "In dealing with eczema the beginning of therapeutic wisdom is to clear one's mind of the notion that arsenic or any other drug is a specific. The practitioner must learn not to look upon it as a fixed law that internal remedies are to be given in every case. As a general rule, indeed, the less drugging the better. But if internal remedies have to be employed, they should be given only for a definite purpose and in accordance with definite indications. Although internal medication may be a useful adjuvant in the treatment of eczema, the practitioner who, from a mistaken belief in the constitutional nature of the disease, trusts entirely thereto will find he is leaning upon a broken reed. Eczema, being in a large proportion of cases of parasitic origin, can be cured only by appropriate local remedies, and in seborrhœic cases, when the patient's general health is sound, no other treatment is required. As regards diet, the practitioner must, in the first place, clear his mind of the superstition as to this matter which is so strongly implanted in the mind, not only of the public, but of a section of the medical profession, especially those of the older school. Their ideas on the influence of diet in eczema are founded on the belief that every skin eruption requires to be treated constitutionally. This notion, as has been seen, is entirely erroneous, and I cannot help suspecting that it has arisen at least partly in consequence of the ignorance which prevailed until lately as to the action and proper method of using local remedies."

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Prof. Niels Finsen of Copenhagen has been awarded the Cameron prize, bestowed by Edinburgh University, for the most important work in practical therapeutics during recent years.

A METHOD FOR PREVENTING THE PAIN FOLLOWING CLAMP-AND-CAUTERY OPERATIONS FOR HEMORRHOIDS.

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It is well known that for several days after the usual clamp-and-cautery operation pain and œdema contribute greatly to the distress of the patient. For the last three years I have adopted a method which reduces these disagreeable symptoms to a minimum. The point is a minor one from a technical point of view, but it is of great surgical importance.

Immediately after the clamping and burning have been completed, six or seven radiating incisions through the skin, well into the subcutaneous tissue, are made with scissors. There is rather smart bleeding, which, however, is easily checked by a little pressure and a dry dressing. In six hours a wet dressing may be applied. There is a free flow of serum from these incisions for the next day or two. Œdema, with its danger of infection is absent, and the patient feels perfectly comfortable.

This method has been thoroughly tested by the writer and a number of colleagues at the Mt. Sinai Hospital and has given great satisfaction, robbing the after-treatment of the clamp-and-cautery operation of its greatest terrors.

766 Madison Avenue.

The Wounded in Modern Naval Warfare.—In a report submitted to Surgeon-General Rixey, Dr. H. D. Wilson of the *Vicksburg*, who aided the wounded on the Russian cruiser *Variag*, says: "The greater percentage of the wounds were of a serious nature, as all had been caused by the explosion of large shells (from eight to ten inches). Of the wounds dressed nearly all were in the lower extremities, which is accounted for by the fact that while many were hit in various parts of the body, the pieces of shell, etc., were so large as to cause death whenever they struck the body or head. No attempt was made to perform operations, and as soon as dressings were applied the wounded were put in boats and taken to some of the foreign ships, as the Russian captain intended to leave his ship and sink her. Many of the wounded died later from the operations, and from the direct effects of the wounds, as the parts were so damaged as to make an operation absolutely hopeless. I think the engagement showed that it will be impossible to attend the wounded during an engagement between modern ships, unless the number of medical attendants is tremendously increased. With the present allowance the wounded would be obliged to take entire care of themselves until the fight was over. In this battle the ships were from 3,000 to 7,000 yards apart, and actual firing lasted not over twenty-five minutes, yet over one hundred men were disabled. It also must be taken into consideration that here the main battery only was used, the ships not being hit once by rapid-fire projectiles."

A Case of Myelogenous Leukæmia with Disappearance of the Splenic Tumor and Return of the Leucocytes to Normal.—Charles E. Simon and Dr. George T. Campbell report this case which came under their care. The patient's health had been good until 1901, when she was subjected to a severe mental strain. She began to have indigestion and palpitation and soon noticed pain and some bulging below the ribs on the left side. There was also severe pain in the right shoulder, and some headache, especially on the left side. The bulging increased till it extended down to the left groin. It felt quite hard, but was not tender. She lost weight and grew weak, and began to have pain in the legs which kept her awake at night. When she consulted a physician, the enlarged spleen was discovered. Blood examination showed 1,700,000 red cells and 350,000 leucocytes. A little later the hæmoglobin was found to be 56 per cent. Fifteen per cent. of mast cells were present. There were marked anisocytosis and poikilocytosis and a considerable degree of polychromasia. Hæmoblasts were quite numerous and nearly all undergoing hæmocytolysis. Isolated megaloblasts were seen. Granular degeneration was not observed. The patient was put on Fowler's solution. She improved markedly. Nearly a year later, the hæmoglobin was 75 per cent., the red cells numbered 3,984,000, and the leucocytes 4,500. The spleen is barely palpable on deep inspiration. Aside from the mast cells, 11.5 per cent., one would scarcely think of myelogenous leukæmia without a knowledge of the past history. Bence Jones albumin was never detected. Notwithstanding the remarkable tolerance of arsenic, for she had been taking 26 drops of Fowler's solution *t.i.d.*, the writer is tempted to question the relation between treatment and result as that of cause and effect.—*The Maritime Medical News.*

Parasyphilitic Disorders.—Archibald Church declares that the parasyphilitic disorders are not marked necessarily by any of the active lesions of syphilis. The gummy processes are no part of the parasyphilitic disorders, and similarly the parasyphilitic disorders are not amenable, in the ordinary sense, to antispyhilitic remedies, the essential lesions consisting in these cases of degenerations. He limits the discussion to tabes and paretic dementia. In all recent statistics, evidence of syphilis is obtained in from seven to nine out of ten cases of tabes. Erb, in a recent compilation of 1,100 cases, finds syphilis to have been present in something over 90 per cent. Fournier's results agree with this estimate. The symptoms of tabes and paretic dementia appear in the majority of cases from ten to fifteen years subsequent to the initial sore, but may appear as early as the first year, or in thirty-five to forty years ofter primary infection. There is no period in the life history of any syphilitic in which these dreadful disorders may not develop. So-called mild cases, which consequently are not well treated, seem to preponderate in the histories of the parasyphilitic disorders. Nevertheless, individuals who have been carefully, thoroughly, and persistently treated for several years, sometimes develop tabes and paretic dementia. All cases of early paretic dementia and juvenile tabes are based upon syphilitic parentage. The great majority of cases of tabes and paretic dementia develop in the third and fourth decade of life, with scattering cases in subsequent and previous years. As to sex, there is about one case of female tabes and female paretic dementia to ten or twelve in males. The proportion of syphilis is the same. There is a race tendency or liability to these disorders, and a racial immunity. Orthodox Jews are practically free. So is the highland Scotchman, and the peasant Irishman. The negro and Egyptian are particularly subject to syphilis, but are practically immune as far as tabes and paretic dementia are concerned. Clergymen furnish relatively the least number of victims. Certain alleged causes of syphilis are cold, rheumatism, over-exertion, alcoholism, acute fevers, venereal excesses, and trauma. Some eminent authorities absolutely deny the relation of trauma to tabes and paretic dementia, while others do not entirely exclude it, and believe that in conjunction with syphilis it may undoubtedly play an active part. From a practical standpoint, every individual who has paretic dementia or locomotor ataxia should be looked upon as a syphilitic. Nine out of ten parasyphilitic cases may be attributed to specific infection, and the tenth case is not above suspicion. Sometimes the vigorous use of antisyphilitic remedies in these disorders induces a recession of the conditions and sometimes an apparent cure. And even some of the late degenerative processes in paretic dementia and locomotor ataxia may be brought to a standstill by the vigorous use of mercury.—*The Chicago Medical Recorder.*

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THOMAS L. STEDMAN, A.M., M.D., EDITOR.

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THE LESSONS OF THE BUTLER EPIDEMIC.

MISFORTUNES are often blessings in disguise, and events which appear at the time to be almost irreparable disasters, frequently prove to be but the mainsprings of future success and the causes of a better order of things. The most valuable lessons have been taught by adversity. Dr. Benjamin Lee, Secretary State Board of Health of Pennsylvania, in an article contributed to the first number of *Sanitation* endeavors to drive home the force of this dictum, and, with the recent epidemic of typhoid fever in Butler as a text shows the lessons which should be learned from such a calamity.

The outbreak of typhoid fever in Butler was in many respects unique in the history of occurrences of a similar character. Few, if any, epidemics within the memory of the present generation developed so rapidly, or were attended with so fearful a mortality. This, at first sight, seems curious, for, as Dr. Batt, Quarantine Officer at Large, representing the State Board of Health, says in his report on the Butler epidemic: "There are comparatively few communities in the State in which greater care had been taken, or a larger amount of money spent in comparison to population and resources, for procuring and maintaining a pure, wholesome, and sufficient water supply than Butler." When, however, the matter is more closely looked into, facts come to light which explain why the typhoid-fever epidemic in Butler broke out so suddenly and raged with such deadly results.

Dr. Lee states that the first indictment must be brought against the Legislature of the State, which, in providing for the sanitary organization of municipalities and townships, has made its laws on this subject too often simply permissory, not mandatory. Instead of declaring that a borough board of health may adopt and enforce a system of registration of vital statistics and contagious diseases, it should have declared that a board of health shall adopt such a system; and instead of declaring that a school board of a township may perform the functions of a board of health for a township, it should have declared that the school board shall in every township perform such functions.

The writer also thinks that the physicians of Butler were culpable in that they neglected to comply with the requirements of their Board of Health and of the State Board, and failed to report their cases of typhoid fever.

But the Water Company of Butler must bear the heaviest share of the blame and responsibility both for their sins of omission and commission. First, in constructing dams without proper corewalls or adequate spill-ways, which would enable them to withstand an unusual rainfall. Second, in failing to maintain a patrol of their water shed, and thus to discover and eliminate sources of pollution of their streams and reservoirs. Third, in failing to notify the Board of Health and the citizens of Butler in advance, when they were about to pump polluted water into their distributing reservoir, so that the precaution of boiling the water might have been taken. A most serious sin of omission on the part of the Water Company and of which—according to Dr. Lee—it is still guilty, is that there is no provision for storing its filtered water.

The writer is of the opinion that the lessons furnished by the Butler calamity are as follows: Firstly, the necessity for enactment by the next Legislature of a law establishing a health authority in every county and in every township, amenable to the central health authority, but possessing ample power to enforce its own regulations. Secondly, the adoption of legislation compelling the reporting of deaths and communicable diseases in all cities, boroughs, and townships, and the registration of the same at the Central Bureau of Vital Statistics. Thirdly, the passage of laws for supervising the construction and inspection of all dams and of all water-works. Fourthly, the moral obligation resting upon physicians, entirely apart from legislative enactment or compulsion, to report to the health authorities with the utmost promptness every case of communicable disease occurring in their practice. Fifthly, the danger of using any surface water without filtration. The company or municipality which furnishes such water does so at the risk of the lives of its patrons or constituents, and should be held to strict accountability for the results.

Municipalities of the United States are, as a rule, far too careless as to their water supply, and although the fact is beginning to be recognized that a pure supply of water is of the first importance, indeed is absolutely essential to the preservation of the health of a community, the truth of this does not as yet appear to be appreciated at its full significance. There are many cities of great wealth and size in this country in which typhoid fever is frequently rife, and may almost wholly be attributed to a defective water-supply. In Europe, and especially in Germany and in Great Britain, matters in this respect are far better managed. There would appear to be little doubt that it would be in the best interests of the public health if State legislation were to insist that the water supply system of towns be so conducted that pure water might be guaranteed with more or less certainty.

One point stands out clearly in a study of the Butler epidemic, namely the value of filtration. The filter plant at Butler was but a small one, yet while it was in use it protected the health of the community. As soon, however, as the filter ceased to act and the contaminated water was served to the inhabitants of Butler, the epidemic set in with deadly virulence. The demonstration as to the efficacy of the filtration method was conclusive. The calamity at Butler should be taken to heart and acted upon in a practical manner. The question of a pure water

supply rests with the people, and if the inhabitants of any town insist upon being served with unpolluted water at all times, in the end their insistence will have the desired result.

TUBERCULOSIS AMONG HEBREWS.

Nearly all sociologists and demographers agree in the assertion that Jews, even those living in the crowded and often filthy "ghettoes" of London, New York, and Chicago, enjoy a comparative immunity from tuberculosis. For example, Billings, in the statistics prepared for Bulletin 19, of the Census of 1900, gives the death rate from tuberculosis among Jews as only 22 per 100,000 living, although the rate for the entire country was 145.85 per 100.000. For the six years ending May 31, 1900, Billings records an annual death rate from tuberculosis in New York City of only 76.72 per 100,000 living among the Hebrew population, while that among the Irish reached the enormous figures of 645.73. Fishberg, in a comparative study of the mortality statistics in different parts of this city (*American Medicine*, November 2, 1901) shows that the annual mortality from tuberculosis during the three years from 1897 to 1899 was, in the wards inhabited chiefly by Hebrews, at the rate of 163 per 100,000 living, while in a ward inhabited chiefly by Irish and Italians the death rate from tuberculosis was 565 per 100,000.

That there is a fallacy somewhere in these figures seems very probable, for there is nothing in the mode of living or the surroundings of the Jews that would seem adapted to give them greater resisting power against pathogenic microorganisms, unless it be that the unspeakably wretched conditions under which they have lived for so many generations in Eastern Europe have, by a process of the survival of the fittest, resulted in a racial immunity. In an article on "Tuberculosis in the Jewish District of Chicago" (*Journal of the American Medical Association*, August 6, 1904), Dr. Theodore B. Sachs presents some figures showing that the degree of immunity against tuberculosis enjoyed by Hebrews is not nearly so great as has been supposed, and he says that, contrary to the popular general belief, the disease is very common among the poor of the Jewish population. The district studied by him holds a population of about 31,000, of which 22,500 are Hebrews, and a central block in this district, in which a special house-to-house investigation was made, contains a population of 2,007 Jews and 214 persons of other races. In this district the annual death rate from consumption, estimated from the figures for the six months ending November 1, 1903, was, among the Jewish inhabitants, 151 per 100,000, and among the non-Jewish population, 502 per 100,000. In the central block the estimated annual death rate from tuberculosis, based on the statistics for six months, was 281 per 100,000. Dr. Sachs says, "these figures would naturally lead to the conclusion that mortality from tuberculosis among Jews is comparatively low and that Jews enjoy a certain immunity from this disease."

The weak point in all these comparisons drawn from mortality statistics is that the Jews have a firmly rooted belief in climate as the only cure for consumption, and the instant the disease attacks them they run to a place of safety. "Men and women in very destitute circumstances will sell all their belongings and without second thought start on a journey to some of the distant Western states." The consequence of this is, Sachs says, "that only a fraction of the Jewish tuberculous poor die in the districts in which they contracted the disease, and consequently any conclusions concerning the prevalence of tuberculosis among Jews, based only on the rate of mortality, are necessarily erroneous to a considerable extent."

This contention is strengthened by a study of the ages of those dying from tuberculosis in the Jewish district of Chicago. Of the 51 deaths which occurred during the period of collection of statistics, 26 were of children under fifteen years of age, while in the usual period of greatest mortality, that between twenty and forty years, there were but 10 deaths. The deaths of children were in a large measure due to tuberculous meningitis, and the small number of adults dying from tuberculosis is explained by the emigration of those in the early stages of the disease. That this assumption is well founded is shown by the morbidity statistics of the Jewish district, which were very carefully collected for the eighteen months ending November 1, 1903. In this period 840 Hebrews with tuberculosis applied for hospital and dispensary treatment, and of this number 589 came from the Jewish district. One hundred and ninety-two of these patients were under fifteen years of age, and 383 were between twenty and forty years of age, figures which offer very strong proof of the correctness of Dr. Sachs' assertion that the alleged immunity of Jews against tuberculosis does not exist—at least in any such degree as has been believed. The result of his investigation, Sachs holds, is "the inevitable conclusion that tuberculosis is very prevalent among the Jewish poor, that unsanitary conditions of home and factory life are chiefly responsible for its widespread occurrence, and that tuberculosis mows down its victims regardless of race or nationality."

Subcutaneous Injections of Olive-oil for Nutrient Purposes.

It is generally agreed that the problem presented in the treatment of tuberculosis deals largely with the question of the general nutrition. The course of any given case can best be followed by a study of the body-weight. For this reason it is of the utmost importance that the nutrition of the patient be maintained and improved in every manner possible. To this end provision should be made not alone for a generous supply of fresh air and sunshine, but also for the assimilation of a large measure of force-generating and tissue-building food.

The prognosis of tuberculosis is in no small degree related to the condition and the activity of the gastrointestinal tract but unfortunately these often become impaired in the course of the disease, and then physical deterioration and advance of the morbid process are likely to become marked. Under such circumstances, and sometimes even apart from them, it would be advantageous if food could be introduced through some other channel. The recommendation that nutriment be administered by way of the skin or through the subcutaneous tissues is not a new one, but it has scarcely proved feasible and susceptible of more than exceptional application. In line with this thought subcutaneous injection of sterilized olive-oil has

been proposed (Keyes, *Canadian Journal of Medicine and Surgery*, June, 1904), and from the employment of which in nine cases of pulmonary tuberculosis diminution in cough and night-sweats, and increase in strength and gain in weight have been reported. The injections were made over the shoulder-blades on successive days by means of an aspirating syringe, the piston being reversed with a thumb-screw. Twelve c.c. were introduced on the first and second days, 24 c.c. on the third and fourth days, 40 c.c. on about the fifth day, and, unless unpleasant or inconvenient symptoms arose, the amount was gradually increased to the tolerance of the patient. Poorly nourished patients will, it is stated, sometimes assimilate as much as 200 c.c. daily.

Of course no definite conclusion can be formed from the small number of cases reported, but the method commends itself on account of its apparent freedom from risk; and by reason of the promise it holds out it would seem to be at least deserving of further trial. It is thought that the oil injected undergoes digestion, in part as a result of the activity of the blood, particularly the leucocytes. Other appropriate therapeutic measures should naturally not be neglected.

Medical Department of the Japanese Army.

The censorship of the Japanese army has been so strict that little is accurately known of the occurrences in the war now raging in the Far East. It is known that battles have been fought and that the loss of life on both sides has been heavy, but all details are lacking. As to the work of the Medical Departments of both the Russian and Japanese armies, although it may be assumed to have been heavy, the outside public has been kept ignorant of the facts.

The Japanese Army Medical Department is like the rest of that body, well-organized and well-equipped and has doubtless been able to cope with its arduous duties in a satisfactory manner. The *Journal of the Association of Military Surgeons* for August has an article on the Medical Department of the Japanese army. The paper in question states, in part, that officers of the army medical service are recruited principally from students of the medical school or the university, who are required subsequently to undergo a course of instruction at the Military Medical School. One-year volunteers, who are licensed to practise medicine or to dispense, and men between the ages of twenty and thirty who have matriculated at the military medical school, may be appointed surgeon probationers and promoted to third-class surgeons. Medical officers are classed as non-combatants, but have a relative military rank, the highest grade being that of lieutenant-general.

In peace time the headquarters medical personnel of each division consists of one principal surgeon, two surgeons, and nine medical subordinates. In war time, to each mobilized division is attached a medical detachment, consisting of detachment staff, two sanitary (or bearer) companies, and six field hospitals.

There are also reserve hospitals, and auxiliary hospitals may be established when required. Stationary hospitals are established at certain bases. The war establishment of a mobilized division is as follows:—Medical sanitary detachment: officers, 13; non-commissioned officers, 60; privates, 330. Total, 403. Animals: pack, 40; riding, 10. Total, 50. Six field hospitals: officers, 42; non-commissioned officers, 54; privates, 600. Total, 696. Animals: pack, 300; riding, 42 Total 342.

The Menace of the House-fly.

The summer time, especially in cities, is fraught with much danger to life and health. Children suffer in particular during the hot weather, and it behooves Boards of Health and parents to take all possible precautions to safeguard the lives of the young at this period of the year. The ordinary house-fly, over and above the annoyance created by its presence, has been proved to be a real source of danger. Experiments undertaken during the South-African and Spanish-American wars demonstrated conclusively that flies were important agents in the conveyance of typhoid fever. For this reason flies should be kept out of houses and destroyed when possible. A writer in *Sanitation* for July advises boards of health to take the following measures: (1) To use the most stringent means to secure the perfect disinfection of all discharges from typhoid-fever patients. (2) To urge upon people the necessity of screening their dwellings, protecting all foods, and explaining the dangers incurred by not doing so; they should be taught to regard flies with suspicion. (3) As flies breed most abundantly in manure piles and the droppings from horses, regulations should be adopted and enforced compelling the proprietors of livery stables and private owners of horses to cover or screen their stable refuse in such a manner that flies cannot have access to it. Germicides, chloride of lime or similar preparations that will destroy the eggs of the house-fly, should be used freely and frequently in manure pits and around stables. (4) Unusual care should be taken to clean thoroughly and frequently the public streets, removing all droppings from horses and treating street cleanings at the dumping grounds in the same manner as at public or private stables. The above advice is timely, and should, if followed, prevent much sickness.

News of the Week.

Laboratory of the Illinois State Board of Health.—A building has been secured in Springfield, Ill., for use as a laboratory of the State Health Board. The laboratory is equipped with all the apparatus for bacteriological and chemical examinations necessary in the sanitary work of the board, and will add materially to the efficiency of the board in the investigation of water supplies and in the prevention of communicable diseases. The laboratory is especially needed on account of the vigorous campaign instituted by the board some time ago against consumption and which is now being conducted in every county in the State. The laboratory will be open at all times to the physicians of Springfield and Sangamon county, who will have free use of the scientific appliances and equipment.

A School in Philanthropy.—Encouraged by the success of the summer school in philanthropic work which has just completed its seventh term, the officers of the Charity Organization Society have determined to establish a permanent school to train men and women in the practical conduct of charitable and sociological work. There will be a series of two hundred and sixty lectures, divided into seven courses, under the titles of General Survey, the State in Its Relation to Charity, Child-helping Agencies, the Care of Families in their Homes, Preventive Social Work, Hygiene, Hospitals, Care and Prevention of Disease, Treatment of the Criminal, Reformatory Work, Probation, etc. The fall term will open October 3, and continue until December 22. There will be winter and spring terms, closing finally with examinations on June 1. Be-

sides the lecture course, the members of the school will have practical work in local charitable societies and institutions—laboratory work and training at first hand. Membership in the school will be limited to persons who have had at least one year's experience in charity work, college graduates who have had one or more years' work in social economics or kindred subjects, and senior students in theological and medical schools. The director of the school is Mr. Edward T. Devine, Secretary of the Charitable Organization Society.

New Hospital Buildings at St. Louis.—A bond issue of $9,000,000, subject to the approval of two-thirds of the voters of the city at the fall election, is provided for in a bill which was introduced in the house of delegates in that city. Part of the funds so raised are to be used for the construction and extension of hospitals for chronic and convalescent cases, for a new female hospital, and for the construction and extension of the hospital for the insane.

Medical Inspection of Schools.—Health Officer Clark W. Davis of Cincinnati is devising a plan for the medical inspection of the public schools of that city. His idea is that the teachers of the schools should be instructed to watch their pupils carefully, and when one gives any evidence of being ill to have the child examined by a district physician. For instance, if it be noted by the teacher that a child has sore eyes, is nervous or feverish, she will have the child sent to the office of the principal. It is the purpose to have a specific day set aside for a district physician to call at the schools, when he can examine all the pupils who are thought to be sick. There are about fifty schools, and there are twenty district physicians, so that the visits could be made twice or three times a week without an increase in the force. If the district physician should conclude that the child is sick, he will send it home with a note to its parents with the advice that a physician be consulted. The sanitary condition of the schools would also be looked after.

Examination for Interne in the Hospital for Contagious Diseases.—An examination of applicants for the position of Assistant Physician in the hospitals for contagious diseases connected with the Department of Health will be held at the Willard Parker Hospital, at the foot of East Sixteenth Street, on September 1 and 2, 1904, at 2 P.M. Applicants should have had a general hospital training, or practical experience in the care of infectious diseases. The positions are salaried. Examinations will be both written and practical, and will include general medicine, surgery, pediatrics, bacteriology, pathology, and infectious and contagious diseases. Application should be made to the Secretary of the Department of Health, Fifty-fifth Street and Sixth Avenue.

Opening of the Policlinico at Rome.—Those who attended the sessions of the International Medical Congress in Rome in 1894 will perhaps be surprised to learn that the magnificent "Policlinico" where the section meetings of the congress took place has only just been opened. But things move slowly in the Old World—so slowly that when at last it was decided to open the institution it was necessary to spend a large sum of money in making the buildings habitable and in repairing the damage they had inevitably sustained by being closed and unused for so many years. The hospital was opened for the reception of patients on August 2. The hospital proper consists of ten pavilions, each capable of receiving eighty-four patients, a special wing for infectious cases, and a central building for administrative purposes. There are also buildings for clinics of Medicine, Surgery, Obstetrics, Gynecology, Dermatology and Syphilography, Ophthalmology, Pediatry, Oto-rhino-laryngology, Special Medical and Surgical Pathology, and Neurology. In all there are twenty-six buildings. The following professors, each with two assistants, have been appointed: On the surgical side, R. Bastianelli, T. Ferretti, and R. Alessandri, and on the medical side T. Ferruccio, A. Zeri, V. Ascoli, U. Archangeli, E. Rossoni, G. Bastianelli, V. Pensuti, and T. Gualdi.

Fatal Mistake of a Drug Clerk.—A drug clerk in St. Louis has been held for murder in the fourth degree by the coroner's jury, and the proprietor held on the same charge on account of the death of a woman who sent to purchase cream of tartar and was given tartar emetic, labeled cream of tartar. The woman took a teaspoonful and died before physicians could counteract the effect. At the inquest it developed that the clerk was an unlicensed druggist.

An Educated Horse.—Considerable interest has, it is said, been aroused among psychologists in Berlin by the performances of a trained stallion. A report states that the horse, besides adding, subtracting, multiplying, and dividing, does examples involving several of these operations, finds square numbers, and not only repeats what he has been taught, but solves fresh problems, showing a grasp of the principles of arithmetic. "The stallion also forms little sentences, remembers them next day, and knows twelve colors and shades, giving their corresponding names. He distinguishes musical tones, indicating where they are situated on the chromatic scale, and picks out discords, designating which tone to omit in order to restore harmony." The summer is evidently a "silly season" in Berlin as well as elsewhere, or else the Prussian minister of education and various professors at the university, who are said to be amazed at the wonderful mental powers of the horse, are remarkably gullible. The horse communicates by a system of hoof beats designating the letters of the alphabet, just as many other similarly trained animals to be seen at almost any circus or animal show in this country. His master is perhaps a little more skilful in concealing from the observers the sign given to the horse when the number of hoof beats has reached the required letter of the alphabet.

Treatment of the Wounded by the Japanese.—The Associated Press cables a long interview with Dr. Louis L. Seaman of this city who has recently arrived at Che-Foo from Manchuria. In speaking of their method of treating the wounded, he says that the Japanese are giving proof of the benefits to be derived from the non-interference with wounds on the field, where they content themselves with the application of first-aid bandages and antiseptics, leaving the more serious work to be done in the hospitals at home. This course is followed except when their is danger of the wounded man bleeding to death or when his condition is very precarious. The result of this practice has been that many men suffering from bullet wounds at the front are nearly well when they reach Japan. In one hospital ship returning to Japan from the front there were 2,200 wounded men, and there was not a single death on board during the trip. There have not been more than three deaths among the wounded who have been returned to Japan after having received first-aid treatment only. Russian wounded captured by the Japanese have been treated in a similar manner, and the recoveries among these men are scarcely less in proportion than among the Japanese.

Commers in Honor of German Scientists.—The Union of Old German Students in America will entertain the German scientists who attend the St. Louis Congness of Art and Sciences at a "commers" in Arion Hall, on October 8. Most of those who will be guests of the union are medical men. The president of the union is Dr. Carl Beck; the secretary, Dr. A. Ripperger, No. 50 West One Hundred and Thirtieth Street, New York.

The Continental Anglo-American Medical Society.—The annual luncheon of this society was held at the Clarendon Hotel, Oxford, July 28, during the week of meeting of the British Medical Association. Dr. William Osler, honorary president of the society, presided. Eighteen members, an unusually large number, sat down to the luncheon.

Bequest to a Hospital.—By her will, filed in the surrogate's office in this city a few days ago, the late Cornelia A. DeWint bequeathed to St. John's Riverside Hospital at Yonkers $10,000.

Contest Over a Hospital.—The courts have been invoked by sisters of the Third Order of St. Francis to compel the Windsor Trust Company to deliver to them $70,000 paid by the Pennsylvania Railroad Company for the old St. Elizabeth's Hospital in Thirty-first Street, which was on a part of the site of the new terminal station of that road. A new hospital was opened after the old one was torn down, but the church authorities claim that it is now under their direct control, and that consequently the money should be paid to them.

The American Roentgen Ray Society, now in the fifth year of its existence, under the presidency of Dr. James B. Bullitt of Louisville, Ky., meets in St. Louis on September 9, 10, 12, and 13. The meetings will be held in the Louisiana Building, on Vandeventer Avenue, facing the western entrance to Vandeventer Place. The sessions will be in the forenoons only, affording visiting members an opportunity to attend the World's Fair in the afternoons. An important part of the meeting will consist in demonstrating apparatus and improved methods in radiography, skiagraphy, and allied subjects. Dr. Joseph Grindon is chairman of the local committee.

The French Surgical Congress will hold its seventeenth annual session in Paris in the week beginning October 17, under the presidency of Dr. S. Pozzi. The following are the subjects for discussion: (1) The Surgical Treatment of Cirrhosis of the Liver, to be opened by M. Monprofit of Angers; (2) The Semeiological Value of Examination of the Blood in Surgery, to be opened by M. Tuffier; (3) Traumatic Separation of the Epiphyses, to be opened by M. Kirmisson.

Assistant Physicians to Insane Asylum at St. Louis.—Doctors F. L. Whelpley and William J. Loler have been appointed assistant physicians at the St. Louis City Insane Asylum to fill vacancies caused by resignation.

The French Urological Association will hold its eighth annual meeting in Paris on October 20, 21, and 22, immediately after the sessions of the French Surgical Congress. The subject announced for formal discussion is "The Indications and the Therapeutic Value of Prostatectomy."

The Philippines Menaced by Epidemic Diseases.—A despatch to *The Globe* says that apprehension is felt by officials of the U. S. Public Health and Marine Hospital Service regarding the great danger the Philippines are in from invasions of the plague and cholera. It is said that at no time since the American occupation have the islands been threatened by quarantinable diseases from so many points as now. Plague is epidemic in southern Formosa and at Hongkong and Amoy. Hongkong is a source of great danger to the Philippines, as traffic between that port and Manila is heavy and the run for steamers is but two days. Cholera has appeared at Hongkong in addition to the plague, and also at Saigon, which carries on a great rice trade with the Philippines. Plague has long had a foothold in the islands in spite of every effort to stamp it out, and smallpox is prevalent.

Opening of Addition to Hospital.—The new $140,000 ward addition to the Illinois Western Hospital for the Insane, Watertown, Ill., was informally dedicated August 2, and 300 new patients from Lee, Ogle, and Stevenson Counties were installed. The new structure is said to increase the capacity of the institution to 1,200 patients.

Anti-spitting Ordinance.—A new ordinance was recently passed by the Seneca (Ill.) City Council imposing a fine of not less than $3 nor more than $25 for any person caught spitting on the sidewalk.

Smallpox in Chicago.—There were sent to the Isolation Hospital, Chicago, eight cases of smallpox during the last week. Two of the patients were colored men, and one was a woman, sixty years old, who claimed to have been vaccinated in childhood, and had an imperfect scar. She had, however, never been revaccinated and none of the other had ever been vaccinated

Tuberculosis in Cincinnati.—D. B. F. Lyle, superintendent and visiting physician to the Cincinnati Branch Hospital for Consumptives, had a consultation this week with Health Officer Clark W. Davis over the advisability of taking a census of the city to locate the places where this disease is most prevalent, with the idea of determining the cause for it and of establishing clinics in these sections for the treatment of the disease.

Completion of the McAllister Hospital.—The new McAllister Hospital, erected at Waukegan through the generosity of the late Mrs. J. McAllister, at a cost of $21,000, was opened for public inspection August 5. The building contains forty-five rooms.

The German Medical Temperance Association will hold its ninth annual meeting at Breslau on September 21, during the week of sessions of the Congress of German Naturalists and Physicians.

Obituary Notes.—Dr. Henry Bruce McCarroll died of pneumonia at his home in Morristown, N. J., on August 16, at the age of forty-seven years. He was born in Morristown and was graduated in medicine from the Medical Department of Columbia University in 1881. He practised for some years in this city, and was at one time instructor in medicine at the Post-Graduate School. He was a member of the New Jersey State Medical Society, and was visiting surgeon to the Memorial and to All Soul's hospitals.

Dr. Frederick Josiah Nott, one of the best-known homœopathic practitioners in this city, died recently in the General Hospital, Portland, Me., where he was taken after having become unconscious while on a train on the way to Bar Harbor. He had been ill for some months. He was fifty-two years old, and was a graduate of the New York Homœopathic Medical College in 1877.

Dr. George T. Heston died at Newtown, Pa., on August 16, at the age of seventy-eight years. He was a graduate of Haverford College, and of the Medical Department of the University of Pennsylvania in the class of 1852. He claimed to be a descendant of Llewellyn, King of Wales. His father came to America in 1784 and purchased that part of Philadelphia now known as Hestonville.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ECHOES FROM OXFORD—WEATHER AND AMUSEMENTS—CONVERSAZIONE—PATHOLOGICAL MUSEUM—DEMONSTRATIONS—EXHIBITION OF DRUGS AND APPLIANCES—MILK SUPPLY—ITEMS—PERSONAL—THERAPEUTICAL SOCIETY—OBITUARY.

LONDON, August 5, 1904.

THE British Medical Association was able to secure the co-operation of the magnates of the University, city and county of Oxford, but failed to obtain the favor of the clerk of the weather. Consequently, though the meeting is pronounced a success so far as scientific work and pleasant meetings go, the outdoor entertainments and excursions were practically spoiled. The Oxford meeting will be remembered as the rainy one. In London we had unsettled and showery weather, but the rain was an agreeable change in the midst of the most delightful summer we have had for many a year. But at Oxford our friends assure us it was very different. On Monday a thunderstorm began the change and the rain continued all night—a poor welcome for the early arrivals. Those who appeared later were scarcely less fortunate, and some hastened away as soon as the particular discussion in which they were interested had taken place. A few who went from one section to another were caught in the heavy showers, but nothing, I am assured, daunted the really zealous members. Some tell me they cared only for work and therefore weather did not trouble them, but others who anticipated the delights of the garden parties and other amusements confess to grievous disappointment. It was particularly unfortunate for the ladies who accompanied members, for what promised to be a most enjoyable picnic in one of the most delightful cities.

The weather could not spoil the *conversazione* at the museum, so there many took refuge from the heavy rains. It was given by the Vice-Chancellor and members of the University and proved a great success, at one time the crush was almost unpleasant, but as the guests found their way to the separate rooms where exhibitions and lantern demonstrations were given there was more breathing space. In the anatomy lecture room recent researches respecting cancer were demonstrated. In another room Mr. Sanger-Shepherd explained his method of color photography and showed his latest results. In another, numbers of the *Cunarder Bulletin*, printed in the mid-Atlantic from Marconi's wireless despatches, attracted some attention, but many more, especially ladies occupied the time in watching the antics of some performing mice. These were bred by crossing Japanese waltzing mice with ordinary albinos and illustrate the failure of Mendel's laws as to color inheritance.

The Pathological Museum is generally pronounced a success. The exhibits comprised macro- and microscopic specimens; drawings, plain and colored; stereoscopic photos; photos in color; photographic and other appliances; radiographs; instruments, old and new, and all sorts of apparatus for use in diagnosis or research. Many specimens shown being on important questions in the medical sciences and other illustrated papers read in the various sections. On Thursday afternoon Prof. A. E. Wright gave a demonstration of the methods of blood diagnosis, and Dr. R. N. Salaman another on the reservoir actions of the liver in cardiac disease.

The annual exhibition of drugs, instruments, sanitary and hospital appliances was so located that visitors could not help coming across it. It was rather more largely attended than usual. There is, of course, a very large commercial element in this annual show, but many practitioners seem pleased to look over it and examine any novelties presented. It was, however, I am informed, almost swamped by foods, beverages, and other objects often exhibited before, mineral water bottles occupying much space. The infants and invalid foods also made a great show, and one firm exhibited as a centerpiece a stuffed bull around which its meat preparations were grouped.

The milk supply was discussed in the State Medicine Section, Dr. Newman opening with a vigorous denunciation of existing arrangements. He said it was thought that tuberculosis was only conveyed when the udder of the cows was affected. But 20 per cent of the cows suffered from that disease, but in only 2 per cent. was the udder affected. He held that 32,000,000 of the supply were open to grave suspicion. The point is to meet the difficulty of the time between the milking of the cows and the consumption of the milk. But, further, he said the sheds, the cows, and the milkers are dirty, the retail dealers take no care to keep the milk clean and the consumers often take it in dirty jugs and still oftener neglect to keep it free from dust and dirt. Dr. C. Drysdale said the large firms conducted the business on sanitary principles. He thought tuberculosis very rarely conveyed in milk, though typhoid fever often was, but that was because the water used for washing the cans had been infected. One speaker said the cow was the dirtiest animal on earth. Another described the cans and other things as dirty beyond conception. Others agreed that the conditions called loudly for drastic changes.

Some comment was made on the fact that the lady doctors did not remove their mortar-boards at the cathedral service. This was perhaps to be expected, but the *Pall Mall Gazette* suggests it was because they were fixed with hat pins.

Great regret is expressed that Dr. Roddick was unable, on account of illness in his family, to attend and receive the honorary degree proposed to be conferred on him.

Dr. Osler, however, was present and was as heartily received as he always is, and, as a Canadian by birth, may be said to have represented the Dominion as well as Johns Hopkins. About 1,500 members attended the meeting.

Sir W. MacGregor, M.D., has been appointed Governor of Newfoundland by the King.

Mr. C. T. Dent of St. George's Hospital, succeeds the late Mr. Mackellar as chief surgeon to the Metropolitan Police force.

The testimonial to Mr. Alfred Willett is to be a silver medal attached to the Brackenbury Surgical Scholarship of St. Bartholomew's Hospital. Mr. Willett is to have a gold medal of the same design.

The Fellows of the Therapeutical Society have had a pleasant meeting in the gardens of the Royal Botanical Society.

Dr. Joseph Cranny of Dublin died on the 27th ult., aged fifty-nine. He was F.R.C.S.I., 1870; M.D., T.C.D., 1872; surgeon to Jervis Street Hospital, assistant physician at the Rotunda, and examiner at his college.

The death is also reported of Dr. Bannister, M.O.H. to Havant District Council, in his eighty-third year.

OUR PARIS LETTER.

(From Our Special Correspondent.)

X-RAY TREATMENT OF CARCINOMA—OXYGEN IN CHLOROFORM ANÆSTHESIA—DIAGNOSIS IN DIPHTHERIA—MEMORIAL TO PASTEUR—MEMORIAL TO PANAS.

PARIS, July 25, 1904.

AT a recent meeting of the Académie de Médecine, there were presented some interesting cases of carcinoma which had been treated by *x*-rays, and which showed radiotherapy to be a valuable resource. Monod, for instance, presented a woman fifty-three years old, with a cutaneous epithelioma of the temporofrontal region, which had first appeared ten years previously, had been ulcerated for a year, and, during that time, had made very rapid progress. The tumor, larger than a five franc piece, was diagnosed as a pavement-celled epithelioma, after histological examination of a portion removed from the ulcerated area. Surgical interference in this case, if it had been attempted, would have been difficult, and would, perhaps, have necessitated a partial resection of the bone to an unknown depth. Under these conditions, after repeated treatments of short duration and slight intensity, the tumor soon showed a decided diminution and rapid improvement. At the end of three months, a definite cure was obtained. Similarly, Imbert of Montpellier, to show that treatment by *x*-rays is efficacious not only in superficial cancerous tumors, but also in those deeply situated, cited a case of diffuse pelvic carcinoma, acute in course, cured by radiotherapy. It occurred in an old man, a diabetic, whose prostate gland was very large, and its limits impossible to determine. After eighteen treatments, of twelve minutes each, the prostatic tumefaction had entirely disappeared, so that one could, with difficulty, palpate the prostate, so small had it become.

At the Société de Chirurgie, Kirmisson and Delbet laid emphasis on the good results obtained in chloroform anæsthesia with the apparatus of Roth, Draeger, and Gugliminetti. This apparatus, by a very simple mechanism, makes possible the exact regulation of the quantity of chloroform mixed with oxygen which the patient inhales in the course of an operation. The advantages observed are the absence of the period of excitement, absence of vomiting, regularity of respiration and pulse, and tranquil sleep without interruption throughout the course of the anæsthesia.

Jalaguier was convinced of the great safety which this apparatus secures, by a case in which operation was necessary, on a girl six years old, in whom interventricular communication had been diagnosed. For this child, who became cyanosed on the least excitement, chloroform anæsthesia appeared to be full of dangers. But, thanks to the apparatus in question, it was accomplished without the least untoward incident.

At a meeting of Société des Internes et des Anciens In-

ternes des Hôpitaux de Paris, Martin gave a very interesting report on diagnostic measures in diphtheria. Clinical signs should, in his opinion, have the first place in the diagnosis of diphtheria. It is true that the bacteriological diagnosis is certain, but it is useless to lose time by making it; surely it is better to give subcutaneous injections of antidiphtheritic serum, otherwise one will lose precious time. Bacteriological diagnosis should come, then, after the treatment. And it should be well done. The serum used should be perfectly clear; the spatula designed for coming in contact with the false membrane, should not be contaminated by touching the lips, gums, teeth, etc. The colonies should grow in eighteen to twenty-four hours. Under the microscope, both long and short bacilli may be seen. It has been thought that the latter were only pseudo-diphtheritic bacilli, but in reality no one point by which differentiation has been claimed is characteristic. There is but little difference, and the short pseudo-diphtheritic bacilli are only attenuated diphtheria bacilli.

On July 16 the President of the Republic met with the presidents of the Chamber of the Senate, on the Place de Breteul in Paris, to dedicate a monument to the illustrious, and never to be forgotten, Pasteur. Foreign scholars of all countries were represented by many delegations at this ceremony. The principal addresses were made by the Ministre de l'Instruction Publique, by Gaston Boissier of the Académie Française, and by Professor Grancher. The last mentioned had had the good fortune to live for ten years under the influence of the great scholar. He had known him in his happy days and in his hard days; and he proceeded, for the sake of the young men dreaming of glory, to tell briefly what so great a reputation had cost its winner.

With the Ministre de l'Instruction Publique presiding, a monument was also dedicated recently, to Professor Panas, the celebrated ophthalmologist who died last year. This monument, erected by the friends, the followers, the pupils of the founder of the ophthalmological clinic of the Hôtel Dieu, is designed to perpetuate the memory of the master in this clinic where he consecrated many hours each day to the care of patients and to the instruction of students.

A NEW MEDICAL TEMPERANCE ORGANIZATION.

To the Editor of the Medical Record:

Sir: The American Medical Society for the Study of Alcohol and Other Narcotics was organized June 8, 1904, by the union of the American Association for the Study of Inebriety and the Medical Temperance Association. Both of these societies are composed of physicians interested in the study and treatment of inebriety, and the physiological nature and action of alcohol and narcotics in health and disease. The first society was organized in 1870, and has published five volumes of transactions, and twenty-seven yearly volumes of the *Quarterly Journal of Inebriety*, the organ of its association. The second society began in 1891, and has issued three volumes of transactions, and for seven years published a Quarterly Bulletin containing the papers read at its meetings. The special object of the union of the two societies is to create greater interest among physicians in the study of one of the greatest evils of modern times. Its plan of work is to encourage and promote more exact scientific studies of the nature and effects of alcohol in health and disease, particularly of its etiological, physiological, and therapeutic relations. Second, to secure more accurate investigations of the diseases associated or following from the use of alcohol and narcotics. Third, to correct the present empirical treatment of these diseases by secret drugs and so-called specifics, and to secure legislation prohibiting the sale of nostrums claiming to be absolute cures containing dangerous poisons.

Fourth, to encourage special legislation for the care, control, and medical treatment of spirit and drug takers. The alcoholic problem and the diseases which center and spring from it are becoming more prominent, and its medical and hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel. Public sentiment is turning to medical men for authoritative facts and conclusions to enable them to realize the causes, means of prevention, and cure of this evil. This new society comes to meet this want by enlisting medical men as members and stimulating new studies and researches from a broader and more scientific point of view. As a medical and hygienic topic the alcoholic problem has an intense personal interest, not only to every physician, but to the public generally in every town and city in the country. This interest demands concentrated efforts through the medium of a society to clear away the present confusion, educate public sentiment, and make medical men the final authority in the consideration of the remedial measures for cure and prevention. For this purpose a most urgent appeal is made to all physicians to assist in making this society the medium and authority for the scientific study of the subject. As secretary, I shall be pleased to give any further information.

T. D. Crothers, M.D.

Hartford, Conn.

Progress of Medical Science.

Boston Medical and Surgical Journal, August 18, 1904.

Mind Cure from the Standpoint of the General Practitioner.—Robert T. Edes considers it certain that there are many disease processes over which the mind can have no control. Such are pyrexia, anæmia, etc. Over many processes of nutrition, too, it can have little influence. Over infections, degenerations, slow organic processes, such as control the duration of life, the general health and vigor of the constitution, psychic influence is practically nil. Psychic influences come in contact with organic processes only through the nervous system, especially by vasomotor and secretory nerves, and motor and sensory ones as well. The secretions of digestion are largely affected by the nerves; so are the functions of the bowels; hence, these are amenable to psychic influences. The functions of the kidneys and skin may, perhaps, be also so influenced. The intimate relations between the genital functions and mental and moral conditions are well known. So with the cardiac functions. In diseases that we call functional, the psychic influence has its greatest field. Still, in many forms of insanity, notably melancholia, it cannot act. In cases in which symptoms counterfeit organic disorders, the mental healer finds his field. In neurasthenia, in which there is little real loss of nerve power, mental influences are of use; if there is real loss of nerve power this must be regenerated through other means. Hysteria is the peculiar stamping ground of the mental healer. As to the methods of using mental healing, they are various. Suggestion may be made use of without hypnotism. The strenuous repetition of a positive assertion undoubtedly produces an effect. Many of the modern mechanical means of treatment do much of their work by mental effect, such as electricity, and various kinds of movements. As an adjuvent to the healing forces of nature and time, psychical influence will always be a precious resource to the physician.

A Consideration of Mental Therapeutics as Employed by Special Students of the Subject.—James J. Putnam tells us that some sort of specialized mental influence or education is often needed in cases of neurasthenia, aside from the improvement of nutrition. Another class of cases that may be benefited is that in which may be placed sufferers from morbid fears or occasional outbreaks of a hysterical nature. The problem is that of inducing in such patients the sentiments of courage, confidence, patience, and determination, and making them familiar with the dangers that are likely to threaten from without and within. In the class of diseases represented by morbid fears, fright psychoses, insistent ideas, and epileptiform or hysterical outbreaks, some of the best work has been done. A series of graduated efforts or one strong effort, in which the patient is supported by the physician, may overcome a morbid fear of long standing. Or such a fear may disappear before a determined attempt to go over and remember all the details of its first occurrence when it turns out to be not so dreadful after all. It has been found that painful experiences work mischief just because they are hidden from the patient's view. The hidden experience should be brought out into the clear light of consciousness. Hypnotism may be of great use here. It has been learned that it is erroneous to think that hypnotism tends to loss of independence and weakening of the will. In cases of traumatic hysteria, we have examples of typically painful and insistent experiences occurring in persons not of hysterical temperament. They are peculiarly amenable to mental therapeutics. General and local treatment is also indicated along with the mental treatment. No attempt need be made to draw a sharp line between physical and mental therapeutics. A kinship exists between the influence that improves the nutrition of the brain by increasing the harmony and efficiency of its functions, and that which reaches the same end by improving the quality of its nutrient fluids, or the mode of their distribution.

Journal of the American Medical Association, Aug. 20, 1904.

Ascaris Texana; a Note on the Hitherto Undescribed Ascaris Parasitic in the Human Intestine.—Allen J. Smith and Richard A. Goeth present a communication based on two female specimens of an ascaris. Together with a number of other examples supposed to be of the same kind, they were passed in the intestinal discharge from an adult

white man, the patient stating that for several years he had passed similar parasites from his bowel. The patient complained of his inability of ridding himself of the pests, which, however, gave him no particular inconvenience. Efforts to obtain other specimens since last year, when these were passed, have not been successful, and the absence of a male example renders the establishment of a full specific description impossible for the present. The two specimens were mounted, unstained, in balsam, on glass slides; and, from the influence of the reagents used in the balsam-mounting medium, as well as from compression and division of each specimen into three lengths for convenience of mounting, were not in favorable state for detection and clear recognition of many of the finer details needed in the study. Sufficient data may, however, be determined from material in hand to surely differentiate the worm from the known ascarides of the human intestine, and to make the idea of its identification with other known members of the genus improbable. They hesitate to insist on the absolute correctness of the view of the novelty of the species until the description given by them may be verified by study of fresh material and male specimens; but they feel from the data in hand the specimens presented may at least be tentatively accepted as constituting a new species, and would suggest that it be known as *Ascaris texana*. From its general appearance it is most closely allied to ascarides known to be parasitic in certain birds and reptiles.

Static Foot Error; Analysis of One Thousand Cases.—William E. Blodgett contributes this article. The female cases were in moderate excess. Two-thirds of the cases were under forty years of age. Predisposing or contributing to the weight-bearing error were long, slender feet, hallux valgus, mild, fleeting polyarthritic symptoms, probably toxæmic, and depression of physical vigor, without local symptoms, except in feet. The commonest direct cause was trauma. In slightly less than half the cases the duration of symptoms at entrance was six months or less. In about two-thirds of the cases both feet gave symptoms. In slightly more than 95 per cent. of the cases pain was the leading symptom, and in about two-thirds of these cases the pain was in the ankle, and foot only, most frequently being referred to the astragalo-scaphoid joint. The commonest location of pain when above the ankle was in the calf. In nearly all the cases the anterior arch was involved; in 156 cases, notably spread and flattened; and in 116 cases, painful. The degree of deformity was no indication of the severity of the symptoms. Of 77 cases of marked hallux valgus, 14 suffered from broken anterior arches, while in the 1000 cases the percentage of broken anterior arches was only 6.8 per cent. In the great majority of the cases (86.7 per cent.) a steel sole plate was advised. The prevailing type of plate was the square one, supporting nearly the whole width of the sole. Flannel bandages and supporting adhesive strapping were employed when indicated. Local and general tonic treatment, foot exercises, right shoeing and correct muscular standing and walking were often ecommended. Rigid valgus was treated by adhesive strapping in as much correction as possible, followed by a plate when the foot became sufficiently flexible; intractable cases were forcibly corrected by manipulation under ether, and retained overcorrected by plaster cast, followed by plate, and usually Thomas sole. Thomas heels, or heel and soles, were occasionally used in promising cases in substitution for plates. Of the 1000 cases 513 did not return for continued treatment. In two-thirds of the plate cases the plates were raised, usually within a month. The results of initial treatment show entire relief in 27.6 per cent., relief in 43 4 per cent., slight relief in 5.3 per cent., and no relief in 23.7 per cent. The results of the plate treatment of static error affecting principally the longitudinal arch show entire relief in 32.7 per cent., relief in 44.9 per cent., slight relief in 7.8 per cent. no relief in 13.6 per cent., and condition made worse in 1 0 per cent. When the anterior arch was involved entire relief followed in 32.1 per cent., relief in 53.6 per cent., and no relief in 14.3 per cent. The results of treatment by Thomas soles without plates showed that it was less effective than plate treatment. In three-quarters of cases with restriction of inversion sufficient to require corrective adhesive strapping, the pain was entirely or much relieved. In two-thirds of the cases of forcible correction under ether the valgus nd rigidity returned. Among the 350 plate cases in which results are known, only 15 removed their plates with relief. In 95.7 per cent. of all the plate cases the patients continued to wear their plates.

Practical Notes on Ointments, Their Use and Abuse.—L. Duncan Bulkley considers this topic under the following headings: (1) Basis for ointments. The first requisite is that it shall not be irritating and shall be of a proper consistency, and the tendency to become rancid should never be forgotten. Lard is a common base, and it is usually treated with about 2 per cent. benzoin to prevent rancidity. Wax and oils tend to rancidity. The petroleum products are much used, but vaselin is not acceptable to every skin. Vaselin and albolene are of value when it is desired to have a lubricant, or a soft ointment to penetrate, but this will not answer as a protective ointment. Lanolin is rarely suitable as a basis alone. Glyceride of starch is often good as an excipient in irritable conditions. Mutton tallow melted and incorporated with oil makes an excellent inunction for dry, harsh skins. The most serviceable base for most ointments is cold cream. (2) Ingredients of ointments. The addition of carbolic acid, ichthyol, or oil of cade is of great value as an antipruritic. Salicylic acid promotes the growth of healthy epithelium. Wilkinson's ointment for scabies may be further improved by the addition of tar ointment and liquid storax. (3) Compounding of ointments. The directions in the Dispensatory are very clear, but not always followed strictly. The most common error in their preparation is in having gritty particles, so irritating to the skin surface. All mineral ingredients should be thoroughly triturated in a mortar, with a few drops of oil, so as to make a fine paste. (4) Strength of ointments. It is well to begin with mild applications, increasing the strength as indications occur. (5) Properties of ointments. Ointments are required for many purposes, and their action may be lubricating, protective, soothing, astringent, absorbent, stimulating, or antiparasitic. All of them may prove healing according to the nature of the complaint and the condition of the skin. (6) Mode of application. When an ointment is used for lubricating it should be taken on the palms and the body should be freely anointed, with friction, morning and night, until much of the ointment has been absorbed. If there is a raw, eczematous surface the ointment should be spread on the woolly side of lint and firmly bound to the part. In parasitic diseases of the scalp it is often wise to apply the ointment with a stiff stencil brush, with considerable friction. In old eczematous patches benefit is derived often from friction with the fingers. In general itchy conditions it may be necessary to make applications many times day and night. It is rarely advisable to wash the surface which are at all raw, but the necessary cleansing may be done by gently wiping them with absorbent cotton. (7) Indications and contraindications for the use of ointments. In some acute inflammatory conditions of the skin lotions and powders suit far better than ointments, while in the most chronic conditions, with dry, rough skins, ointments are called for. A single patch of chronic eruption will require much stronger applications than an acute or generalized eruption. The almost general use of zinc ointment is explained largely by its relative harmlessness.

Medical News, August 20, 1904.

Technical Errors in the Use of Rubber Gloves.—Howard D. Collins thinks that the rubber gloves are often rendered useless by the manner in which the glove is put on: the left glove is worked in by means of the right hand, which is presumably not absolutely sterile, otherwise the gloves would not be used; or the glove is drawn on under water, the water having been contaminated by the hands previously. Again the excess of liquid dripping from the wrist of the glove into the wound may contaminate it, or a broken finger tip may have the same effect. The preparation of the glove is careless; it should be picked from the sterilizer with forceps and handed hot and wet to the surgeon. The author sterilizes gloves by boiling them, turned inside out; he then dusts them with sterile starch or lycopodium, turns them by means of sterile forceps, and places them between folds of sterile towels. The gloves are put on by using sterile gauze to take hold with. The hands do not touch them at all.

Autointoxication of Gastrointestinal Origin.—Clifton Mayfield sums up the causes of autointoxication thus: it may result from ingestion of decomposing food; from fermentation and decomposition of food in the alimentary tract; or from reabsorption of bile or fecal matter. The gastrointestinal changes are the result of chemical processes and bacterial activity, producing sulphuretted hydrogen, potassium and ammonium, organic toxins and ptomains that are absorbed into the circulation. If the kidneys are incompetent or over-worked, and the liver is incapable of eliminating the poisonous products, absorption takes place and symptoms of poisoning occur. The acute toxæmia of decomposing meats and such articles is less serious than the chronic intoxications; such occur in cancer of the stomach, chronic dyspepsias, chronic diarrhœa, and dilatation of the stomach. Intoxication may occur in personal idiosyncrasies against certain articles of food. Constipation may originate it Many cases of insanity depend upon toxins affecting the brain cells, disordering their metabolism or even destroying them. The treatment consists in avoidance of the introduction of

foods liable to fermentation; the lessening of bacterial energy in the gastrointestinal tract, in which lavage, colon-flushing, and laxatives play an important part; and relief of the system from the poisons by aiding in their excretion by the usual organs of elimination.

Recognition and Management of Beginning General Paresis.—Charles Lewis Allen states that the diagnosis of general paresis cannot be made on any one symptom; but severe neurasthenic or hypochondriacal symptoms, or any marked mental change without known cause, in a man of fifty years is suspicious. If there was previous syphilis the probability of paresis is great. If there is also immobility of the pupils, loss of knee-jerk, while there are characteristic speech disturbances, and a convulsive seizure, there is no longer any doubt. Syphilis, the abuse of alcohol, the struggle for existence, are chiefly responsible for general paresis. It may occur at any age, but is especially a disease of fifty or thereabouts. The disease begins slowly with some form of mental change. There are three general types: (1) The dement type, characterized by mental failure. (2) The classical type, with grandiose feelings. (3) The melancholic type, characterized by depression, sleeplessness and hypochondriacal ideas. Delusions are never logical; hallucinations are rare; the knee-jerks are altered, lost or exaggerated; there is Argyll-Robertson pupil; sometimes there is optic atrophy; there is imperfect coördination, shown by tremor, and inability to perform fine movements of the hands, such as writing; there is change in speech, inability to pronounce complex words; there is loss of memory; finally there may be paretic seizures, epileptiform, apoplectic, or simply of vertigo and slight muscular twitching. The treatment can be only palliative; to sustain the vital forces and prevent excitement; to protect the public and the family from the foolish and unjustifiable acts of the patient are the main objects. The best place, in most cases, for the patient is in a sanatorium.

The Biological Interpretation of Cancer.—Alexander Spingarn seeks in the phenomena of evolution the solution of the question why cancer occurs. He reminds us that even if we find the parasite of cancer, this will be only the exciting, not the efficient, cause of the disease. Heredity and variation, including natural selection, are two important factors in evolution. The real explanation of cancer should be sought in the laws that govern the growth and multiplication of cells. The law of growth has been firmly established. The nutrition of the cell depends upon its capacity to absorb. When the cell becomes incapable of absorbing sufficient nutriment cell-division occurs. The law of evolution has determined the absolute size of every organ; there is a fine adjustment of tissue to tissue, organ to organ. Each tissue depends for its health upon the chemical equilibrium of its immediate environment. A tissue which has acquired excessive proportions will undergo necrosis or degeneration. In the organic community overgrowth of any kind is as disastrous as deficient growth. Natural selection will account for the limitation of size of the different organs, perpetuated by heredity. The vital mechanism changes its size and power according to the demands made upon it. In this adaptive capacity of the individual tissues is the secret of pathological hyperplasia. In exuberant callus, in cheloid, in the excessive increase of red blood cells are instances of extravagant and riotous regeneration of tissues as the result of abnormal stimuli. The tissues are endowed with a capacity to grow which has been stilled by the needs of the organism. This capacity may be awakened by anything which tends to embarrass or limit the activity of the particular part. A sort or atavistic reversion to the hereditary habits of the cell, when self-multiplication was the most prominent phenomenon of cellular activity, as a result of abnormal stimuli, may account for the proliferation of cells in new growths. An unusual stimulus, as of injury of an organ, may excite the bodily cells to assume the habits of their primitive ancestors. A jagged tooth, a long-continued ulceration, chemical poisons may act as such stimuli.

New York Medical Journal, August 20, 1904.

The Management of Genital Sores.—E. Wood Ruggles says that there is no other class of cases so frequently neglected and mismanaged as that of venereal diseases, and states that the only safe course to pursue in the management of genital sores is to regard them with all suspicion and, in fact, to hold them all as syphilitic until proven otherwise. Again he believes it to be equally important to refrain from instituting general specific treatment until the diagnosis of syphilis is confirmed by the secondary symptoms. The venereal trinity, an indurated ulcer, multiple, shotty, enlarged glands in the groins, and a roseola ensuing in from five to ten weeks after the first appearance of the ulcer, are the three requisites to the earliest possible certain diagnosis of syphilis. The most reliable single sign of syphilis is the roseola. The simpler the treatment of genital sores the better. One cardinal principle is to cauterize no such sore with silver nitrate or other caustic that produces induration, until all doubt about the diagnosis is removed. A soft chancre is cauterized thoroughly with carbolic acid and then some antiseptic drying powder is applied. In the treatment of herpes, cleanliness and dryness are the most important factors. Frequent washings with some mild antiseptic and the application of salicylic acid in starch, 1 to 100, on a thin layer of cotton, will quickly cure. In the treatment of the hard chancre it matters little what line of local treatment is used, tepid water being as good a dressing as anything.

The Finsen Light Treatment.—Rollin H. Stevens says there is much misunderstanding as to the true nature of the genuine Finsen light, and as to what it will accomplish. Reports of Finsen light treatment given with apparatus of other construction all lack the features necessary to secure the most marvellous cures which are reported from Finsen institute, Copenhagen. It is frequenty asserted that the efficient agent of the Finsen light is the ultraviolet ray. Dr. Bie has shown that the blue and violet rays penetrate deeply into the skin, but only when it has been made bloodless, and the ultraviolet rays can, under no circumstances, penetrate deeper than the superficial layer of the skin, but they give rise to dilatation of the blood-vessels, which may persist for months. The writer quotes experiments because he desires, in fairness and justice to the Finsen treatment, to protest against the common practice of denominating as Finsen lamps any kind of a phototherapeutic lamp, the construction of which may involve only few or none of the principles enunciated by Finsen. After a year's experience with the Finsen light and several weeks' experience in the Finsen Institute, and other places, he believes that in superficial skin diseases which are suitable for the Finsen treatment there is no more effective and speedily curative agent known to the medical profession.

Renal Insufficiency.—Antonio M. Crispin believes that all prolonged gastrointestinal inflammations will react on the liver, and this gland is one in which the most urea is formed. The diminution of the quantity of urea in all hepatic diseases is of very grave omen, and the daily examination of the urine enables us to tell whether the disease is stationary or progressing. The kidney, in affections of the liver, is like a barometer, by means of which we can prognosticate the outcome, and acts as a safety valve, and upon its permeability depends the future of the patient. As the proportion of solids in the normal urine bears a certain ratio to the normal body weight, below a certain percentage of which they cannot fall without indicating "renal insufficiency," tables were prepared giving the total urinary solids for certain weights. By obtaining the amount of solids passed by the patient and comparing with the tables given it can readily be ascertained whether this was above or below the normal amount. This applies to urine free from sugar and albumin. Water is the best diuretic and is indicated when the solids are normal but the urinary water is diminished. When there is a deficiency of the solids, this may be increased by fractional doses of calomel. Sodium salicylate will increase the amount of solids eliminated, as it increases the functional activity of the liver; but it must not be given if the kidneys are structurally changed. When the amount of solids is excessive, and when there is no contraindication, such as diabetes, zinc valerianate, in grain doses, has given good results in checking this waste, especially when dependent upon an over-active liver.

American Medicine, August 20, 1904.

The Prognostic Importance of Meteorism in Pneumonia.—Heliodor Schiller states that in most cases of pneumonia pneumococci may be found in the peritoneum and in the blood. The cocci seem to pass through the diaphragm, in all layers of which they have been found, and to infect the peritoneum. They may also pass to the peritoneum by way of the lymphatics. In these cases meteorism is marked. The presence of streptococci may also be of importance. From the observation of a number of cases of pneumonia the author gives us the following conclusions: (1) Meteorism often accompanies pneumonia; (2) in lighter degrees it may be produced by deficiency of mechanical action of the diaphragm; (3) as a pronounced condition it is rare; (4) when very marked it is one of the worst prognostic symptoms, as it may point to a complicating peritonitis.

Myelitic Symptoms Occurring during the Puerperium.—Alfred Gordon draws attention to the necessity of not ignoring symptoms such as pain, paraplegia, etc., after labor, while classing them indefinitely as nervous symptoms. The absence of cleanliness and aseptic precautions at delivery may cause unexpected complications. A purulent discharge from the uterus should lead us to make immediate search for its cause. A transient and

curable inflammation of the central nervous system and the occurrence of myelitic symptoms are possible from lack of asepsis. He describes two cases in which there had been carelessness in the application of forceps, and in which a purulent discharge had existed for some time before causing the physician to search for the source. In one patient there was an abscess behind the vagina which had infected the spinal cord. Symptoms of myelitis supervened, paraplegia, rigidity, increased tendon reflexes, ankle clonus, marked sensory and bladder and rectal disturbances. After instituting aseptic measures and drainage, all the symptoms disappeared and the patient entirely recovered.

A Plea for More Just Judgment of Narcotic Drug Users.—George E. Pettey states that morphine *habitués* are unjustly judged to be moral perverts and entirely unreliable persons, because they may be forced in self-defense to resort to unjustifiable means to obtain the drug which has become a physical necessity to them. The sudden deprivation of the drug may cause intolerable suffering, violent delirium, transient or permanent dementia, or even death. In any case it causes heart weakness, often uncontrollable diarrhœa, and such a condition of misery that the patient is unable to bear his sufferings. Self-preservation is a law of nature, one of the strongest, and no man can be blamed for using whatever means he finds necessary to that end If the public and physicians would recognize that it is unjustifiable to deprive the morphine user suddenly of his drug, that he is physically unable to stop it suddenly, the patient would be in a better position for cure The author cites cases that have been treated by him, of persons of good moral character, business ability, and standing in the community who have for years used the drug, and have manifested no symptoms of moral degeneration or perversion. These were cases in which the habit was acquired during sickness, and in which the relatives recognized the necessity of the drug to the patient, and supplied it as needed. There was no incentive to deceit or crime, and no tendency in that direction was manifested. These patients were cured by appropriate treatment after having used the drug for years. The cure requires gradual deprivation, and the most careful handling and supportive treatment to bring the case to a successful issue. Such persons should be treated as subjects of misfortune and serious disease, rather than frowned upon as "morphine fiends."

British Medical Journal August 13, 1904.

Malta Fever.—A. F. Bradshaw asserts that the so-called Malta fever is one of the most tedious and refractory of diseases often lasting for years, and being peculiarly subject to relapses. It is caused by the micrococcus melitensis, a germ of very minute size and which grows very slowly on artificial media. Of its habitat outside of the body, very little is known. Cultures kept at 22° retain vitality for fourteen months; it lives in milk for three weeks, in water for three days; in sea-water it dies almost immediately, while in urine it lives five or six days. In a dried condition it retains vitality a much longer time; in dust for sixty-nine days, on dry fabrics longer It has never been found in the dust of streets. It grows very slowly at ordinary temperatures, best at blood heat; exposure to the sun kills it quickly. Of its mode of entrance we are ignorant. It is produced easily by inoculation, the disease occurring in the inoculated animal in a typical form. There have been many accidental inoculations in the laboratory. It is thought possible that the disease may be carried from one to another by means of mosquitos. It is found in very small numbers in the blood, and colonies have been found in the urine, so that this may be the means of carriage. It is not found in the sputum, the expired air, the sweat, or the intestinal contents.

The Influence of Antenatal Conditions on Infantile Mortality.—G. F. McCleary considers that the whole subject of infantile mortality stands much in need of a more searching analysis. Prochownik had brought forward evidence to show that the development of the fœtus is definitely affected by the diet and mode of life of the mother during pregnancy. By dieting anæmic or fat and weak women, a more normal pregnancy and puerperium have been secured. The size of the fœtal head has been modified, and rendered more compressible in cases of pelvic contraction by diet. Defective antenatal nutrition causes the infants of the poor to start out in life at a low level, and they easily succumb to hardships. The influence of alcohol as used by the mother has an important effect on the child. The alcohol enters the child's veins directly from those of the mother and exerts its injurious effects. Antenatal conditions cause many of the deaths from marasmus, atrophy, debility, inanition, and convulsions. At the same time, they cause the child to have less resistance to the ordinary children's diseases and diarrhœal troubles Premature birth, atalectasis, cyanosis, and congenital effects definitely depend upon antenatal causes. There has a been relative increase in the number of premature births in the last two decades. Artificial means of preventing conception are more often used, and cause endometritis and other uterine diseases which favor premature birth. Our birth rate is decreasing, and it would appear that there is a diminution as well in the quality of our output of babies.

Caisson Disease.—Thomas Oliver says that experience has shown that when care is taken men can work at great depths under water and under enormous pressures with comparative safety for some hours at a stretch, if sufficient air is supplied and time allowed on emerging for decompression. As the caisson sinks the pressure increases; at a depth of 100 feet the pressure is 3 atmospheres, at 200 feet it is 6 atmospheres. As the lock descends the workman undergoes compression; as he emerges, decompression occurs. Under some circumstances noxious gases escape from the soil, and the lamps tend to vitiate the air At the same time, large quantities of air are constantly pumped into the cylinder, rendering the air more pure. When the men suffer, it is usually in consequence of too rapid decompression. At least six minutes should elapse during the decompression; if more is occupied the nervous men become worried. When the outer door is opened a thick fog escapes, and the atmosphere is icy cold. The physiological effects of compressed air are various; there is no mechanical effect on the circulation, no rise of pressure. The pulse and respiration may increase from nervousness, but this soon passes off There is no difficulty of breathing, and seldom faintness. There is buzzing and sometimes pain in the ears, due to the difference of pressure inside and outside of the drums. This is relieved by swallowing, which causes air to enter the eustachian tube. Experience has shown that, as greater depths are reached and higher pressures used, the dangers of injury become greater. Poisonous gases escaping from the bottom may have much to do with the injurious effects. During compression air enters the blood and causes frothing of the blood, bubbles may be seen escaping in the frog's foot. Beyond this, the nitrogen, which is increased in amount, is harmless. Oxygen in a high state of tension acts as a protoplasmic poison, depressing the bodily temperature, and producing convulsions and death in animals. It also brings about, rapidly, an acute inflammation of the lungs, acting simply as an irritant, without any bacterial action. Intense hyperæmia and hemorrhagic congestion can be produced in a very short time. The symptoms of caisson disease do not occur in the caisson, but after decompression, and the pains may be at once relieved by recompression in a medical lock. The men suffer chiefly from pains of a very severe nature, in the muscles and joints, due to the escape of air into the tissues. Gavaret thinks it due to the pushing asunder of small nerve fibers connected with capillaries that are distended with air, and the rupture of small blood-vessels. Giddiness and epistaxis may occur. Frequently there is loss of sensation in the legs, as well as loss of power, numbness and formication and retention of urine. The paraplegia may last for some months; reflexes are exaggerated and ulcers may form on the heels and soles of the feet. There may be loss of hearing or sight, delirium, unconsciousness, and loss of speech. Prevention of caisson disease consists in carefully selecting the men, rejecting all intemperate men, or those who have catarrhal troubles, lung, heart, or kidney disease. The caisson should be well ventilated, the decompression slow, the shifts short, and the temperature may be raised with advantage, especially after leaving the lock. The immediate treatment consists in recompression.

Deutsche medizinische Wochenschrift, August 4, 1904.

Trauma as an Etiological Factor in Aortic Insufficiency.—F. Sinnhuber describes two forms of violence which may bring about a rupture of the valves. The one is due to muscular exertion, the other to external violence in the form of a blow or crush on the thorax. In addition to these there is also a spontaneous rupture, which occurs during the course of a severe endocarditis when the arterial pressure is suddenly raised by fright or mental shock. Intermediate between these two are cases in which trauma is followed by endocarditis, in the course of which rupture of a valve may result. The latter, however, is almost impossible to diagnose clinically. The author reports three cases in which the rupture resulted from external violence, in the form of a fall on the thorax. The diagnosis could in no instance, however, be confirmed by autopsy, and was based on the signs of an aortic insufficiency coming on soon after injury of the kind described. The original paper should be referred to.

Mixed Infection with Typhoid and Paratyphoid Bacilli.—H. Conradi attempts to add further proof of the etiological unity of the disease, by relating a case in which the simultaneous invasion of both bacilli called forth the

clinical symptoms of typhoid fever In an eight-year-old girl there was noted irregular temperature, splenic tumor, roseola, slight intestinal disturbances. Culture tests made on the fifth day showed colonies of both forms of bacilli on the same agar plate. The author believes that the finding of the two types in the initial stages of the disease necessarily stamps the case as a mixed infection. In addition to this it was determined that the infection took place from contaminated ice which the patient had swallowed. The bacilli could readily be demonstrated in the latter, and also in the water supply from which it was produced.

The Treatment of Spastic Aphonia.—E. Barth discusses the therapy of this condition from a new point of view. The writer's idea is to avoid the extreme closure of the epiglottis by mechanical means. The contraction of the glottis, which interfered with tone production, could be prevented by introducing a wedge between the vocal cords. The mucous membrane was very sensitive in the case in which he tried it and thorough cocainization was necessary, before the wedge-shaped tip of a sound could be inserted between the anterior ends of the cords. Phonation after a few efforts was then possible, but the next morning aphonia was again present. In the belief that the excessive contraction of the glottis had an important influence, a larger wedge was inserted, so that even the approximation of the vocal processes was prevented. After a number of efforts by the patient, speech returned and lasted for several weeks, when the procedure was repeated with equally good results. In two other patients the results were immediately permanent.

Münchener medizinische Wochenschrift, August 2, 1904.

Unusual Injury to the Eye.—Noldeke reports a unique instance in which the sclera had been wounded by a whip-lash. This wound was cleaned and sutured, but after a time an abscess developed in the vitreous body, which finally necessitated enucleation of the eyeball. Subsequent examination of the latter disclosed the presence of a small knot of silk derived from the tip of the lash. The mechanics of the injury may be explained as follows: The sclera was undoubtedly cut by the extreme tip of the snapper of the whip; as the latter was withdrawn, the edges of the wound held fast to the snapper, which broke off because the silk was rotten, and the knot remained in the eye. This is the third case of the kind thus far reported.

The Etiology of Intestinal, Biliary, and Renal Colic.—Wilms questions the statement made by Nothnagel that intestinal colic consists of an irritation of the nerves in the walls of the gut, which is brought about by a marked tonic contraction of the intestinal tube, biliary, renal, and uterine colic being likewise produced by the spastic contraction of the smooth muscles. Wilms doubts this because it is a common observation of surgeons that the gut can be freely handled and sewed without producing any sense of pain. A pulling on the mesentery is, however, very painful, and this the writer considers to be the primary cause in producing the colic. In the presence of a stenosis, the distended intestinal loops above the constriction assume the form of folds. When a tonic muscular contraction sets in, the internal pressure, equally divided over the interior of the tube, would tend to cause the latter to assume a straight line, but this is prevented by the mesenteric attachments and the painful pull results. In the case of biliary colic, Wilms also believes that the pain is not due to distention or the passage of a stone through the ducts, but is produced by the pulling of the distended biliary passages at their point of attachment, where the sensory nerves become involved. This would account for attacks of biliary colic without the presence of gallstones. Renal colic may be readily explained in the same manner.

The Effect of Radium Rays on Animal Tissues.—H. Heineke has already reported on the histological changes which are produced by the Röntgen rays in the blood-forming organs—bone marrow, spleen, lymph follicles of the intestinal canal, lymph glands, thymus—comprising a destruction of all the lymphoid tissue in the body, a disintegration of the cells of the splenic pulp and the bone marrow, and finally an increase of the pigment in the spleen. His present contribution deals with the radium rays in a similar manner. Experiments in animals showed that the latter exerted the same effects on lymphoid tissue as the Röntgen rays, within a few hours a disintegration of the nuclei of the lymphocytes took place in all organs which were exposed to the radium rays. These changes occur in great part during the first twenty-four hours, but the cells of the splenic pulp are not affected during this time. It is apparent, therefore, that the radium rays, like the *x*-rays, can attack the lymphoid tissue through the unbroken skin. The sensitiveness of the lymphoid tissue to the radium salts is remarkable, an exposure of a few minutes resulting within a few hours of tissue changes of considerable extent. It seems reasonable to conclude from these experiments that the radium rays are accompanied by the same physiological action as those proceeding from the Röntgen tube, and the effects on living tissue are practically the same.

French and Italian Journals.

The Action of Carneous and Amylaceous Regimes on the Retention of Chlorides and Urea.—Achard and Paisseau states that the amylaceous régime, which is more easily borne and more easily varied, increases the volume of urine and sometimes admits of better elimination of the chlorides. A patient suffering with aortic insufficiency and œdema, on the amylaceous diet voided an average of 2430 gm. of urine daily, in contrast to 1380 gm., while on the carneous régime. The excretion of chlorides was 6.50 gm., during the period of the amylaceous régime, in contrast with 4.30 gm., during the carneous régime. In demonstrating the possible diminution of diuresis, and the imperfect elimination of chlorides and urea under the carneous régime, Archard and Paisseau have confirmed experimentally the results already obtained clinically.—*Journal des Praticiens*, July 30, 1904.

Neoplastic Stenosis of the Œsophagus.—A. Michelazzi has collected seven cases of neoplastic stenosis of the œsophagus, treated during seven years at the Medical Clinic of the University of Pisa. These were collected from among 1800 cases, which presented themselves during that time. The principal symptoms are dysphagia, concavity of the abdomen, pain, a tympanitic area above the stricture when dilatation has occurred, which disappears on drinking water, emaciation, and, in some cases, impairment of voice from pressure on the nerves in the chest. The commonest form of stricture of the œsophagus is the neoplastic, the carcinomatous. Ulceration may occur into the air passages late in the course of the disease. The symptoms of this condition are cough on swallowing anything, even water. The author finds cancer of the œsophagus to be rarer than the other forms of the disease. It occurs most often in the lower third of the œsophagus. It is found only after the age of fifty years. In all his cases there was found no assignable cause for the location of the disease. The duration is short, on account of the rapid failure of nutrition, from three to seven months, in the author's cases.—*Giornale Internazionale delle Scienze Mediche*, June 30, 1904.

Action of Corrosive Sublimate on the Kidneys.—Aldo Tartarini-Gallerani has studied the subject of calcareous degeneration of the kidneys after mercurial poisoning, and has experimented on rabbits by injections of sublimate directly into the cortex of the kidney, a method used only by himself. It has been long known that mercurial poisoning produces a subacute parenchymatous nephri is. Following this, c lc reous infarcts are to be found in the cortex. The ca'cium salts are deposited in the epithelial cells. As to how these salts are deposited, there are two theories: (1) That there is first a necrosis followed by calcareous degeneration, and (2) that the salts are dissolved from the bones and then deposited, in the kidneys. His conclusions from experiments are that, if sublimate be injected into the renal cortex, there is produced a deposit of lime salts in the canaliculi about the seat of injection. This occurs only after some days and following phenomena of necrosis of the cortical elements. These phenomena are similar to those observed after the drug has been injected into the blood. The deposit may be slight, or may produce calcareous cylinders filling the canaliculi.—*Lo Sperimentale*, June, 1904.

Diagnostic and Prognostic Significance of the Pulsus Paradoxus.—Giovanni Galli questions the opinion of Kussmaul that the pulsus paradoxus is a pathognomonic sign of sclerosis of the modiastino-pericardium. He states that the pulsus paradoxus is found in a great variety of diseases; it is found in all the diseases of the heart and vessels, the lungs, in laryngeal stenosis of diphtheria, nephritis, infective diseases, in convalescence, etc. He gives the greatest importance in the production of the pulsus paradoxus to the pulmonary traction. The heart feels the influence of this, which tends to maintain it in a continuous diastole. This pulmonary traction is determined by the elasticity of the alveoli. He says that the pulsus paradoxus should be divided into two groups, that of Kussmual, associated with engorgement of the jugular veins, and characteristic of mediastino-pericarditic sclerosis; and pulsus paradoxus dependent on diminished myocardial resistance, on a fun tional or anatomical alteration of the heart, and encountered in many diseases as well as in convalescence. When this exists, the prognosis should be cautious and tentative. The pulsus paradoxus of functional nature and of short duration, is due to intestinal autointoxica-

tion, to poisoning by the products of fatigue, or to the action of toxic drugs.—*Il Policlinico*, July, 1904.

The Vitality of Germs on the Decks of Ships.—C. M. Belli has made valuable experiments as to the vitality of germs that have been deposited on the various parts of sea-going ships. The larger number of germs are found in the dust of the corridors, some on the carpets, and very few in the kitchen. This results from the different conditions of exposure to the air and sun, as well as the materials used for covering the floors. He made his experiments by depositing in various places Bacillus mesentericus, vulgatus, and prodigiosus, and sarcina lute. The decks were then washed as usual, and culture tests were then made. He concludes as follows: (1) Germs on the deck of a ship die naturally, those that bear no spores quickly, those that have spores, after a time; conditions of humidity and light have much influence on their death. (2) Washing with sea-water has a very limited action on the non-spore bearing germs, because they die at any rate; against the most resistant it is quite sufficient; hence, this is an excellent method of cleansing. (3) Washing with lye has no advantage over sea-water except as it acts as a solution of soap, and has a very limited disinfectant action; in case of epidemics the lye must remain in contact with the wood for a long time to have any effect.—*Annali di Medicina Navale*, June, 1904.

Dermoid Cysts of both Ovaries in Two Sisters.—François Hue reports these interesting cases. The first patient was a woman of twenty-six years, with an excellent family history. The patient, before marriage, had never suffered with any abdominal trouble. In the five years of her marriage she had had five pregnancies. The last pregnancy had ended at full term, five months previously, and that labor had been difficult, as if some obstacle hindered expulsion. For four years the patient had suffered with abdominal symptoms. A mass could now be palpated, and the abdomen was as large as would be normal at a six months' pregnancy. Exploration was slightly painful. The tumor was round and slightly fluctuating. On vaginal examination the uterus was found to be movable. Menstruation had not taken place since the last labor, although this might be accounted for by the fact that the patient had been nursing her infant. Cyst of the ovary was diagnosed and operation was performed. It was discovered that there were two cysts—one of each ovary. The contents of the cysts were characteristic. It is now five and one-half years after the operation and the patient is in perfect health. Five years after the first patient presented herself for treatment, her young sister, eighteen years old, was taken with great pain in the abdomen. Examination disclosed an abdominal tumor which, at operation, proved to be identical with that of her sister's. An ovarian cyst of each ovary was removed. Since the operation her health has been perfect, but the menses have never appeared. These are most interesting cases, and the writer presents them without comment.—*La Revue Médicale de Normandie*, July 25, 1904.

Ankylostomiasis.—M. Dopter reviews first the geographical distribution of this affection. In Africa it attacks the population of the western coast. In Asia its frequency is noted particularly in India. In America it occurs frequently, being especially common in Brazil. In the United States it is seen in Louisiana and Georgia. It is far from being unknown in Europe. It is especially common in Italy, chiefly in the north, where the parasite finds in the numerous tunnels which burrow through the mountains, all the conditions favorable for its development. It is far from being rare in France. Among the most important symptoms of this affection is anæmia. But before reaching this stage the initial phenomena are always those relating to some digestive trouble. After anæmia has once developed, it becomes rapidly more and more profound, and is accompanied by cachexia. Œdema appears. Functional troubles become marked. Vertigo and palpitation occur. The pulse becomes irregular, soft, and rapid. The temperature is rarely elevated. At autopsy, the body is not found to be emaciated. The œdema and anæmia are generalized. The mucosa of the small intestine is catarrhal, it is covered with mucus and is often very bloody. Ankylostomiasis is a parasitic malady, and is doubtless transmissible. Proofs of this are found in the history of the affection and in the various epidemics which have occurred. A mine has been known to become contaminated after the arrival of an infected workman. Laboratories have become contaminated. The disease has disappeared partly or wholly under the influence of prophylactic measures which consisted in isolating the patient and all objects that might have become contaminated. Proper prophylaxis, then, should always be attended to when there is any danger of this infection.—*Gazette des Hôpitaux Civils et Militaires*, July 23, 1904.

Surgical Suggestions.

Decubitus.—In the prevention or treatment of decubitus, Straetter uses a large pad of felt with a hole cut in it to correspond with the site of the denuded spot. The pad is painted with glue and stuck to the patient's back—in other words, a greatly enlarged corn protector.

The Treatment of Acute Trachoma by Excision of the Diseased Tissue and Brushing.—The method adopted is to evert the upper cul-de-sac completely by means of forceps, to divide the conjunctiva from one end to the other, and lastly to excise the submucous tissue where diseased by means of small curved scissors. Into the raw surface a solution of sublimate, 1 in 500, is brushed. The after-treatment consists in free irrigation of the eyes.—Chedoudi, *La Clinique Ophthalmologique*.

Speed in Operation.—Learn to operate rapidly. An operator who is a dissector handicaps by his tedious delvings the safety of his patients.

Angioma.—Pass catgut in a zig-zag manner first below the skin, then under the base of the humor, then again beneath the skin and underneath the humor until the mass is included in a continuous suture. Draw tight and close at the point of entrance. No gangrene follows, as the blood supply is not all cut off. When the tumor is diminished to a connective tissue nodule the latter is excised.—Beck.

Hour-glass Stomach.—Moynihan finds that in many cases there is narrowing also of the pylorus, showing that gastric ulcer is often multiple. Hence in many cases no single operation will suffice. If a gastroenterostomy is performed from the cardiac pouch, the pyloric pouch remains undrained. In many cases a double operation is required—gastroenterostomy from both pouches, gastroplasty combined with gastroenterostomy from the pyloric pouch, gastrogastrostomy with gastroenterostomy, or gastroplasty and pyloroplasty.—*British Medical Journal*.

Fibroma of the Tunica Vaginalis.—From the study of a case which came to operation, Balloch says the following conclusions may be drawn: (1) That, like other serous cavities, the cavity of the tunica vaginalis may be the seat of fibrous growths. (2) That irritation is an important factor in their production. (3) That they spring originally from the subserous connective tissue, but may become detached and lie loose in the cavity. (4) That they are mostly of the variety known as soft fibroma. (5) That they are prone to myxomatous and fatty degenerations. (6) That the testicle may be affected by the same forms of degeneration. (7) That the growths are generally minute, the present case being unique both as to the number and the size of the tumors. (8) That excision is the only effectual remedy. (9) That, as the testicle is liable to be affected, the propriety of removing it with the growths should be considered.—*Annals of Surgery*.

The Efficacy of Anti-mosquito Campaigns in the prophylaxis of mosquito-borne diseases was well illustrated last fall in Laredo, Tex. That city is situated on both banks of the Rio Grande river, partly in Texas and partly in Mexico. In September yellow fever appeared in the city. The medical officers of the U. S. Government took charge of the measures in the Texas portion of the town; patients were screened, breeding places for mosquitos were oiled, and infected premises were disinfected to kill the insects. As a result, in the Texas portion of the city only 10 per cent. of the inhabitants were affected, while in the Mexican quarter 50 per cent. suffered. In November an officer of the Marine Hospital Service investigated the local conditions and was unable to discover any stegomyiæ either in pupal, larval, or adult stages in the American portion of the town.—*Clinical Review*.

Book Reviews.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VIII. Illustrated by Chromolithographs and four hundred and thirty-five Half-tone and Wood Engravings. New York: William Wood and Company, 1904.

With the appearance of this volume Dr. Buck's great undertaking comes to a successful close. The titles include everything in alphabetical order between Umbelliferæ and Zymolysis, in addition to a number of articles prepared too late for insertion in their proper place, and so of necessity consigned to an appendix. The most important subjects treated of here are: Urethra, Urine, Uterus, Vaccination, Vagina, Variation, Veins, Vital Statistics, Water, Yellow Fever, and in the appendix, Arsenic, Asiatic Cholera, Bacteriological Technique, Hæmolysis, Peritonitis, Protozoa, and Anatomy of the Skin. A very complete and satisfactory index of the entire work by Dr. R. J. E. Scott fills 185 pages at the end of the volume.

A review of a work of this kind, in the necessarily limited space allotted to book notices, is practically impossible. Any analysis of all the articles is, of course, out of the question, and it would give but little idea of the work as a whole to review at length any individual article. Those who are familiar with the first edition of the Handbook already know its plan and scope, and for them it will suffice to say that there is no change in the character of the work, although nearly all the articles have been rewritten or so thoroughly revised as to bring them fully up to date, and many new subjects have been introduced. It is especially in the field of bacteriology, or rather of microparasitology, that the most conspicuous additions have been made, for this branch of medical science was in its infancy when the first edition of the Handbook was written. Radiology was unknown and, one may say, unthought of when the supplement to the first edition was published; this is fully treated of in all its forms—*x*-rays, the Finsen light, radium, and the d'Arsonval current—in the volumes before us. Immunity and serum therapy, the outcome of pathogenic bacteriology, are other new subjects which have received ample discussion. A few minor topics, such as Banti's disease and Talma's operation, are not to be found in the index, and some others which might profitably have been considered in separate articles are referred to only incidentally in the discussion of other subjects. It is fair to say, however, that a careful and critical search has brought to light very few omissions of the sort, while the study which the index has received for the purpose of discovering omissions has revealed a wealth of other topics seldom discussed by writers in medicine and yet, for that very reason, all the more necessary to be included in the scheme of a medical encyclopedia. The editor is richly endowed with what, in the case of a newspaper editor, would be called "a nose for news," and in all the vast domain of medicine very little has escaped him. No medical work in the English language, or indeed in any language, not excepting German, is so truly encyclopedic as this, and to the practitioner—family physician or specialist—who would inform himself on any subject connected with his science, the Handbook is surely indispensable.

The Doctor's Leisure Hour, Facts and Fancies of Interest to the Doctor and His Patient. Arranged by Porter Davis, M.D. Chicago, Akron, O., New York: The Saalfield Publishing Co., 1904.

This is the first volume of a proposed series of twelve, entitled "The Doctor's Recreation Series," edited by Charles Wells Moulton. It is a well-arranged collection of anecdotes, witticisms, verses, and short stories relating to the doctor, his art, and the patient. The extracts are grouped into various chapters, headed The Student, The Professor, The Young Doctor, The Diagnosis, The Disease, The Patient, Some Famous Doctors, The Doctor's Wife, The Microbe, Christian Science, The Quack, Our Friend the Apothecary, Until the Doctor Comes, The Fee, etc. As a rule, we dislike collections of this sort, for there is much said and written about the practice of medicine which is stupid beyond all belief, and the collector, for some inscrutable reason—probably because he is stupid—unerringly picks out the most vapid jokes, the dullest stories, and the purest doggerel, and they go out into the world as the doctor's idea of himself and his work. But this book is not of the usual kind. Dr. Davis has discrimination and a sense of the appropriate, and one can read here and there in the collection with interest and amusement. The collection is made up of selections from almost everywhere, from the writings of Lover, Jerome K. Jerome, William L. Alden, John Kendrick Bangs, Ian MacLaren, poems by Burns, Weir Mitchell, James Ball Naylor, squibs from *Life*, *Puck*, *Judge*, *Punch*, and from the funny column of the daily papers, all arranged in a well-printed and well bound volume suitable for the physician's library or the table of his waiting-room. If the succeeding volumes of the series are as good as the first, the set will be creditable to both editor and publisher and one that the doctor will want.

Adolescence: Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion, and Education. By G. Stanley Hall, Ph.D., LL.D., President of Clark University and Professor of Psychology and Pedagogy. New York: D. Appleton & Company, 1904.

Dr. Hall has won well-merited renown as an exponent of psychology, and the two volumes recently published by him on Adolescence fully sustain his reputation. A study of this subject is perhaps the most important phase of psychology, for in the period of life known as adolescence, character is formed for good or evil. Thus in this stage of human development, all its relations require close investigation in order to be able to avoid the shoals and quicksands that beset the course on every side. Especially is this the case in the present day and in the United States. The American youth of both sexes is eminently precocious from the very nature of things. The environment tends to render the passage from youth to maturity a leap rather than a gradual growth. The restlessness and nervous energy of a new country is in the very air, and for youth there is no repose, nor do the arts, legends, romance, idealization enter into the equipment of American youths and maidens as a preparation for their life work. The work of Dr. Hall is ambitious in its general scheme, and attempts a fairly full survey of pedagogic matter and method for the age from fourteen to twenty-four, and also to some extent for earlier and later years. Chapter III, one of the longest of the book, deals with motor education, grouped under four great divisions, and will-training. Chapter IV treats of diseases of body and mind, the writer asserting that the physical and mental ailments and diseases of adolescence are a new field of pathology. Modern concepts and forms of dementia præcox are discussed at some length. Referring to that much disputed point, the alleged analogy between genius and insanity, the author says: "Both are prone to eccentricity; often have a disordered, emotional basis, or an insane temperament; are likely to produce inferior children; to occur in the same family, etc. Whether mattoids or sports, geniuses are always the apotheosis of adolescence." Instructive chapters are those on sexual development; its dangers and hygiene in boys, and periodicity. Both questions are fully considered, and valuable advice as to preserving the health during these periods is tendered. The chapter on adolescence in literature, biography, and history has a distinctly literary flavor, and provides illuminating reading concerning the youth of great writers. Chapters X and XI are concerned with the evolution and the feelings and instincts characteristic of normal adolescence and adolescent love. Chapters XVI and XVII are devoted to intellectual development and education and adolescent girls and their education. The subject of education is nowadays a burning one, and much may be learned by a study of Dr. Hall's views on the situation. The work of Dr. Hall is, it may be said without exaggeration, a great one throughout. Those parts dealing with physiology and matters pertaining to disease or medicine generally are written with an accurate technical knowledge. The language used in the book is well chosen and direct. Dr. Hall has the rare art of enlivening the dry bones of scientific lore with the charm of eloquent diction and pleasing style.

Epilepsy and Its Treatment. By William P. Spratling, M.D., Medical Superintendent of the Craig Colony for Epileptics, at Sonyea, N. Y. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

There is probably no one, in the United States at least, better equipped and better fitted by reason of his opportunities and their intelligent utilization to prepare a monograph on the subject of epilepsy than is Dr. Spratling, and the present volume is but a realization of the promise held out by his numerous scattered papers dealing with the same subject.

In the volume before us an introductory note deals with the many synonyms of epilepsy, the mystery of whose nature has not even yet been cleared up. Chapter I is devoted to a definition of the disorder and Chapter II to a classification of the various types in which it appears, including also an elaborate scheme of examination. In successive chapters there are then discussed the question of the frequency of the disease, its relation to age, sex, race and occupation, its etiology, the types of seizures, the epileptic status, the forms of epileptic aura, the sequels of the convulsion, diagnosis, prognosis, pathology, general medical and surgical treatment, psychological and medico-legal aspects. A full index of 18 pages is added.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Seventy-Second Annual Meeting, Held at Oxford, July 26, 27 28, and 29, 1904.

(Special Report to the MEDICAL RECORD.)

(Continued from page 318.)

SECTION OF TROPICAL DISEASES.

The Fallacy of Finality.—Dr. ALEXANDER CROMBIE, President of the Section, delivered the opening address. He said that just ten years ago, when opening the Section of Medicine and Pathology at the Indian Medical Congress of 1894 he selected "Indian Fevers" as the subject of his presidential address. He hoped to be excused if he now delayed the commencement of the work of the section by a short review of some of the opinions expressed on that occasion in the light of our present more advanced knowledge. He had attempted to differentiate certain fevers of the continued type. The criticism of clinicians had on the whole been favorable to the belief in the occurrence in hot climates of fevers of a continued type other than typhoid and malarial remittent, but the opinions of our laboratory confrères had been almost uncompromisingly opposed to it. Notwithstanding official returns to the contrary, which showed an overwhelming majority of admissions for malarial fevers, "ague" was not the most prevalent type of fever in any of the parts of India where he practised his profession. The commonest type of fever was what he had elsewhere called a "single paroxysm fever." The paroxysm might be of a few hours' or a few days' duration, but it was a single paroxysm, and had no tendency to recur. If it lasted a few hours it was called "ephemeral fever," if a day or two, it was called "febricula;" if several days, it was known as "simple continued fever." These attacks of fever gave no clinical evidence of periodicity, such as was caused by the life-cycle of a parasite renewing itself at frequent intervals in the blood. No malarial parasites could be found in such cases, and the patients all recovered without quinine. But since his paper was written these cases of a single pyrexial paroxysm had, nevertheless, been by many regarded as essentially malarial in their nature. Rogers said they were all malarial because they showed the mononuclear increase of malaria and were cured by quinine. But he did not say that he found the malarial parasite present in any of them. The fact that they ceased after quinine was no evidence of their malarial nature, because they are essentially fevers of a single paroxysm and ceased equally promptly without quinine. The mononuclear increase could no longer be held to be conclusive evidence of recent malarial infection, therefore nothing remained to support the contention that these cases were all of a malarial nature.

In September, 1902, Captain James examined a number of cases admitted or detained for ague at Mian Mir. He found malarial parasites in 45 per cent. of these cases. No quinine was administered to a number of men in whom no parasites were found. All of them recovered in from one to three days. From this, and from the fact that several examinations in each case failed to show the presence of parasites, Captain James concluded that these cases were not due to malaria, though usually entered as such in the returns.

Similarly, writing in Bombay in February, 1904, Mr. A. Powell bore testimony to the same effect. We must therefore conclude that a large proportion of the febrile attacks of hot climates must still be included in the terms "febricula" and "simple continued fevers," and that the evidence that they are malarial is inadmissible.

Another form of fever which he had called "non-malarial remittent" was a fever of considerable severity, duration and mortality, lasting on an average six weeks, if not fatal at an earlier period. He was never able to find malarial parasites in such cases, and quinine was not only ineffectual but obviously harmful. The late Dr. Hughes and Dr. Edmondston Charles contended that this "non-malarial remittent" was in reality Mediterranean fever, and, indeed, it was announced that the sedimentation test for Malta fever had been successfully applied to such cases in India, and that agglutination occurred in every specimen of blood sent from fever cases in Assam. They also held that kâla-azár was epidemic Malta fever—a theory which has now been abandoned.

As a result of the study of continued and remittent fevers by modern blood tests, Rogers was driven to the conclusion that only two forms of fever existed in Lower Bengal, namely, typhoid and malarial remittent. The so-called "non-malarial remittent" in natives was, according to him, shown by the serum test to be nothing but typhoid fever. Unfortunately for this pronouncement, the ink with which it was written was hardly dry when Leishman made the discovery of the bodies, now associated with his name, in the spleen of cases of fever from dum-dum, which were neither malarial nor typhoid, and kâla-azár, which Rogers thought was a contagious form of malarial fever, was now shown to be a form of "non-malarial remittent" associated with the same bodies.

He did not bring these points forward as a parade of superior clinical sagacity. Indeed, the clinical character of the cases associated with Leishman's bodies was very often apparently quite different from that of the fever he had called "non-malarial remittent." His object was to point out the fallacies which lay in the way of investigators. The fallacy he chiefly wished to allude to was the fallacy of finality, the fallacy that every step made in advance is final, and that every fact of medicine must be brought into line with it for the reason that there was nothing beyond. It was a fallacy which had marred the progress of medicine ever since it started on its journey. To go no further back than the middle of last century we knew that previous to that time there was only one kind of non-malarial fever, and that was typhus. In vain did clinicians and pathologists point out that there existed another type of fever of more insidious character and accompanied by ulcerations of the small intestine, which was clinically and pathologically distinct. It was not till fourteen years later, when Jenner's classical labors showed it to European practitioners, that they had ears to hear and eyes to see that the "typhoid fever" of the English, the abdominal typhus of the continent, was a distinct pathological and clinical entity.

But it was thought this step was final; every fever that was not malarial must be either typhus or enteric, and Mediterranean fever had to be included in one or other of these categories. Then came Bruce to show us that it was as distinct bacteriologically as it was clinically and pathologically from either.

At last we had got to the end of everything, and every fever that was not malarial or typhoid was Malta fever. In proof of this opinion came reports of serum tests from Upper India and Assam entirely corroborative of it, and it was clinched by the discovery of the clinical significance of the leucocyte count.

Rogers was the great apostle of the leucocyte count. He had arrived at finality: an increase of the percentage of lymphocytes indicated typhoid; that of the large mononuclears, malarial fever. The presence of the malarial parasite was of little comparative importance, and, in fact, he found it in less than 25 per cent. of the cases he diagnosed as malarial by the differential leucocyte count. Now we know that the presence of an increased percentage of mononuclears is not confined to malarial infection. It had been found in the spotted fever of the Rocky Mountains, in the fever of trypanosomiasis, in blackwater fever, and in that associated with Leishman's bodies. Indeed, Rogers himself admitted that "if the new bodies are not a form of malarial organism then it is evident that a large mononuclear increase is not diagnostic of malaria, but rather an indication of the presence of a protozoal as opposed to a bacterial invasion of the system."

Arguments have been brought forward to prove that the so-called "non-malarial remittent" is nothing more than typhoid fever. But he required something more than an increased percentage of lymphocytes, or even the Widal reaction, to convince him that enteric is a common fever among natives of lower Bengal. It had yet to be proved that typhoid was the only fever in which an increased lymphocyte percentage occurred, and until that was done all argument founded on that assumption was a mere begging of the question. We have it on record that one of Rogers' predecessors in the appointment of pathologist to the Medical College Hospital, Calcutta, did not see the ulceration of the intestine (pathognomonic of enteric fever) in a native of Lower Bengal during the ten years of his tenure of office, and the absence of confirmation of his opinion by post-mortem examination was a serious omission in Dr. Rogers' paper.

In all the larger towns of India there was a peculiar type of fever which ran the course of a mild typhoid of from three to four weeks' duration, but which had none of the clinical symptoms of that disease. It was known under the names of "Calcutta fever," "Bombay fever," etc. He provisionally called it "urban fever" in 1894, but now he called it "bastard typhoid," and he regarded it as a peculiar form of typhoid fever, because in a case he had the opportunity of examining before leaving Calcutta he obtained the Widal reaction, and as this was a fever of Europeans, the same objection did not exist to accepting this evidence as it does in the case of natives. Rogers also stated that he found this reaction in every case of continued fever in the wards of the European General Hospital. His experience in connection with the typhoid fever of the South-African War, which showed several very distinct deviations from the ordinary classical enteric of the text-books—namely, the often copious eruptions, the frequency of thrombosis and of muco-enteritis as a sequela—led him to think that typhoid was generally a mixed infection, the symptoms and severity varying with the amount and quality of the mixture, and it was not impossible that the peculiar type which occurred in the large cities of India might turn out to be a pure infection with Eberth's bacillus, and might thus form the bed-rock on which the more classical cases were built up by additions of other intestinal flora.

Discussion on Trypanosomiasis.—Col. David Bruce, R.A.M.C., opened the discussion on trypanosomiasis. He began by discussing the statements on this subject which had been made at the Swansea meeting of the British Medical Association a year ago. He said that 80 per cent. of the propositions laid down at the Swansea meeting had proved incorrect, and trusted that the conclusions of this year would not show such a high rate of mortality. Only one conclusion laid down at the last meeting he considered to be correct—the failure of treatment. He was going to lay down the following propositions: That the trypanosoma found in the blood and that found in the cerebro-spinal fluid in sleeping sickness are identical; that the so-called trypanosoma fever is the first stage of sleeping sickness; that neither the native nor the European is immune to this disease, and that the mortality is 100 per cent. in both colored and uncolored races. Up to the present no evidence had been brought forward to show that any of the lower animals took any part in the spread of the disease. It was quite true that many mammals besides man were capable of being infected artificially by this disease, but he thought the enormous number of infected natives in the sleeping-sickness area showed that there was no need of the assistance of the lower animals to spread the disease. It had been stated that the trypanosomes lived in the blood of fresh-water fish, that these fish were suffered to lie on the surface of the water, and that some blood-sucking insect conveyed the trypanosomes from the fish to the human subject. Others speculated in the same way as to the crocodile playing a part in the dissemination of sleeping sickness. These were most ridiculous speculations. So far, Dutton and others had found it impossible to prove that there was any connection between *Glossina palpalis* and the spread of sleeping sickness on the west coast, but the evidence brought forward in Uganda was overwhelming. The distribution of the disease round the Victoria Nyanza and its islands was identical with that of the tsetse fly, *Glossina palpalis*. Where none of these flies existed there was no sleeping sickness.

It had recently been proved by Dr. Wiggins of Nairobi, in British East Africa, that several members of the genus *Glossina* were able to convey the virus of sleeping sickness from the sick to the healthy, and Greig and Gray found that *Glossina palpalis* was not only able to convey the trypanosomes of sleeping sickness, but also those of nagana or a disease of Uganda very closely related to nagana. These facts pointed to a grave danger, because if other species of the genus *Glossina* were able to carry the infection of sleeping sickness, the disease was likely to spread in all the tsetse-fly zones.

Although there was proof that the various species of *Glossina* could convey the trypanosomes of sleeping sickness, there was no proof that other genera of biting flies, such as *Stomoxys* and *Tabanus*, could carry the infection under natural conditions. Experiments on a huge scale had been going on in South Africa for many years in regard to the spread of nagana or the "tsetse-fly disease"; it was only where the tsetse fly, *Glossina morsitans*, or one of its allied species, *Glossina palidipes*, was found that this disease occurred. Outside that area there might be many other species of biting flies, but the disease never spread beyond the zone of the tsetse fly.

In speaking of the mode of transmission, Colonel Bruce again maintained that the transference of the parasites by the tsetse fly from one animal to another was purely mechanical, and he laid down as a proposition that *Trypanosoma gambiense* did not go through any metamorphosis in *Glossina palpalis*. The arguments in favor of the trypanosomes being conveyed by the tsetse-fly without any metamorphosis were: (1) The fact that the fly was not able to retain or did not retain its infective quality for more than forty-eight hours. No one had been able to infect a healthy animal by means of the tsetse fly for a longer period than forty-eight hours, and many attempts to convey the disease by means of the tsetse fly three days after the fly had fed on trypanosoma infected blood had always failed. If any metamorphosis analogous to that which the malarial parasite undergoes in the mosquito was undergone by the trypanosome in the tsetse fly, we would expect that the tsetse fly would not become infective until some time had elapsed from the last time of feeding. The mosquito in yellow fever did not become infective for some twelve days, and in the same way the mosquito in malaria took some days before it became infective. (2) The internal fluids and organs of very many tsetse flies had been examined to find out if any such metamorphosis took place, but no signs of any kind of metamorphosis were ever found.

The present evidence went to show that all the stages of the development of *Trypanosoma gambiense* took place in the human host, and thus it appeared that the trypanosome did not absolutely depend upon an intermediate host for its continuance.

In regard to measures of prevention, Colonel Bruce said that these should aim at preventing, as far as possible, the movement of natives from sleeping-sickness areas into any part of the country where any species of tsetse was found. Other measures would be the prevention, as far as possible, of the movement of healthy natives into sleeping-sickness areas; the evacuation, if possible, of these areas; and the destruction of the breeding-places of the tsetse flies and of the fly itself wherever possible.

Dr. David Nabarro said that as he had had the privilege of working with Colonel Bruce in Uganda on the Royal Society Commission, and assisting with the joint report on sleeping sickness published by the Royal Society, he

agreed with many of the propositions enunciated by Colonel Bruce. However, he did not think that in the present state of our knowledge we could say with certainty that so-called trypanosoma fever was only a stage of sleeping sickness. As regarded prognosis, he thought it was possible that man might become immunized after infection with trypanosoma, just as was the case with monkeys, dogs and other experimental animals. Colonel Bruce had stated that some of the natives in whose blood were found trypanosomata last year in Uganda have died from sleeping sickness, and that others were now suffering from the disease. He did not say, however, whether any of these natives who had the parasite in their blood last year failed to show it this year. A negative observation would, of course, require careful confirmation before being accepted.

With regard to the question whether any of the lower animals take any part in the spread of human trypanosomiasis, he said that during their researches in Uganda they had come across a disease in oxen in Entebbe, associated with a trypanosoma which, if not identical with, closely resembled the human trypanosoma, and he thought it just possible that these infected cattle in Entebbe might serve as a subsidiary source, in addition to infected natives whence the *Glossina palpalis* obtained its supply of trypanosomata. Together with Captain Greig, he had studied trypanosomata obtained from three other sources in Uganda and East Africa. Most of these animal trypanosomata were certainly different from the human, but further observations must be made before it could be said whether the diseases in animals to which they gave rise were already known, *e.g.* nagana, surra, etc.

Among the various propositions published by Colonel Bruce in the *British Medical Journal* of June 11 (supplement) it was stated that "several of the lower animals are susceptible to sleeping sickness by artificial inoculation." Dr. Nabarro thought this a very debatable point. Certainly several of their experimental monkeys died after being inoculated with blood and sleeping-sickness trypanosomata, but not with *undoubted* sleeping-sickness symptoms. Further, the brains of these monkeys did not show the typical naked-eye changes seen in sleeping sickness, nor was Dr. Mott, who examined several of these brains for them, able to find any traces of the perivascular lymphocytic infiltration which is so prominent a feature of the human sleeping-sickness brains.

Colonel Bruce had previously found in Zululand that the trypanosoma of nagana could be conveyed from sick to healthy animals after an interval of two days, but not of three days. He therefore concluded that the tsetse fly acted simply as the carrier of the parasite. It had been urged against this view that if one waited for eight, ten, or twelve days after a feed of blood containing trypanosomata, and then allowed the flies to bite a healthy animal one might get evidence of some metamorphosis of the trypanosoma in the body of the tsetse fly and of the presence of the parasite in its proboscis. Some of their feeding experiments were carried on for two months, and at the end of that time were negative. He thought that rather tended to show that, in those cases at any rate, there was no metamorphosis of the trypanosoma in *Glossina palpalis* with the formation of bodies analogous to the sporozoites of the malaria parasite in the mosquito.

Together with Captain Greig, he had experimented with other biting flies, namely, *Tabanidæ* and *Stomoxys*. The former could not be got to feed in captivity; the latter fed well, but in no case conveyed the infection. With regard to the specificity of the *Glossina palpalis* for the human trypanosoma, their experiments tended to show that other species of *Glossina* can convey this parasite. They also found that *Glossina palpalis* could carry the cattle trypanosome found at Jinga and the mule trypanosome. Dissection of flies at varying intervals after a feed yielded interesting results. The trypanosoma of sleeping sickness was found active and motile in the stomach contents of the fly seventy-one hours after the feed and the Jinga trypanosome one hundred hours after.

E. E. Austen, Zoological Department British Museum, read a paper, entitled "Supplementary Notes on the Tsetse Flies." He said that within the last few months a new species had been described under the name of *Glossina decorsei* by Dr. Emile Brumpt from specimens recently obtained by Dr. Decorse on the River Shari and the shores of Lake Chad. An examination of some of Dr. Decorse's specimens, however, showed that the supposed new species is in reality none other than *G. tachinoides* Westwood, which was described so long ago as the year 1850. In his monograph of the tsetse flies he (Mr. Austen) had described *Glossina tachinoides* as a variety of *G. palpalis*, but now he was bound to recognize that it was in reality a perfectly distinct species nearly related to *G. pallidipes*. The total number of species of tsetse flies known, therefore, amounted to eight.

Mr. Austen described the larva and pupa of *Glossina palpalis*, and said that it would seem probable that did we but know them, all the species of tsetse flies might be distinguished in the pupal stage by the characters afforded by the last segment.

Since the publication of his monograph, our knowledge of the distribution of *Glossina palpalis* had been considerably extended. Mr. W. Y. Wyndham found it on all the shores of the Albert Nyanza, and also on the Congo side of the Nile, about eight miles to the south of Wadelai. Dr. Brumpt encountered it at Nimule in the Nile Province of Uganda, to the west of the Nile in the Belgian enclave of Lado, and all down the Congo system from the source of the Welle to the mouth of the Congo. Eastward Dr. Brumpt had previously met with this species on the River Omo, which falls into the north of Lake Rudolf. Major Fred Smith found it all the way from Freetown to Kakena in the north of the Sierra Leone Protectorate. Dr. S. H. Jones found it in the Kadina River Valley, Northern Nigeria. Mr. W. F. Gowers collected it on the Forcados River, Southern Nigeria. Lastly, Dr. Dutton, Todd, and Christy met with it near Leopoldville, on the islands in Stanley Pool, and at other localities on the Lower Congo.

Contrary to what had been found to be the case with regard to *Glossina morsitans* in South Africa, *Gl. palpalis* did not appear to be dependent for its existence upon big game, and in Uganda, at any rate, the members of the Sleeping Sickness Commission seemed to have come to the conclusion that this species of tsetse fly subsisted largely upon human blood. Mr. Wyndham said: "The fly seems a rapid feeder, to judge from some caught on the men. They do not appear early in the morning, but continue until evening has well set in, and I caught one which was decidedly lively after dark by candle light." Dr. Cuthbert Christy found *Gl. palpalis* to be extremely common on the banks of the Congo and its tributaries, even on the smallest streams. He observed that it was commoner and more bloodthirsty at bridges and fords, or in places where ferry canoes were kept, or where the women go down to draw water or wash, than on either side further up or down the stream. On the large forest-covered island of Bamon, during the last week in January, *Gl. palpalis* were literally in myriads. The flies were most numerous within one hundred yards of the abrupt edge of the forest. Surrounding this forest were areas of marsh many miles in extent, where patches of solid gound were few, and where not a tsetse fly was to be found. In the dark, cool interior of the forest the tsetse fly, although not nearly so numerous or so bloodthirsty as at the margin, was still a pest. On one occasion Dr. Christy counted thirty-eight tsetse flies probing the body of a large monitor (*Varanus niloticus*) that he had shot only a few minutes before. In the blood of this animal were numbers of *Drepanidia*, but no trypanosomes. Having again visited Bamon Island at the end of April, Dr. Christy was surprised to find that on that occasion *Glossina palpalis* was conspicuous by its almost total absence, hardly a fly being

encountered, while the few that were seen appeared to have little inclination to bite. Probably this fly only sucked blood during certain months in the year.

Mr. Austen supplied much additional information concerning the distribution of the other species of *Glossina*, and in some cases mentioned new observations concerning their habits. Thus, according to Drs. Christy and Dutton, *Glossina fusca* bites at night. In conclusion, he pointed out that Dr. Brumpt believes that, in addition to trypanosomiasis in its various forms, tsetse flies must play an important part in the dissemination of other diseases due to hæmatozoa. Brumpt stated that in certain districts on the Upper Congo a filariasis due to *Filaria volvulus* is very widely spread; the disease occurred only among the canoe paddlers, *i.e.* among those who were most exposed to the bites of the tsetse flies. "The only cases hitherto known have been observed in the regions (such as Nigeria and Dahomey) in which tsetse flies abound. The lymphatic tumors caused by *Filaria volvulus* are met with, especially in the places toward which the lymphatics of the exposed regions converge."

Dr. Louis W. Sambon, Lecturer to the London School of Tropical Medicine, said he regretted he had not been able to hear the beginning of Colonel Bruce's paper. With regard to the rôle played by the tsetse fly in the dissemination of human trypanosomiasis, he maintained that it was that of a true alternative post. If this were not so it would be difficult to understand why the disease was limited to the tsetse zones and why it was not disseminated by other blood-sucking insects known to be capable of transmitting various protozoal organisms and, in some cases, trypanosomes. It was not exact to say that the idea of a term of life within the body of the fly was merely based on the analogy offered by the life history of the malarial parasites, and it was perfectly ridiculous to object that the dissection of infected tsetse flies had not shown any forms of metamorphosis similar to those of the *Hæmamœbæ*.

The fostering rôle of the tsetse fly was forcibly suggested by the peculiar distribution and epidemiology of trypanosomiasis. But no surmise could be made as to the location of the parasites or the forms they might assume within the body of their insect host, because nothing was known of the bionomics of trypanosomes. Colonel Bruce and Dr. Nabarro stated that tsetse flies might convey the infection until forty-eight hours after feeding on an infected animal, but never after three days, and they argued therefrom that the rôle of the tsetse fly is entirely passive. But they made no experiments to ascertain whether the flies could transmit the infection after periods of eight, twelve, or fifteen days, neither did they try to find out whether the flies were infective on emerging from their pupa cases.

Over two years ago, the speaker had suggested that *Glossina palpalis*, and probably other West-African species of *Glossina*, acted as true alternative hosts of Castellani's trypanosoma, and taking into consideration the peculiar mode of reproduction of tsetse flies, he further suggested the possibility that the transmission of trypanosomiasis might take place not only directly by the fly that imbibed the blood of an infected person, but also through its progeny, as was known to be the case with ticks in Texas fever. Quite recently Professor Schaudinn had studied the life history of *Trypanosoma noctuæ*, a parasite of the little owl (*Athenæ noctuæ*), and he had proved that this trypanosoma was fostered and disseminated by a mosquito (*Culex pipiens*). During its term of life within the body of the mosquito *Trypanosoma noctuæ* passed through alternating periods of motility and rest. The active periods coincided with the feeding of the host, and were passed within the contents of the midgut, the resting periods coincided with the end of digestion, the parasites attached themselves to the epithelial cells of the midgut, some penetrating between the cells, or even between the cells and the tunica elastico muscularis. Later they passed into the colon, penetrated the intestinal wall, reached the circulation, and through the dorsal vessel some were carried forward into the lacunoma round the pumping organ, others were carried to the ovaries. Those carried forward passed into the pharynx by injuring the tunica elastico muscularis, which was delicate between the pumping organ and the pharyngeal valve. They subsequently passed into the blood of the avian host during the evacuation of the sucking reservoirs. The entire period of the migration of the parasites from their entry into the body of the mosquito to their exit from the latter occupied a period of from seven to eight days. The parasites that attained the ovaries penetrated the youngest eggs and went to rest within the vitellus. They remained in the gregarine condition during the entire development of the embryo. They subsequently passed into the larva and were found also in the perfect insect. The mosquito recently emerged from its pupa case did not seem able to transmit the infection by means of its first bite. According to Schaudinn's observations, it could infect birds only at the time of its third feed.

A New Trematode of Man.—H. F. Conyngham, L.R.C.P.I., Demonstrator London School of Tropical Medicine, read a paper describing a new trematode, *Amphistomum watsoni*. Several specimens of a new species of trematode were sent by Dr. Watson of N. Nigeria. They were found in the duodenum and upper part of the jejunum of a patient who died of starvation and diarrhœa. The patient was one of a gang of freed slaves brought from Adamawa, German West Africa, to Zola, Northern Nigeria. He was found to be suffering from diarrhœa. His stools were numerous, watery, and of a bilious color, but contained no blood or mucus. In the stools were found many reddish-yellow translucent gelatinous oval bodies. At the postmortem the jejunum was found to be full of these bodies, some alive and still adherent. The mucosa showed no hemorrhages, but appeared to be slightly red. The other parts of the bowel, as also the other organs, were normal. The parasite proved to be a species of amphistome, totally unlike the *Gastrodiscus hominis* of Lewis, so far the only one of the genus found in man, and also unlike any hitherto described as occurring in animals. Dr. Conyngham suggested that it should be called *Amphistomum watsoni*.

(To be Continued.)

NEW YORK PATHOLOGICAL SOCIETY

Stated Meeting, Held February 10, 1904.

Dr. Otto H. Schultze in the Chair.

A Case of Hemorrhagic Meningoencephalitis.—Dr. M. G. Schlapp reported this case. The patient was a child sixteen months old, whose family history was negative. The child had been well up to the 25th of December when a cough developed, also an acute rhinitis, and foul-smelling material was discharged from the nose. This condition lasted four or five days when the child developed convulsions, which appeared first on the left side, *i.e.* the left leg, arm, and face. Later they spread to the other side. The mother took the child to the hospital and she noticed that the fontanelles bulged and that there was an œdema about the eyes, nose, and forehead; this lasted only one hour when it disappeared. The convulsions became worse, and this caused the mother to bring the child to the Flower Hospital, where the fontanelles were punctured. A diagnosis was made of acute hydrocephalus. About an hour after the fontanelles were punctured the child died. The autopsy was performed by Dr. Schultze, who was only permitted to open the cranial cavity and take out the brain. He found on the lateral half of the hemisphere, extending from the anterior pole to the precuneus, a peculiar hemorrhage in the cortex; the hemorrhage discolored the brain, as was shown in the photographs presented. In the longitudinal sinus there was a thrombus. On section the case looked like one of nonpurulent hemorrhagic encephalitis. The hemorrhages were almost entirely confined to the cortex of the brain, having

a dotty appearance. This condition was unquestionably caused by a thrombus of the longitudinal sinus, and the thrombus was undoubtedly an infectious one. Besides the hemorrhages and thrombi there was a meningitis extending over the greater area of the brain and was of the cellular type, made up of cell infiltration of mononuclears, but no pus cells. There was a meningoencephalitis, caused either by the infectious condition causing the thrombi, or else the thrombi were secondary to the meningitis. He said it was possible that the infection might have passed through the lymph spaces into the longitudinal sinus and produced a thrombus; or it might have been produced through the blood-vessels as the meningitis was produced. He said that sometimes these conditions were taken for encephalitis when there was really a thrombosed condition with stasis.

A Case of Hemorrhagic Myelitis.—Dr. M. G. Schlapp reported the case of a man, forth-eight years old, who, two years previous to the time of seeing him, had an attack of malaria and who had always been sick since. About two months before his present trouble began he had an orchitis as the result of an injury. The testicle became much inflamed and was removed in California, his physician saying it was tuberculous. The wound healed kindly and the patient felt well. He took a trip to the mountains, where he "strained" himself. He took a long drive, had a chill, and felt weak in the legs. There developed a numbness in the soles of the feet and in the sacral region. The numbness became worse and extended to the middle of the thigh. He had no definite objective symptoms, only numbness, and a beginning myelitis was suspected. There was no temperature and the pulse was about 80. He was placed in bed and carefully watched. The day after the temperature became subnormal, 97.6°. He was kept in bed for several days and the numbness became worse and objective symptoms appeared. Certain sensory disturbances appeared. He had anæsthesia below the knee, which spread gradually up the thighs and to the region of the umbilicus, where it remained for two or three days and then spread to the arms, and the patient died from what might be supposed to be paralysis of the vagus, or respiratory-cardiac center. One and a half days prior to death the temperature became 103°. At autopsy the liver was found to be sclerosed. He had a pneumonia which had existed for several days before his death. There was also an acute parenchymatous nephritis. The bones and spinal column were normal. There was no meningitis or disturbances of the pelvic organs and no secondary infection could be found. From the second lumbar segment to the fourth cervical there were masses of small hemorrhages throughout the gray and white matter. A diagnosis was made of a hemorrhagic, non-purulent myelitis. There was no meningitis. He said these hemorrhagic conditions of the cord were not common. Evidently this condition was caused by some infection, probably some toxic infection. Cultures were made but found to be negative. The Gram stain was negative.

A Teratoma of the Broad Ligament.—Dr. Ferdinand M. Jeffries presented this specimen, which was a very unique one. It was removed from a girl, seventeen years old, a virgin. The history dated back nearly two days prior to operation, although since the operation the surgeon gleaned that she had been troubled for some time with constipation. On several occasions she had considerable pain, which was supposed to be connected with her constipation. Two days before the operation she consulted her family physician, but merely for constipation, and a laxative was given. He was called in the next day because of the great distress of the patient; there had been no action of the bowels. Examination revealed an enlargement in the left inguinal region, which he had noticed at the first operation. The laxative was again given. The next day, the enlargement persisting, he called in a surgeon, who advised operation. The bowels had not acted and she had been in a stage of collapse and some temperature before the surgeon's arrival. He went in through the cul-de-sac and found a hæmatoma. He got rid of this clot of blood and then found what appeared to be a membrane and he made up his mind that he was dealing with pus. He made an incision, and, instead of pus, he found a sero-sanguinous fluid containing a lot of fat, partially emulsified or saponified fat, he knew not which. He traced the condition along and then came upon a growth. It was found in the left inguinal region and attached to the broad ligament. It was removed from the cul-de-sac of Douglas. It was a dermoid cyst and about seven inches in diameter. Projecting into the cavity of the cyst was a mass about the size of a small fist and of very irregular comformation. This mass was covered with skin quite typical in character, which gave rise to innumerable hairs. There was one projection at the free extremity the mass looking very like a toe having nail and all. To one side of this was a smaller toe-like projection without nail. At the base of the mass were two small tit-like projections which might have been rudiments of upper extremities. The mass was cut into and was seen to contain true bone, and in which were toe-like masses that might have been taken for tarsus and metatarsus.

Cast of Bronchial Tube.—Dr. Ferdinand M. Jeffries presented this rare specimen which was more often read of in textbooks than seen in practice. It was a cast of a bronchial tube obtained from a case of plastic bronchitis.

Presentation of a Specimen of Urine Containing Amœbæ.—Dr. Jeffries presented this specimen, which was of great interest. He said he had seen amœbæ in the urine before, but had paid no attention to the occurrence, believing it to be due to contamination from the water used in washing the bottles, or unclean centrifugal tubes or pipette. In using a one-sixth objective seven or eight could be seen, some exceedingly large. The patient was a young man, thirty-five years old, who had the measles. He had a stricture and the urine contained pus. He reported the case in order to obtain some enlightenment regarding it. He said he could conceive how, in cases of amœbic dysentery, the amœba coli could get into the urine, but this specimen showed the proteus amœba. He was not prepared to tell the differences between these two, except to indicate the localities where they were found. They did not contain blood-cells. He had been able to find the amœba in amœbic dysentery and show the blood corpuscles. In the specimen there was nothing that looked like the chlorophile bodies. Motility was noted during the fresh state.

Dr. John H. Larkin, in discussing the first case presented by Dr. Jeffries, said he had seen a tumor of the labium which was undoubtedly a teratoma and differed from the one presented in conformity and size. It had existed for some time. The tumor seemed to be enclosed in a cyst cavity and several diagnoses had been made. Upon section, bone, parts of testicle, glandular elements, etc., were found.

Syphilitic Ulcer of the Stomach.—Dr. John H. Larkin presented this specimen and said that, in reviewing the literature of ulcer of the stomach supposed to be syphilitic in origin, if one went back a sufficient number of years he would be struck with the great rarity of the disease. In many of the cases reported, no record was made of syphilis occurring in other parts of the body, or of a bacteriological or microscopical examination being made. He said that Chiari had collected 243 cases of syphilis which came to autopsy and only two were evidently cases of ulcer of the stomach due to this trouble. Of these, 145 were hereditary and 98 acquired. Klebs had reported but one case. Wasselbaum reported but one case. Several doubtful cases were reported by Wagner. In 1894-'95 a writer had collected 86 cases of syphilis, 25 hereditary and 61 acquired, and, at autopsy, he only came across one case of syphilitic ulcer of the stomach. Until

we came down to Flexner's time it was shown that syphilitic ulcers of the stomach were not common. The case reported was the counterpart of Flexner's. Dieulafoy stated that this condition was more common than supposed but not seen often at autopsy. Einhorn had never seen a case at autopsy, although he said it was of common occurrence.

The patient was a woman, thirty-six years old, a prostitute, who gave a history of syphilis acquired three years prior. Before death she had been under the care of a local doctor for three months. She complained of no gastric symptoms at all. Three weeks before her death she complained of severe epigastric pain, nausea but no vomiting. Two weeks before her death she had vomiting and her stomach was washed out. It was not until one day before death that she had an extreme sharp pain in the epigastrium accompanied by vomiting. The next morning she had great distension of the abdomen and the surgeon was called in, who made a diagnosis of volvulus; other surgeons made other diagnoses and all were wrong. Within forty-eight hours after the onset of the acute symptoms she died. At autopsy, when the transverse colon was lifted, there was shown a perforation in the anterior surface of the stomach in the lesser curvature. It was a little, shot-like opening. It was sharp and well-cut and its base was made by the pancreas. It was cartilaginous and sharply circumscribed and turned in. It was covered with a grayish sort of membrane. There were multiple gummata in the liver, miliary in type. The intestines were covered by an acute fibrous exudate; when pulled off, there were shown little masses not unlike miliary tubercles. These masses were yellowish and surrounded by a translucent zone and looked like infective granulomata. The microscope disclosed the ordinary picture of multiple or miliary gumma. There were scattered zones of necrosis surrounded by zones of fibrous connective tissue, sharply circumscribed and distinct from the healthy tissue. Examination of the sections showed a marked obliterating endarteritis. The muscular coat at the edge of the ulcer was hypertrophied and separated by a cellular infiltration. Around the blood-vessels in the submucosa there was a small round cell infiltration. The submucosa was infiltrated in places by irregular cells. In the base of the ulcer were irregular masses of necrotic tissue. From the results of the microscopical and macroscopical examination there was no doubt but that the case was one of syphilitic ulcer of the stomach.

Syphilis of the Intestine.—Dr. JOHN H. LARKIN presented this specimen, which was removed from a German, forty years old, who had been admitted to St. Francis Hospital February 15. There was nothing of particular interest in his previous history. Some time ago he had a chancre which was followed by secondary symptoms and lesions. He was sent to the City Hospital, where he remained eight months, and then was discharged on account of a malignant growth of the liver. For six months he complained of constant pain in the abdomen. During the past three months he had had a sore in the anus. He lost 100 pounds in two years and complained of great weakness. Examination of the blood showed 8,000 leucocytes and 3,200,000 red cells. The liver was somewhat enlarged. On March 15 the abdominal symptoms became masked. On April 1 the patient died, extremely cachectic and markedly emaciated, the most he had ever seen at autopsy. The intestines were covered with spots which were circumferential. The condition was limited to nine feet of the small intestine extending from the ileocæcal valve. Along the mesentery and all the way round the mucous membrane there were wide patches with intervening mucous membrane, with eroded areas one-half to one and a half inches. With this were also found gummata of the liver and of the first part of the rectum, which was strictured. The microscope showed a loss of mucous membrane and its replacement by a round cell infiltration. The peritoneum was also involved. He could find no accurate report of any similar lesion in the intestines, and he thought this to be of remarkable occurrence. Microscopical slides were shown demonstrating the lesions.

A Case of Acute Pancreatitis.—Dr. JOHN H. LARKIN presented a specimen which was removed from a German, thirty-six years old. At 10 o'clock one Saturday night, while at work, he was seized with violent pains in the epigastrium, which were followed in twenty minutes by violent vomiting. He was placed in bed, where he remained till Sunday afternoon, when he was brought to the hospital. He was then almost moribund but still conscious, and complained of great pain and vomited. The pulse and temperature were subnormal. He vomited several times and soon died. He was a well-nourished man. There was no tympanites. One liter of bloody serum but no clots were found in the abdomen. In the colon and mesentery were found scattered about little punctate grayish masses perfectly diagnostic of pancreatitis. The pancreas was immensely enlarged and lay in a sac by itself. It was dark red in color. The omentum showed slightly punctate areas of fat necrosis, which were extremely numerous. Until recently the speaker had been at a loss to find out the causes of hemorrhagic pancreatitis. In 1897 he had reported a case even more extreme than this. He found gallstones in the common duct but paid no special attention to them. Of course, he now knew that gallstones played a very important part in lesions of the pancreas, as demonstrated by Opie and others. In the pancreatic and common bile duct he had found nine stones. The common duct was so dilated that he could introduce the little finger. Just before the entrance to the duodenum, there was found a cicatrix in the common duct. At the time of autopsy, in the common duct was a small stone. What happened Saturday night? he asked. He said it was probable that one stone dropped from the common duct in the ampulla and had plugged not only that but also the pancreatic duct. The stone was found at autopsy pouting out but it could not get out. In a review of the articles written on this subject, especially Opie's, thirteen cases were reported, and among these thirteen stones were found in the common duct in ten.

Dr. E. LIBMAN referred to the peculiar chocolate-colored blood which was quite characteristic of acute hemorrhagic pancreatitis.

The Bacteriology of the Blood in Typhoid Fever; a Report on Sixty Cases, and a Statistical Study.—Drs. WARREN COLEMAN and B. H. BUXTON presented this paper. Three years ago they attempted to study the bacteriology of the blood in cases of typhoid fever entering the Second Medical Division of Bellevue Hospital. They had records of 60 cases, and having collected 544 others from the literature, giving a total of 604 cases, they felt justified in making a detailed study of the results obtained. Their practice had been to distribute 10 c.c. of blood into four flasks, each containing 100 c.c. of broth and to inbubate at 37° C. So soon as the flask showed turbidity a hanging drop was made and, if bacilli were found a culture on agar was taken in glucose gelatin, litmus milk, neutral red agar, and other differentiating media. The culture was also tested for its other agglutinating properties in an active serum, and if it responded to all the tests was considered to be true typhoid. From the bacteriological point of view, a few specially interesting points had been brought out in the course of this study: (1) They were able to confirm the observation of others that when first isolated, typhoid bacilli reacted less readily to immune serum than they did later, or after having been grown in artificial media. (2) There were some, however, which were especially refractory, and this characteristic was often quite persistent, so that it might take several months of artificial culture before they could be agglutinated. (3) The serum of rabbits immunized to such refractory strains quickly acquired agglutinating powers but did not agglutinate its own strain any better than serum obtained by immunization with a strain which readily agglutinated. In other

words, they said that any good agglutinate would always agglutinate well and a bad, badly with any immune serum, no matter how it may have been obtained. Tables were then presented which showed the large proportion of 75 per cent. of 604 cases with bacilli in the blood at some stage of the disease. They stated that 85 examinations were made in the first week of the disease with positive results in 79, or 93 per cent. The earliest recorded positive result was obtained on the third day. During the second week, 189 examinations had been made with positive results in 151, or 76 per cent. One hundred and fifteen examinations were made in the third week with positive results in 65, or 56.52 per cent. Fifty-two examinations were made in the fourth week with positive results in 18, or 32.72 per cent. Thirty-seven examinations were made after the fourth week with positive results in 11, or 29.72 per cent. By this analysis the interesting fact was brought out that a large percentage of positive results was obtained in the first week with a steady decline thereafter. It therefore appeared that the earliest and principal seat of infection was the blood, and that the disease might be in truth regarded as a septicæmia. If this was true, they might call attention to the utter futility of attempting to treat this disease by the administration of intestinal antiseptics. Another interesting fact brought out was that the relapses, in all but three, or 14 per cent., the bacillus had been found in the blood indicating its reappearance. In 73 of the 604 cases, or 10 per cent., the bacillus was present in the blood before the serum reaction was obtained. It was well known that the serum reaction did not appear till the end of the first or in the second week of the disease, yet the blood was known to be swarming with bacilli. In many instances the serum reaction did not develop until later than the second week. In the average case of typhoid fever they stated that neither the agglutination reaction nor a bacteriological examination of the blood was necessary to the diagnosis. The disease was recognized long before either of these tests became known, and they believed that it was probable that except in large centers or university towns that the great majority of cases were diagnosed without these aids.

Dr. W. Gilman Thompson spoke of the great value of accurate differential tests, especially in two sorts of cases, those in which we were in doubt as to the early diagnosis and again those in which we might be in doubt quite late in the disease when we wished to know whether it was typhoid fever or some of the conditions for which it might be occasionally mistaken. With regard to the early diagnosis there was one objection, the test required several days for completion. He asked how soon after receiving the specimen could a positive result be guaranteed from an examination of the blood.

Dr. Buxton answered three days.

Dr. Thompson said that if the specimen was given on the fourth day, results then could not be had before the end of the first week. When the Widal test was first introduced he said it was interesting to see how quickly the results were obtained in the different institutions. Among 500 cases in 93 per cent. the Widal reaction was found during the active course of the disease and a large percentage during the first week. Lately the Widal reaction had not been returned either by the Board of Health or other trained observers except during the third or fourth week and occasionally during convalescence or during relapses. Therefore, he had discarded this test. The existence of septicæmia explained to him many of the phenomena of the disease, especially phlebitis, periostitis of the ribs, etc.

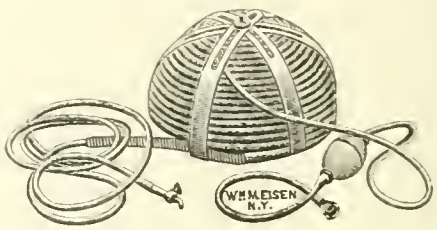
Treatment of Movable Kidney Without Surgical Intervention.—Dr. C. D. Aaron believes that 90 per cent. of patients suffering from movable kidney and associated proptoses can be relieved without an operation. Out of 442 cases, 215 absolutely recovered, 168 improved, and 59 did not improve or passed from observation.—*American Medicine.*

New Instruments.

A NEW HEAD COOLER.*

By FRIEDRICH GROSSE, M.D.,
NEW YORK.

About thirty years ago von Esmarch and Winternitz demonstrated experimentally that the temperature of every portion of the body, even of deep-seated parts, can be lowered by external applications. This applies also to the head. However, it was shown that this effect is by no means simple to attain. Formerly we had to resort to cold compresses, the ice cataplasma, or the time-honored ice-bag. As these instruments very often proved insufficient, special cooling apparatuses have been constructed on the principle of the siphon, *i.e.* cool water running through a system of pipes from an elevated reservoir into a receptacle below. The first apparatus of this kind was described by Winternitz. It was a double-walled rubber helmet, the two walls of which were sown together by a number of sutures in order to distribute the water equally. Later instruments consisted of one pipe several yards long, the middle part of which was rolled into a spiral, the whole being adapted in shape to the region of the body to be cooled. The first apparatus of this kind was of rubber and likewise an invention of Winternitz. His apparatus, however, was often compressed by the weight of the head; besides the material soon deteriorated. For these reasons Leiter recommended the same apparatus made of lead tubes, and at the



beginning of the nineties Gaertner took up the same idea, using his flexible aluminum tubes. But Leiter's instrument is too heavy and, like Gaertner's rigid, being displaced by any movement of the patient's head. The aluminum cap, in addition, cannot be repaired and must be replaced by a new one when damaged. Moreover, all apparatuses so far mentioned are of a definite, unalterable size, so that different caps are required for different heads.

All of these drawbacks are obviated by some modifications which I have made in a head-cooler, long in use in hydriatic institutions in Germany.

This instrument consists of six flexible, two-armed clasps of aluminum plate, the ends of which are cut out parallel to the long edges about as far as the middle and of a round metal plate an inch and a half in diameter. This middle piece bears in its center a screw-pivot. The openings of one arm of the clasps are brought over the pivot and fixed by a female screw. The fixed arms having been bent according to the patient's head, a rubber pipe is wound spirally between the fixed and loose arms of the clasps, and then the loose arms are also fastened around the pivot by means of a second screw. In the German instrument the center plate has a groove for each of the six clasps, so that these are immovable. However, it is advisable to have the plate smooth in order to allow the arms to be fastened irregularly, so that the three posterior (occipital) ones may lie closer together in order to give the rubber pipe more protection against compression by the heaviness of the head. According as the cut-out ends of the clasps are fastened around

*Demonstrated at a meeting of the German Medical Society, May, 1904.

the pivot at a greater or lesser distance from the center, the cap is made larger or smaller, and it is thus easy to adapt the cooler to any head. One end of the rubber pipe leaves the helmet in the middle, *i.e.* on the vertex, the other one at the periphery, both, of course, running in opposite directions. On this account the pipe might be kinked by a movement of the patient or the weight of the bedding. To prevent this interference, a semicircular piece of hard rubber tube is attached to the vertex, the concavity resting over the pivot. To avoid bending of the peripheral end, a piece of Gaertner's aluminum pipe is wrapped around the rubber pipe where it projects over the adjacent clasp. In the affluent pipe-end a suction-pump is inserted and the end loaded with a piece of lead, which keeps it at the bottom of the reservoir. Where the pipe curves over the brim, a hard rubber piece is attached to avoid compression. The effluent pipe ends in a metal cock which permits of regulation of the outflow and thus of the intensity of cooling.

The apparatus is rather light in weight, can be adapted to any head, and is almost unbreakable. To attain the full cooling effect, the patient's hair should be wetted and be covered by a moist compress. The cooler is easily handled and its management may be entrusted to even an untrained nurse. The cooling effect is regular and remarkably intense, so that in most cases water of 70° is sufficient.

407 West Forty-Sixth Street.

A CHEAP AND SERVICEABLE INSUFFLATOR.

By E. J. KEMPF, M.D.,
JASPER, IND.

The therapeutic value of medicated powders has always been recognized, and their use can be greatly increased if a little common sense be used in the home production of apparatus for the use of the powders.

Take an ounce quinine bottle, perforate the cork in two places, insert glass tubing which can very easily be bent over an alcohol flame, and to the end of the tube which is the longest in the bottle and shortest without, attach an ordinary atomizer bulb that can be bought at any drugstore for twenty-five cents.

The cost of this powder-blower need not be over thirty-five cents and a little labor, and it will be the equal of any powder-blower ever made. I have used it for the last fifteen years with the greatest satisfaction to myself and patients. The article in the Medical Record of November 21, 1903, on a new form of insufflator, by Sayer Hasbrouck, M.D., induced me to call the attention of the medical profession to this instrument which is easily made and at almost no expense.

A New System of Sewage Treatment.—A purely chemical system of sewage treatment, invented by Mr. Bayer, has been adopted by the City of Brünn, Moravia. The system is based upon the employment of a reagent composed of organic carbon, lime, and powdered zinc. These three substances are mixed in the proportion of one kilogram of carbon, twenty to thirty grams of lime, and ten of zinc dust per cubic meter of sewage. The purifying carbon is obtained by dry distillation in gas retorts of offal from abattoirs. After being well mixed with the reagent the sewage flows into a settling basin. The mud deposited is pumped into press filters, which compress it into cakes, which are distilled dry, so that part of the reagent can be recovered. After leaving the settling basin the water, yet turbid, runs to a filter composed of superposed layers of bricks, coke, and carbon. The filter effluent is conveyed to the river.—*London Engineer.*

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Appletons' Medical Dictionary. An illustrated Dictionary of Medicine and Allied Subjects in which are given the Derivation, Accentuation, and Definition of Terms Used Throughout the Entire Field of Medical Science. Edited by Frank P. Foster, M.D. 8vo, 1991 pages, illustrated, leather. D. Appleton & Company, New York.

Chirurgie Orthopédique. Par le Professeur Paul Berger et le Docteur S. Banzet. 4to, 528 pages, illustrated, paper. G. Steinheil, Paris, France.

The Practical Application of the Röntgen Rays in Therapeutics and Diagnosis. By William Allen Pusey, A.M., M.D., and Eugene W. Caldwell, B.S. Second Edition, Thoroughly Revised and Enlarged. 8vo, 690 pages, illustrated, muslin. W. B Saunders & Co., Philadelphia. Price, $5 net.

La Rapiotherapie, son Application aux Affections cutanées. Par le Docteur J. Belot. Preface de Monsieur le Doctor Brocq. 8vo, 520 pages, illustrated. G. Steinheil, Paris. Price, 15 francs.

Beiträge zur Klinik der Tuberkulose. By various authors. Herausgegeben von Dr. Ludolph Brauer. Band. 2, Heft 5. 8vo, pp. 365-408. A. Stuber, Würzburg.

Précis de Therapeutique Oculaire. Par le Docteur Scrini. 8vo, 340 pages, illustrated, paper. G. Steinheil, Paris. Price, 5 francs.

Le Liquide Cephalo-Rachidien. Par le Docteur Milian. 8vo, 267 pages, paper. G. Steinheil, Paris. Price, 6 francs.

Physician versus Bacteriologist. By Prof. Dr. O. Rosenbach. Authorized translation from the German. By Dr. Achilles Rose. 12mo, 462 pages, muslin. Funk & Wagnalls Company, New York and London. Price, $1.50 net.

The Treatment of Some Acute Visceral Inflammations and Other Papers. By David B. Lees, M.A., M.D. Cantab., F.R.C.P. Lond. 12mo, 300 pages, muslin. P. Blakiston's Son & Company, Philadelphia. Price, $1.75 net.

International Clinics. Vol. 2, Fourteenth series. By various authors. 8vo, 314 pages, illustrated, muslin. J. B. Lippincott Co., Philadelphia.

Index-catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series, Volume IX. 4to, 872 pages, muslin.

Die Fruchtabtreibung durch Gifte und andere Mittel. Ein Handbuch für Aerzte und Juristen. Von Prof. Dr. L. Lewin. Second revised and enlarged edition. 8vo, 375 pages. Paper. August Hirschwald, Berlin.

The Brain of the Sheep. Part IV, Revised of Physiology Practicums. Explicit directions for examining portions of the Cat, and the Heart, Eye, and Brain of the Sheep. As an aid in the Study of Elementary Physiology. By Burt G. Wilder, B.S., M.D. 8vo, 76 pages. With 25 plates and 5 figures in the text. Paper. Published by the Author. Ithaca.

The Roosevelt Hospital, New York, Thirty-second Annual Report. 8vo, 144 pages. Illustrated.

Prescriptions in the Irish Language.—The Royal Colleges of Physicians and Surgeons of Ireland have added Irish to the list of optional languages, one of which must be taken by each candidate at the preliminary examination held by the colleges. The following resolution, adopted at a recent meeting of the Kilkenny Branch of the Gaelic League, makes the action of the colleges more obvious: "*Resolved*, That we call on our elected representatives at the board of guardians to direct their employees to at once learn to speak the language of the Gael, and that Drs. Hackett and Morris write their prescriptions also in the Irish language under the pain of dismissal." Naturally the colleges did not want their future licentiates to be subject to instant dismissal for such gross ignorance. —*Medical Times and Gazette.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 20, 1904:

	Cases.	Deaths.
Measles	73	7
Diphtheria and croup	224	26
Scarlet fever	54	5
Smallpox	...	...
Varicella	18	...
Tuberculosis	420	130
Typhoid fever	120	20
Cerebrospinal meningitis	...	24

Tonsillitis a Cause of Acute Nephritis.—John Lovett. Morse reports several cases from which he thinks that it is evident that tonsillitis, whether of a severe or of a mild type, may be the cause of acute inflammation of the kidneys. It is probable that tonsillitis is more often followed by nephritis than is commonly supposed, and it is very likely that in many cases which are considered primary the infection enters through the tonsils, the local manifestations not being severe and having been forgotten. This being so, tonsillitis should not be looked upon, as it usually is, as a simple disease and of but little importance. A disease which can cause acute endocarditis and acute nephritis is certainly one worthy of consideration. The heart and urine in tonsillitis should therefore be examined as carefully as in rheumatism or scarlet fever, and the examination kept up for a time during the convolescence.—*Archives of Pediatrics.*

Thefts of Red Cross Funds.—The St. Petersburg correspondent of a London paper says there is great indignation over the malversion of the funds of the Red Cross. A number of impecunious aristocrats and court ladies were appointed to offices in the society, where they drew extravagant salaries and performed little, if any, work. In some cases these appointees drew salaries amounting to many thousands of dollars yearly. One member of the St. Petersburg committee borrowed an immense sum of money from the funds in order to gamble at the stock exchange. His speculations were unsuccessful, and the Czarina paid his debt to the society in order to avoid a scandal and save the thief who was a social favorite at the court. Similar scandals have occurred at Moscow, where two of the nobility appropriated the collections. One refused to pay the money back or to disclose the subscription list, but the other refunded $2,500. But, reports the London correspondent of *The Sun*, the crowning audacity has just been shown. The Czarina, the Queen of Denmark, the Queen of England, and other royal personages recently equipped a hospital train at St. Petersburg. It was fitted with every requisite for the comfort of the sick and wounded and was despatched with every box compartment carefully secured with the imperial seals. Soon after the train left St. Petersburg something induced the Czarina to telegraph to Moscow to make a careful inspection and this was done. The seals appeared to be undisturbed. One was broken as a test, and the contents of the compartment were found to be useless blocks of wood. The whole train was then examined. Everything of value had disappeared, and only blocks of wood were found.

A Case of Cavernous Angioma and of the Vastus Internus.—Corneloup calls attention to the rarity of these cases. The patient was a man of thirty-eight years. The family and personal history were both negative. At the age of eighteen, he had fallen and injured his knee. The trauma affected especially the inner aspect of the knee. The bruise was cauterized, and in about two weeks the wound had healed and nothing more was thought of it. About three years later a swelling was noted in this region. The tumor continued to grow slowly. It had no communication with the knee-joint. It was soft and completely irreducible. When the triceps contracted the tumor stood out prominently under the skin. A lipoma was thought of. There was no varix, and the patient had had no trouble with the circulation of the leg. It was later discovered that following the fatigue of a long walk the tumor grew gradually larger, became hard and more tense, and the skin became bluish, resembling the appearance of a varicose vein. The patient never complained of pain. Operation revealed an angioma occupying the lower extremity of the vastus internos. The tumor had numerous prolongations into the subcutaneous cellular tissue, and into the skin itself. Black blood escaped very abundantly in spite of an Esmarch bandage. The tumor was not clearly limited, but infiltrated the muscular tissue. It was removed as completely as possible, together with the varicosities. Recovery was rapid.—*Lyon Médical.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended August 20, 1904.

SMALLPOX—UNITED STATES.

			CASES	DEATHS
District of Columbia, Washington	Aug.	6–13	1	..
Illinois, Chicago	Aug.	6–13	8	..
Louisiana, New Orleans	Aug.	6–13	9	..
Maine, Madawaska Region	July	31–Aug. 6	11	..
Massachusetts, North Adams	Aug.	6–13	5	1
Michigan, Grand Rapids	Aug.	6–13	1	..
Missouri, St. Louis	Aug.	6–13	1	..
Nebraska, Omaha	Aug.	6–13	1	..
New York, New York	Aug.	6–13	..	1
Ohio, Cincinnati	July	10–Aug. 5	2	..
Washington, Tacoma	July	23–30	1	..
Wisconsin, Milwaukee	Aug.	6–13	3	..

SMALLPOX—INSULAR

Philippine Islands, Manila	June	4–11	3	2

SMALLPOX—FOREIGN.

Brazil, Bahia	July	8–23	..	15
Pernambuco	July	1–15	..	23
Rio de Janeiro	July	3–17	442	217
Formosa	June	1–30	3	..
France, Paris	July	23–30	11	2
Germany, Berlin	July	9–16	8	..
Great Britain, Edinburgh	July	16–30	4	..
Glasgow	July	28–Aug. 5	1	..
Leeds	July	31–Aug. 6	1	..
Liverbool	July	31–Aug. 6	1	1
London	July	16–30	13	3
Manchester	July	23–30	4	1
New-Castle-on-Tyne	July	16–30	13	2
South Shields	July	16–23	1	..
India, Bombay	July	12–19	..	6
Calcutta	July	2–9	1	..
Karachi	July	10–17	3	..
Mexico, City of Mexico	July	24–31	3	..
Russia, Moscow	July	16–23	10	5
St. Petersburg	July	16–23	3	1
Warsaw	July	2–9	..	16
Turkey, Alexandretta	July	16–23	..	2
Beirut	July	23–30	Present	
Constantinople	July	24–31	..	5
Smyrna	June	26–July 3	..	1
	July	17–24	..	1

YELLOW FEVER.

Brazil, Rio de Janeiro	July	3–17	4	1
Colombia, Barranquilla	July	24–30	..	1
Mexico, Coatzacoalcos	July	21–Aug. 6	4	2
Vera Cruz	July	21–Aug. 6	2	..
Panama, Ancon	Aug.	1	1	..
Panama	June	25–Aug. 1	1	..
Venezuela, Maracaibo	July	17–24	1	1
West Indies, Curacao	July	29–Aug. 6	1	1

CHOLERA.

India, Calcutta	July	2–9	..	9
Persia, Teheran	June	9–16	Epidemic.	
Turkey in Asia	July	12	227	213

PLAGUE—INSULAR.

Hawaii, Honolulu	Aug.	15	1	..

PLAGUE—FOREIGN.

Africa, Cape Colony	July	2–9	1	..
Australia, Brisbane	June	11–18	1	..
Maryborough	June	11–18	1	..
Perth	June	26–July 4	2	1
Sydney	June	11–18	1	1
Brazil, Bahia	June	8–23	..	7
Rio de Janeiro	July	10–17	7	4
China, Hongkong	June	18–25	44	40
Egypt	July	9–16	14	8
Formosa	June	1–30	410	341
	July	9–16	..	126
India, Bombay	July	12–19	..	58
Calcutta	July	2–9	..	18
Karachi	July	10–17	1	1
Peru, Lima	July	2–9	4	2

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Original Articles.

ARTERIOSCLEROSIS OF THE SPINAL CORD.

BY JOSEPH COLLINS, M.D.,
AND
EDWIN G. ZABRISKIE, M.D.,
NEW YORK.

CEREBRAL arteriosclerosis causes symptoms that permit a diagnosis to be made with considerable certainty. Even comparatively mild forms of this disease of the blood-vessels of the brain are accompanied by symptoms that are considered fairly pathognomonic. Compared with other organic disease of the brain, cerebral arteriosclerosis is not uncommon. The subject has received much attention both from physicians and pathologists. These facts stand in marked contrast to spinal arteriosclerosis. Of it there is no description in the books, the symptoms that attend it have not been satisfactorily established, and it is usually diagnosticated according to its terminal condition, principally chronic myelitis, occasionally spinal apoplexy, and more rarely still, acute myelitis.

It is for this reason that we call attention to the following report, which we consider to be a typical case of spinal arteriosclerosis. Sclerotic degeneration of the blood-vessels of the spinal cord is much less common than that of the blood-vessels of the brain. But, nevertheless, we shall attempt to show that the time seems to be opportune to attempt to differentiate still further that most unsatisfactory and ill-understood pathological condition—chronic myelitis.

The first case that we shall describe is the following: Mr. H., a fireman, fifty-one years old, was in ordinary good health until toward the end of 1902. At that time he noticed that his legs were growing weak and that they tired easily. Later he complained of a jerking sensation in different parts of the lower extremities and at times of sharp pain, which might last from several minutes to two or three hours. The legs were the seat of a heavy, unwieldy sensation, but there was no "numbness" or other paræsthesia. About the same time he began to have difficulty in holding the urine, a symptom which steadily increased in severity. These symptoms continued until March 25, 1903, *i.e.* for three months, then he awakened one morning to find that he was unable to stand or walk and the sphincters of the bowels and bladder relaxed. There was no complaint of pain in the back or legs, no difficulty in moving the arms, in swallowing or in speaking. He says he was able to tell when his lower extremities were touched and he could feel the bed and the clothes. He was admitted to the City Hospital three weeks later and the following record was made on April 21, 1903:

The patient was a frail, emaciated man of medium height, who had the appearance of being fifty-five to sixty years of age. He was unable to stand or walk. When he was lying he could flex the thighs and the legs slowly and feebly. There was slight atrophy of the anterior and inner thigh muscles, more of the left than of the right side. The knee-jerks and ankle-jerks were absent. Irritation of the soles caused quite a typical Babinski phenomenon. The patient had fair strength in the upper extremities, but the arms tired very soon he said. The grip was moderate and alike in each hand. The motility of the face, head, and neck was not noticeably impaired. There was no difficulty in swallowing, and articulation was not defective. Tactile sensibility was slightly disordered in the lower extremities, although he could feel contact of the finger, the point of a pin, and the like. Sensibility was not so acute as normal; there was a quantitative diminution. Sensory perception was not delayed. There was a distinct zone of slight hyperæsthesia about as wide as the hand above the femoral trochanters. Above that sensibility was normal. There was no discernible impairment of thermal sensibility. The deep sensibility was not investigated. No part of the body was particularly tender upon pressure. A bed-sore existed over the sacrum, and there was excoriation of the genitals from constant dribbling of urine.

Examination of the chest showed shallow respiratory movements. Heart regular, weak, no murmurs, second sound accentuated. Examination of the abdomen showed that the liver and spleen were palpable, but were not enlarged. The abdominal reflexes, both upper and lower, were sluggish. The patient was slow of speech, likewise apparently of thought. He did not seem to show an adequate interest in his condition, still he was fully oriented and seemed to have a fair memory. His mental reflex was slow. There were indications in the peripheral blood-vessels and heart of a moderate degree of general arteriosclerosis. The peripheral vessels, such as the radial, were palpable, the walls thickened, the blood pressure increased.

The patient did not complain of pain while he was in the hospital, a period of four weeks, nor was there particular change of the patient's symptoms, subjective and objective, during this time. His mental state remained clear until forty-eight hours before death, when he became sleepy, stuporous, and comatose, dying apparently of cardiac weakness, which had set in simultaneously with the clouding of consciousness.

The symptoms then, in the order of their development, were as follows: (1) Weakness and easily induced fatigue of the legs; (2) peculiar sensations in the lower extremities, described as "jerky," "numbness," "heavy," and occasionally sharp pain; (3) progressive incontinence of urine; (4) progressive paraplegia.

The objective symptoms were atypical. What would seem to be a paradoxical condition existed; the tendon-jerks were absent and a Babinski phenomenon was present. The explanation of this is to be found in the condition of the anterior horns of the gray matter of the cord. Aside from this, the objective symptoms were those which are usually found in chronic transverse lesions of the cord, viz., slight disorder of sensibility, paraplegia, and trophic manifestations.

We were permitted to examine only the cerebro-

spinal axis. Nothing noteworthy was seen during the removal of the brain and cord save the deep and widespread involvement of the tissue about the bedsore. The naked eye appearance of the brain and cord was not abnormal. The principal stains used were the Marchi, Nissl, Van Giesen, and Weigert. In dividing the cord into different segments several areas in the lower dorsal segments were seen to contain small hemorrhages in the posterior horns on the right side and a similar condition in the left anterior horn. Otherwise nothing was noted macroscopically.

Microscopically, the arteries and veins were

Fig. 1. Section at the level of the eighth dorsal vertebra, showing the marked thickening of the media and adventitia with round cell increase. Zeiss, oc. No4, obj. DD.

everywhere throughout the cord and brain in process of arteriofibrosis. In the lower dorsal region especially, they were greatly distended with blood and thickened to several times their normal volume. The anatomical changes in the vessels, which consisted of an increase of connective tissue and loss of muscular fibers, were confined to the tunica media and propria, and in only a few instances did the tunica intima seem at all thickened (Fig. 1). In this region, also, we found many perivascular spaces filled with blood and distended vasa vasorum. The appearance of the vessels of the brain and medulla was strikingly different from that in the cord, for, in the former, the actual thickening was quite moderate and con-

Fig. 2. Section in the superior olivary region, showing the vessels moderately thickened as compared with those of the cord; also showing the enormous dilatation of the perivascular space. This is a fair type of the vessels of the medulla and brain. Zeiss, oc. No4, obj. DD.

fined chiefly to the propria. The vessels were distended and their lumina were wide, and everywhere a most remarkable enlargement of the perivascular spaces was apparent, showing that there must have been great intravascular pressure (Fig. 2). One often finds the vessels, especially in the medulla, surrounded by a loose, connective tissue, apparently springing from the tunica propria. These spaces were not filled with blood, as in the lower dorsal region. The actual hemorrhage occurred in and was limited to the ninth dorsal segment. Here the right posterior horn was the seat of a well-defined hemorrhage, which split the horn in its long axis, pushing out laterally and externally a short distance. The left anterior horn was also the seat of a well-defined hemorrhage, occupying almost the entire horn and breaking the tissue externally in places almost to the periphery (Fig. 3). Careful examination of the segments above and below this region failed to reveal anything but distended vessels with here and there perivascular spaces filled with small amounts of blood, involving also both crossed pyramidal tracts, more especially the right, from the fourth dorsal segment downward. There was very little glia cell infiltration, but it was apparently a chronic thickening of the glia fibers. The changes in the ventral horn cells were eccentric displacement of the nucleus and chromatolysis, varying in intensity on approaching the lesion. These changes were confined to the cells in the left anterior horn, of the ninth dorsal

Fig. 3. Section at the level of the ninth dorsal vertebra, showing the two hemorrhages, one in the right posterior horn, the other in the left anterior horn. Zeiss, oc. 2, obj. a. 2.

segment. The cells in the rest of the gray matter showed only an increase of pigment. We found even in the left anterior horn, not far from the seat of the lesion, apparently normal cells, while others presented the well-defined chromatolytic changes that have been described.

The secondary degenerations (studied by the Busch modification of the Marchi method) were of both ascending and descending type. Beginning at the lesion and going upward, we found the ninth dorsal segment the seat of the most diffuse changes. The blackened granules occupied almost the entire white matter externally to the horns, with the exception of small margins at the periphery just

Fig. 4. Ninth dorsal.

externally to the basis of the posterior horns, which were the seats of chronic sclerotic changes, and hence show no degenerated myeline. The only areas spared were the posterior, two-thirds of the right posterior column, and the median and posterior half of the left posterior column (Fig. 4). In the eighth dorsal segment the degeneration was beginning to be confined to Gower's column, with granules scattered throughout the entire anterolateral ground bundles, the anterior portion of the right posterior column, and a well-defined collection of granules occupying the lower portion of Goll's column on the right side. The left side showed only a few degenerated fibers lying along the posterior median fissure. The involvement of the Gower's columns and direct

cerebellar tracts was still very diffuse on the left side. The seventh dorsal segment showed practically the same areas of involvement as the eighth. In the sixth dorsal segment the commissural portion of the left posterior column was involved more than the right. The posterior portion of the Goll's column still showed well-defined changes. The changes in the direct cerebellar tracts, Gower's columns, and the anterior portion of the left anterolateral ground bundles, were quite diffuse. In the fifth dorsal segment there were practically the same changes in the posterior columns, while the Gower's bundles and the direct cerebellar tract had become more and more differentiated. In the fourth and third dorsal segment there was practically no

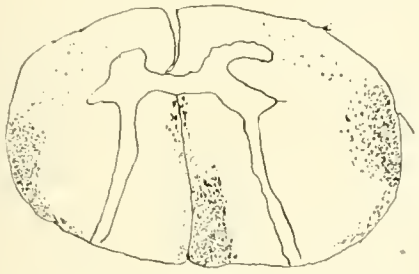

Fig. 5. First dorsal.

change. The second dorsal segment showed practically the same condition, except that there was a difference in the two sides, which consisted in the granules on the left side being heavier, larger, and more sharply defined than those on the right side. In the first dorsal segment (Fig. 5) the degenerated area in the commissural portions of the posterior columns consisted of only a few black granules. The Gower's tract seemed to be more involved on the right side than on the left. In the eighth cervical segment, the differentiation between the Gower's and the direct cerebellar tracts was well marked on both sides, but greater on the left than on the right. The seventh cervical showed practically the same changes. In the fifth cervical the degeneration in

Fig. 6. Medulla; region of lower olivary bodies.

Goll's column did not extend to the commissural portion of the posterior tract, occupying only two-thirds of the distance along the posterior fissure, and as it proceeded upward this area became more and more limited to the extreme posterior portion of the tract.

In the lowest portion of the medulla practically the same changes existed as in the first cervical segment. Then, as we proceed upward, we find the degenerated fibers occupying the nucleus gracilis along the posterior fissure, in the region of the inferior olivary bodies there are groups of scattered, blackened granules, confined to the posterior margin, and a well-defined group of blackened granules near the substantia gelatinosa. Next, at about the region of the middle of the olivary bodies, the black granules were seen within and scattered over the greater part of the corpora restiforma.

In the tenth dorsal segment, below the lesion, were large degenerated areas, occupying almost the entire anterolateral ground bundles, with the exception of the commissural areas of the anterior tracts and the marginal surface of the right anterior tract. The degenerations in the posterior columns were confined to two small faintly deliminated comma-shaped areas internal to the posterior horns.

In the eleventh dorsal the degenerated areas were more confined to the lateral pyramidal tracts and the anterior pyramidal tracts, the left anterior tract being more involved than the right. There were, however, scattered bundles, although

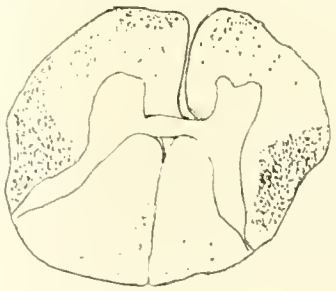

Fig. 7. First lumbar.

not so many, throughout the entire anterolateral ground bundles. The degenerated areas in the posterior columns were much smaller and not nearly so well-defined as in the tenth.

The twelfth dorsal showed the degeneration well limited to the pyramidal tracts, while the degeneration in the posterior columns consisted of a few scattered black granules.

In the first lumbar segment (Fig. 7) the lateral pyramidal tracts were smaller, and the degeneration in the posterior columns appeared closer to the posterior median fissure. There was, however, well-defined degeneration in the peripheral portion of the anterior column on the left side.

In the third lumbar segment the degeneration had almost completely disappeared from the anterior columns, while it began to take on a definite

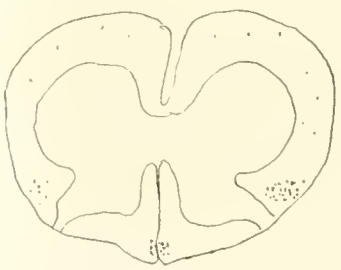

Fig. 8. Second sacral.

form in the posterior columns, and consisted of a few fibers about midway between the commissura and the periphery, and a well-defined bundle lying near the periphery on either side of the posterior fissure. This, however, appeared like the triangular area of Gombault and Philippe.

The fifth lumbar and the sacral portions of the cord exhibited practically the same changes, except that the degeneration in the left lateral pyramidal tract was not so well defined as that in the right.

Examination of sections stained by the Weigert method showed practically the same changes, but also the extensive sclerosis involving the lateral tracts.

The ascending degeneration followed principally the direct cerebellar and Gower's tracts up into the corpora restiforma. The variations in the degenerated area which we found in the different

segments were probably due to errors in technique, but the well-defined changes in the left anterolateral ground bundle could hardly be explained on that ground, and we think the ascending fibers in that bundle had been destroyed by the hemorrhage in the left anterior horn. The fact that the right column of Goll was so extensively involved and not the left, was due without doubt to the hemorrhage occupying the right posterior horn, although it must also, to a certain extent, have involved the column itself, or otherwise we should have found the area following a more radicular course. Instead of this, however, from that level up the degeneration was confined closely to a definite group of fibers into Goll's column.

Comparing the anterolateral and posterolateral tracts, we found that those of the left side in their entire course showed greater involvement than on the right, the explanation of which must lie in the fact that the hemorrhage in the left ventral horn occupied a considerable portion of the base of the posterior horn, and thus interfered with the fibers from which these tracts are derived. That both anterolateral halves showed symmetrical involvement at the level of the ninth dorsal segment, in no way disproved this assumption, since it was quite possible that while the myeline sheaths were destroyed, the axons of a considerable number of fibers might not have been permanently cut off, and hence the fiber resumed its natural appearance higher up, where it was relieved from the pressure of the extravasated blood. In connection with this we should like to remark, although it is perhaps quite unnecessary, that the idea of transmission of pain and temperature sense through these tracts seems unfounded, in view of the retention of both these senses in this case.

The descending degenerations in the posterior columns were too vague and ill-defined to throw much light on that subject; in fact, the findings were rather negative. It would appear, however, that this would support the contention for the exogenous origin of these tracts, since such an extensive lesion of the right posterior horn would give us the right to expect positive topographical evidences in these tracts, if they had their origin in post-horn cells.

Again, we cannot assume that the small portion corresponding to the triangular area of Gombault and Philippe supports the latter, since we had a well-defined degeneration in Goll's column at its dorsomedial margin.

Spinal arterial sclerosis is a condition that permits of being diagnosticated with considerable readiness, especially if there are symptoms, subjective or objective, pointing to generalized arterial sclerosis. As an example of this we may quote the following case:

Mr. W., a salesman forty-nine years old, came to the clinic complaining of general weakness and "nervousness," particularly in the legs. He says that if he walks a short distance he feels this weakness and so-called nervousness coming on in the legs. In addition, he has had for the past month or more a burning sensation in the epigastric region, which is unaffected by taking food. Latterly he has had a great deal of difficulty in holding the urine, a tendency to incontinence. The bowels are constipated. There has been no change in speech, and according to the patient, no mental deterioration except that he has had periods of melancholia. His eyesight has not been good since he was a child; the right eye being weaker than the left. Nine years ago this patient complained of similar symptoms, which came on after an attack of grippe. He was treated in the clinic and recovered in about six months.

He is a fairly well-nourished man of medium build, rather pale and anæmic. His gait shows enfeeblement but no spasticity.

Examination shows a moderate sclerosis of the peripheral blood-vessels, the radials and temporals being distinctly palpable. Blood pressure with the Rivi Rocci apparatus, 185 (normal 135); pulse rate after sitting, 91. The strength of the lower extremities is perceptibly diminished. Although he is able to stand on either foot, his station is unsteady and he cannot maintain it long. He is unable to stand on the toe of either foot. The quadriceps extensor group is much weakened. There is some diminution of the deep muscular sensibility. He interprets passive movements of his joints, but slight movements he finds difficult to localize. This is also true of the position sense when he attempts to simulate the position of one leg with the other. There are no cutaneous sensory disturbances. The tendon jerks are all lively, but there is no Babinski phenomenon. Pupils normal and there is no facial rumor. The blood count shows nearly 5,000,000 erythrocytes and a relatively normal number of leucocytes.

This patient, who is still under observation, has made great improvement while taking small doses of nitroglycerin and iodide, and availing himself of rest, warm baths, and massage.

There is scarcely any department of neurology that stands more in need of reconstruction than that which is now described under the name myelitis, acute and chronic. When the term encephalitis is used, a well-defined clinical and pathological picture is suggested. On the other hand, under myelitis are included, undoubtedly, many cases of spinal arteriosclerosis, disseminated sclerosis, and obliterating endarteritis. We believe that these can and should be distinguished.

THE TREATMENT OF TUBERCULOSIS OF THE LARYNX AND OF THE PROSTATE GLAND BY THE X-RAY, HIGH-FREQUENCY CURRENTS, AND THE COOPER-HEWITT LIGHT.*

DEMONSTRATION OF SPECIAL APPARATUS AND OF A RAPID METHOD OF SKIAGRAPHY.

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SURGEON TO ST. BARTHOLOMEW'S CLINIC.

In presenting the subject, the Treatment of Tuberculosis of the Larynx and Prostate by the *X*-ray, High-frequency Currents, and the Cooper-Hewitt Light, it may be best to first give a brief résumé of the literature which has been found bearing upon it.

I have not been able to find anything upon the subject of this sort of treatment for tuberculosis of the prostate gland.

In regard to the treatment of tuberculosis of the larynx by the *x*-ray, Williams, in his excellent work on "The Rontgen Rays in Medicine and Surgery," as aid to diagnosis and as a therapeutic agent, says: "The successful treatment of lupus by the *x*-rays should lead us to try them in laryngeal tuberculosis." And Revillet, as long ago as 1897, reported a case of acute pulmonary and laryngeal tuberculosis treated by the Röntgen rays. Both lungs and the larynx of the patient were affected. The case was hopeless before treatment was instituted, and the patient died. Some good effects, however, were noted. Sleep was improved, temperature became normal;

*Read at a meeting of the Medical Association of the Greater City of New York, April 11, 1904.

there was marked diminution and finally disappearance of dysphagia. In the excellent book of Pusey and Cauldwell upon the Röntgen Rays in Therapeutics and Diagnosis, the above case of Revillet's is referred to and the statement is made that "the use of the rays in tuberculosis of the larynx is being tried quite extensively, there is reason to believe, but nothing definite upon the subject has yet been reported; . . . there is enough ground for hoping for some benefit to justify a thorough trial of the method, since cases are otherwise so difficult of relief." He thinks "it ought to be used as auxiliary to other treatment."

In the same book is figured an *x*-ray tube for the treatment of the larynx. It has a cylindrical prolongation, through which the cathodal stream is directed by the concave mirror to the anode, which is placed at an angle of forty-five degrees near the top of the prolongation. The tube is intended to be introduced into the mouth, and when in operation the *x*-ray is thrown down into the larynx just as ordinary light is directed by a laryngoscope. My own method of application will be given later.

This is all the literature that I have been able to find upon the subjects of *x*-ray in tuberculosis of the larynx and prostate, and the use of high-frequency currents for precisely these conditions does not appear to have been reported.

Treatment of tuberculosis of the larynx by the violet and the ultra-violet rays, as produced by the electric arc light in its various forms, has been employed by our fellow-member, Dr. Freudenthal. From his reports of a number of cases of tuberculosis of the throat, most of them showed extensive lung lesions. In every case there was marked relief of pain and dysphagia, but in no case was there any perceptible effect upon the tuberculous infiltration or ulceration. He says that "although by far the majority of his patients liked the treatment and asked for it, he can see in the electric light only an adjuvant to the host of other remedies at our disposal—an adjuvant that is of great assistance to us in the management of some cases of tuberculosis." This, however, does not refer to the *x*-ray.

The literature of *x*-ray treatment for tuberculosis in general is quite abundant, and may be summarized as follows: There is no doubt at all about its curative effects upon lupus, and many observers have reported successful results in tuberculous sinuses of bone, and in tuberculous glands. I can corroborate this from my own experience.

In regard to pulmonary tuberculosis, I cannot do better than give a digest of the literature just as I find it·

Stubbert (*New York Journal of Medicine*, March, 1902) gives an extended description of the diagnosis of pulmonary tuberculosis by means of the *x*-ray, and alludes without comment to experiments now in use as to the results of *x*-ray illumination upon intracorporal tuberculosis, and says the value of this agent in lupus or extra-corporal tuberculosis is an established fact.

Rudis-Jicinski (*New York Medical Journal*, March, 1901) reports laboratory experiments in regard to bactericidal effects of the *x*-ray upon tubercle bacilli, as well as upon other pathogenic microorganisms, and shows in general that tubercle bacilli in an alkaline medium are not destroyed by the *x*-ray, but that in 40 per cent. of the animals inoculated with tubercle bacilli whose secretions were kept acid, a cure of a beginning tuberculosis was produced, and this was verified by autopsy five years later. Giant cells were not found, but there were chalky masses enclosed in dense tissue, connective tissue, and adhesions, but no tubercle bacilli. He reports twenty selected cases of human pulmonary tuberculosis at an early stage treated with the *x*-ray in one year. One died of intestinal tuberculosis; another committed suicide after two sittings; four proved complete failures, and the rest were doing comparatively well at the end of the year.

Ransom (MEDICAL RECORD, February, 1904) reports seven cases of chronic pulmonary tuberculous phthisis, with very profuse expectoration, treated with marked improvement in quantity and quality of expectoration, and general improvement of symptoms. Still under treatment. Two cases of advanced chronic pulmonary tuberculosis. Treatment was discontinued on account of low condition of patient. Six cases of chronic pulmonary tuberculosis still under treatment and doing well. As a caution, he states that in his experience he has had three slight hemorrhages immediately following exposure, in cases in which hemorrhages had been of recent origin.

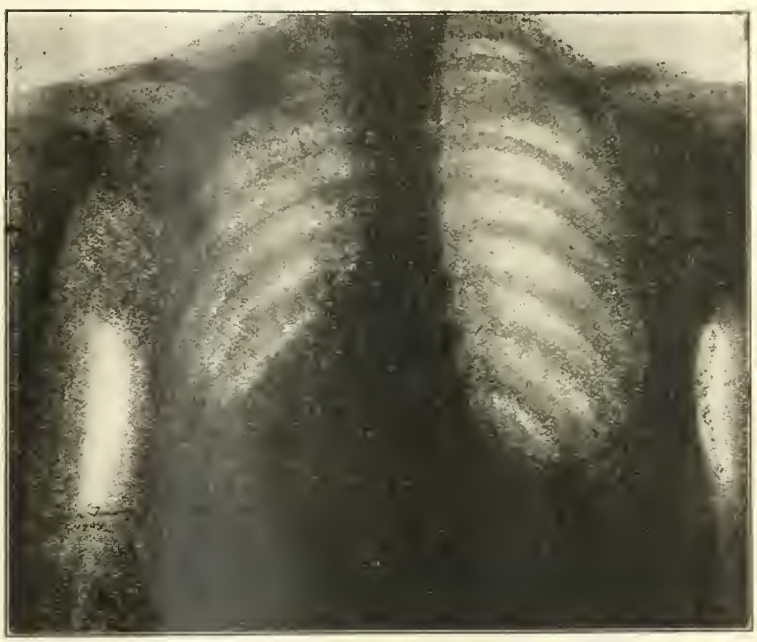

FIG. 1.—Radiograph of the chest. Case of tuberculosis of larynx and lung under treatment by the *x*-ray, high-frequency currents, and the Cooper-Hewitt light.

Freudenthal (MEDICAL RECORD, March, 1904) reports encouraging results from the use of blue light and intrarectal injections of CO_2 gas, for pulmonary tuberculosis.

Bowie (*Lancet*, October, 1903) considers high-frequency currents of low potentiality to have a curative effect in pulmonary tuberculosis. The currents, which are given directly to the walls of the thorax, bring about a stronger power of resistance to the toxins of the tubercle bacillus.

M. F. Coomes, in an article on Tuberculosis (*American Practitioner and News*, September 1, 1903), says that "very little is known of the value of *x*-ray in this affection. The clinical reports of cases up to the present time are not encouraging. In many cases the diagnosis had not been absolutely established, and they are therefore worthless. A few favorable reports have been made, but they are

from people who have also received other treatment. The author subjected one case daily for more than six months to the rays. Patient had a large cavity in upper part of left lung; sputum contained blood, pus, and tubercle bacilli in large numbers. Weight was 150 pounds at the beginning of the treatment. In addition to *x*-ray treatment, the patient received 140 gtts. or more daily of creosote, and the best of food. After six months he weighed 151 lbs. During the treatment he expectorated blood only once."

Hahn (*Fortschritte a. d. Geb. der Roentgenstichler*, Bd. III, H. 1, f. 36). Reports case of pulmonary tuberculosis treated by Reider with *x*-rays; the result was entirely negative.

Bergonie and Mongour (*Archives d'électricité Médicale*, August 15, 1897) report two cases of acute phthisis in very much run-down individuals suffering from insufficient food and alcoholic excesses. The results in both cases were negative. In a more chronic case a slight improvement was obtained. This case showed rapid improvement in general condition and strength, and the appetite increased. The local pulmonary processes, however, were unaltered. A third case, after a month of improvement, both in general condition and locally, had severe digestive disturbances which caused a relapse.

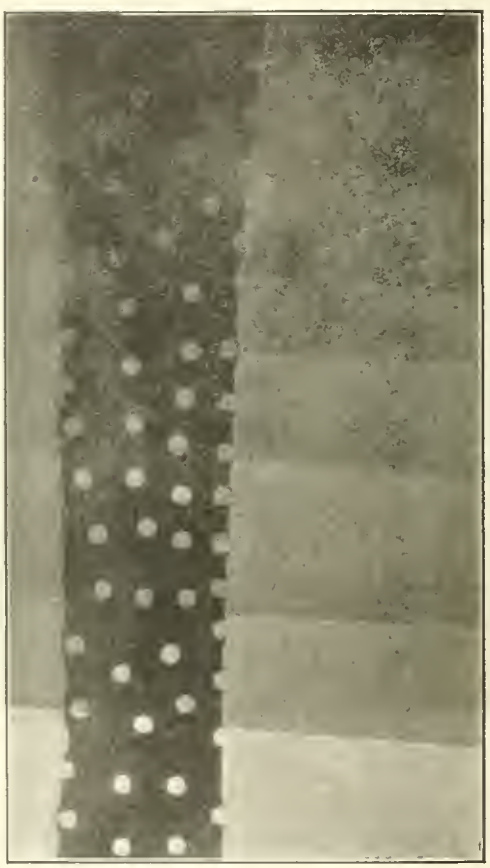

FIG. 2.

FIG. 3.

Radiographs of Dr. Tousey's Radiometer. Both pictures were made by the same *x*-ray tube, using the same strength of current and at the same distance. In figure 2 the vacuum was high, but in figure 3 the vacuum was of the moderate degree, which the author finds to have a curative effect on tuberculosis. Both figures show part of the sheet-lead shielding the hand of the operator.

Bouchard (*Traité de Radiologie Médicale*) says that "the *x*-ray treatment of pulmonary tuberculosis received a very thorough trial by many observers, after Rendu and du Castel observed amelioration of symptoms in a young man suspected of pulmonary tuberculosis. There is not a single confirmed case on record of a cure, and to-day the treatment is almost abandoned. Since the year '98 fewer and fewer new cases are being reported. Many of the publications are premature; after a temporary improvement (so common in tuberculous people from the institution of a new treatment) the disease again progresses unfavorably. Du Castel and Rendu's patient and those of Chanteloube, Descamps, Rouilliés, and Revillet, all died after the publication of their cases. In the greater number of patients no change could be detected. With some, on the contrary, after a temporary improvement, an acute phthisis was set up which carried the patient off in a short time (Roullet, de Tiessiere, and Bergonie, d'Ausset, de Potain, and Serbanesco). This fatality is due to a stimulation of a quiescent lymphatic tuberculosis."

Gilman (*The Clinique*, Vol. 18, 1897) reports a case of an Italian boy twenty-two years old, suffering from an apparently hopeless case of pulmonary phthisis. The right lung from apex to mammary region was merely a cavity, anorexia and insomnia were present. The temperature rose daily to 104° F., hemorrhages occurred every four to six weeks. After the first treatment the temperature was reduced; sleep and appetite improved, strength returned, and hæmoptysis ceased in the course of the treatment. At the end of the treatment the patient was still weak.

Barthélemy and Oudin, cited by Havas (*Archiv für Dermatologie und Syphilis—Kaposi Festschrift*, 1900), say that a latent tuberculosis may become acute through *x*-ray treatment. The authors substantiate this statement by a single observation.

Burdick (*American Electrotherapeutic and X-ray Era*, 1903, No. 3, p. 1) says that "in patients of sufficient recuperative powers, no treatment other than the *x*-ray is required; in more debilitated individuals other forms of treatment must be used to supplement it. A powerful generator is necessary

and tubes at the proper vacuum. If the vacuum is too high, the tuberculous process is hastened. Absolute cures are not accomplished; the pulmonary signs persist, and there is occasional expectoration of sputum containing tubercle bacilli. The *x*-ray stops the growth of the bacilli long enough to enable the vitality of the body to be restored so as to cope with the disease. In incipient cases the recovery is rapid and prompt. Some cases show great reaction in the beginning, requiring the treatment to be stopped." The author reports thirteen cases of pulmonary tuberculosis treated in this way, supplementing a report of sixteen similar cases (*Am. Electro-Therapeutic and X-rayEra*, July, 1901).

Chanteloube, Descamps, and Rouillés (*Archives d'Electricité Médicale*, May, 1897) report the case of a patient twenty-one years old with both lungs affected, numerous bacilli in the sputum, and continuous fever for two months. After the eighth seance, the temperature was markedly lower. The course of the disease was not influenced, there was only an improvement in the general condition. After twenty-one further seances (two being given a day), the cough and expectoration diminished and finally the bacilli disappeared almost entirely. There was still fever, and the general condition remained the same. The good effects produced continued, the cough was less, and an intercurrent diarrhœa disappeared. The physical and psychical conditions improved, but the disease continued, there being always an even temperature of 38.5° C. Following the publication of the report the patient died.

Teissier (*Archives d'Electricité Médicale*, No. 6, 1898) reports the case of a young girl of twenty-one in the second stage of pulmonary tuberculosis, which was progressing slowly, who was given daily treatment with *x*-rays for fifteen days. Bronchopneumonia with bloody expectoration developed. Six weeks after the treatment had been stopped the patient died. A young man with an apyretic tuberculosis in the second stage, having an induration of both apices and tuberculous cervical glands, was given twenty-two seances with frequent intermissions. No change was noticed except a diminution in size of cervical glands.

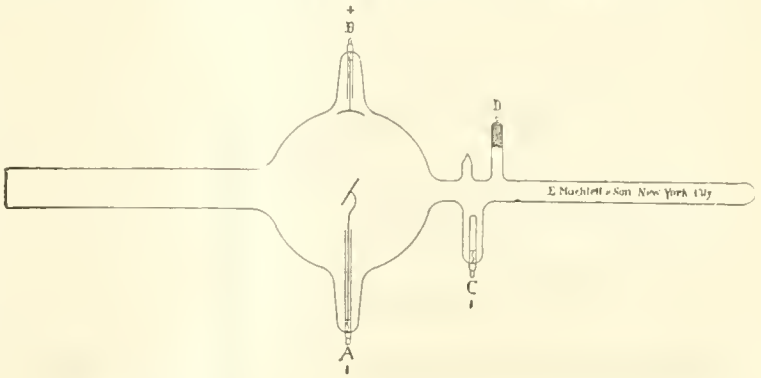

FIG. 5.—Tube used for applying the *x*-ray to the outside of the throat in tuberculosis of the larynx.

FIG. 4.—Radiograph of the hand of a patient under *x*-ray treatment for subacute rheumatism. This shows the degree of vacuum (quality and penetration of light) found by the author to produce a curative effect upon tuberculosis.

Destot and Dubard (Fourth Congress for the Study of Tuberculosis, 1898) attribute the therapeutic effects of the *x*-ray to the electrical radiations which accompany the former. The Crookes tube only acts as a rheostat. In the opinion of the authors, electric radiations obtained from another source are preferable.

Ausset (*Journal de Clinique et de Thérapeutique infantiles*, 1897). A young girl of seven with advanced tuberculosis of both lungs and large mesenteric glands was treated for twenty days. Abdominal pain and diarrhœa ceased. This temporary improvement disappeared as soon as the treatment was discontinued, and the patient died soon after.

Bergonié and Mongour, in an article entitled "Have the *X*-rays Any Action in Human Tuberculosis?" (*Bulletin de l'Academie de Médecine*, 13, VII, '97), say that a diminution in the number of tubercle bacilli did not occur. There is probably, they think, no specific action against the bacteria—perhaps phagocytosis is favored.

Sinapius (Die Heilung der Lungentuberculose durch Röntgen Bestrahlung, Leipzig, 1897). Although good results are claimed by him in a number of cases, the reports are not considered of value as the diagnosis of tuberculosis had not been established beyond doubt.

My own opinion at the present time is that judicious application of the *x*-ray or of the ultraviolet ray and high-frequency currents is indicated in every case of tuberculosis.

I wish now to report the progress made so far in a case under treatment for tuberculosis of the larynx. The patient, Mrs. V., was referred to me by Dr. Roof. She had been running a temperature of 102°, had had throat trouble for three years, and during the last few months profuse expectoration, and a tuberculous deposit visible in the larynx. The expectoration had been so profuse as to choke her and was full of tubercle bacilli. Weight 103, the maximum having been 130 pounds. One feature of the case had

been a feeling on the part of the patient that she could not swallow anything solid, and for some months she had taken nothing but fluids strained through fine cloth. At the start she was constantly coughing and expectorating, could hardly speak above a whisper. There was considerable loss of strength and there was but little evidence of pulmonary trouble. The skiagraph of her chest (Fig. 1)

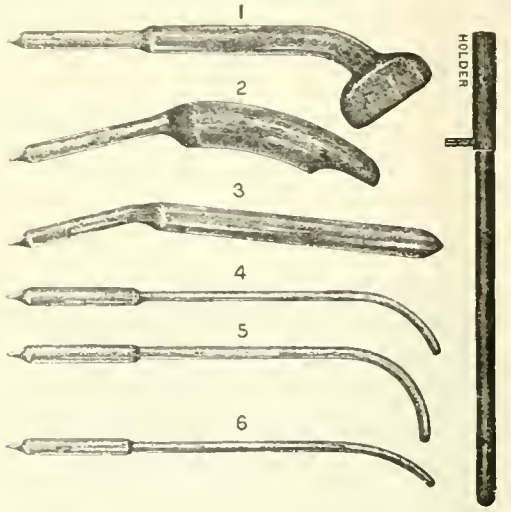

Fig. 6. Vacuum electrodes and handle for applying high-frequency currents to the surface of the neck and chest; used in cases of tuberculosis of the larynx and lungs.

was taken shortly after the commencement of treatment, and shows the right side of the chest more transparent than the left, and some cloudiness at the left apex. It is a beautiful picture from a surgical point of view, as it shows the relations about the shoulders so well, the entire outline of the scapula, the ribs showing through the scapula and the clavicles through the entire thickness of the chest. My treatment was begun on December 15, 1903, and consisted in, first, the exposure to the *x*-ray once every four or five days; exposure to the Cooper-Hewitt light and application of high-frequency currents once in each interval between the *x*-ray application;—so that on Tuesday she would be treated with the *x*-ray, on Thursday with the Cooper-Hewitt light and high-frequency currents, on Saturday with the *x*-ray, and on the following Tuesday with the Cooper-Hewitt light and high-frequency currents, etc. In applying the *x*-ray, I used an 8-inch Wappler coil, run by the current from the street (110 volts direct current), using a liquid interrupter. This consists of a beaker of tough porcelain with three or four pinholes near the bottom; this is set in a large jar full of dilute sulphuric acid, and a lead plate connected with one wire dips into the acid outside, while a lead ring from the other wire dips into the acid outside of the beaker. When the current is turned on, electrolysis takes place in the dilute acid through which the current has to pass, and the resulting bubbles of hydrogen and oxygen gas block up the pin-holes and interrupt the current. The current ceasing, the bubbles of gas escape and the current recommences. In this way the current through the primary coil is interrupted surely, safely, and almost noiselessly, at the rate of about ten thousand times a minute, and each such current passing through the primary coil induces a current of very high voltage in the secondary coil. From the two poles of the secondary coil wires pass to the two poles of the *x*-ray tube, the negative terminating in a concave mirror, the cathode, within the tube, and

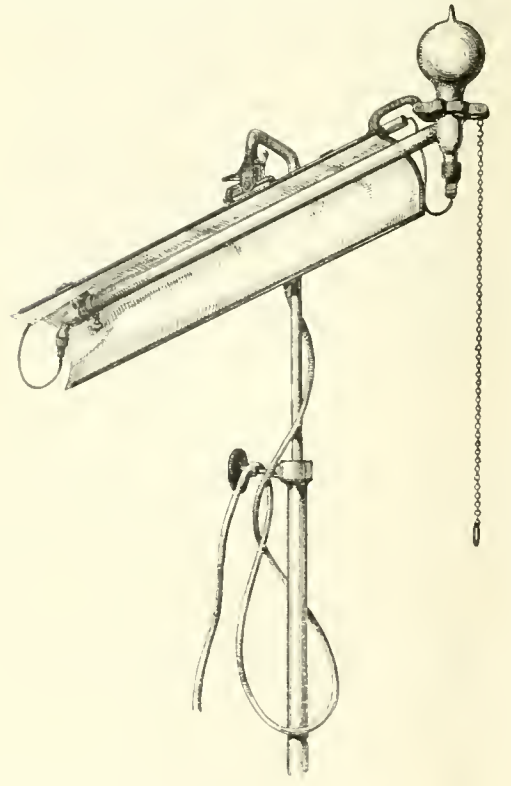

Fig. 7.—Cooper Hewitt Lamp.

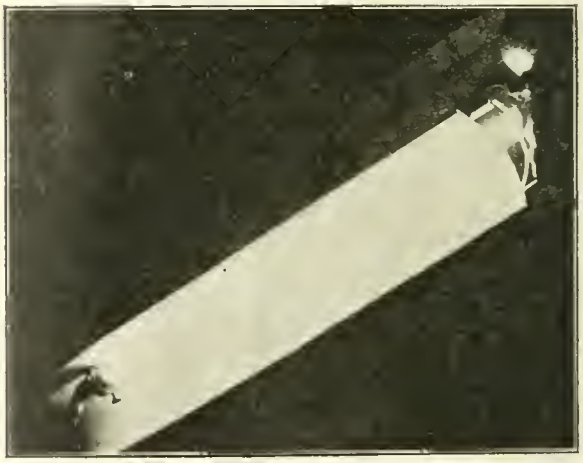

Fig. 8.—Cooper-Hewitt light in operation.

the positive wire terminating in a platinum disk, the anode, in the center of the tube. When in operation, a very fierce bombardment of molecules passes from the cathodal concave mirror to an exact focus on the anode, where they are taken up in the new form of motion called the *x*-ray. In treating this case two different tubes were used—First, a Gundlach heavy anode tube of 60 cm. capacity; and later, a Müller heavy anode tube of 50 cm. capacity. Both were provided with regulating devices, and the degree of vacuum was so adjusted as to give the greatest photochemical effect which can be combined with sufficient penetration to pass through the entire thickness of the chest. The chest picture which is shown was taken in the course of the treatment—simply placing a plate behind the chest during exposure to the *x*-ray. To be more specific, the internal resistance of the tube was reduced to that of a 2½ spark gap, and the penetration of the light as shown by the author's radiometer, was sufficient to shine through three thicknesses of tin foil, of which 100 square inches weigh an ounce; both of these conditions being combined with a strength of current sufficient to produce a six and three-quarter inch spark. Four and a half amperes of 110 volts pass through the primary coil. The picture of a hand of another patient, showing the condition after radiotherapy for subacute articular rheumatism (Fig. 4) was taken with a tube

regulated in this way. The distance from the nearest surface of the chest to the anode was about ten inches, and the time of exposure about five minutes in front and five minutes behind. The face and scalp were shielded by a sort of cap of *x*-ray metal (sheet lead with a sufficient alloy of tin to prevent it from rubbing off on the hands and face.)

Following the general exposure of the chest to the *x*-ray, a special application was made to the larynx by means of the *x*-ray tube which I show here. The

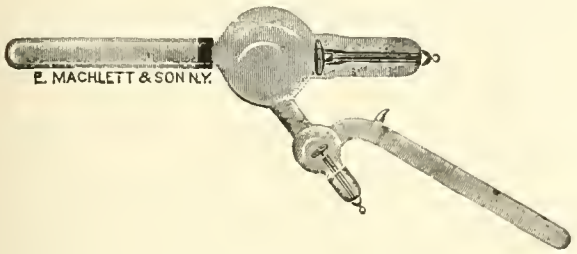

Fig. 9.—Tube used for applying the *x*-ray inside of the rectum in tuberculosis of the prostate.

major part of the tube is made of a lead-glass opaque to the *x*-ray, except for a cylindrical prolongation into which the rays are directed from the anode and from the transparent end of which they emerge. This is held close to the outside of the larynx, and directs the rays through the exact tissue which we wish to influence, and requires no shield of any kind. The names of Cauldwell and Morton in this country, and of Cossar in Europe, have been associated with this type of tube, in which some trifling modifications have been made for my own purposes. The current employed is milder and the exposure only about three minutes, and this is distributed over different aspects of the larynx.

The high-frequency currents are obtained from the same eight-inch *x*-ray coil by means of the D'Arsonval transformer. This consists of two large Leyden jars, each of which contains a pint or two of salt solution, forming the inner coating. The outer coatings are of sheet metal and are connected by a spiral of wire forming a solenoid, and from the two ends of this insulated wires pass to the patient. One of these wires terminates in a metallic handle, which is held by patient; the other, in an insulated handle in which fits a vacuum tube with a flattened bulbous extremity, which is applied to all the different parts of the chest and the outside of the throat. When in operation, a series of sparks passes across a spark-gap enclosed in a glass cylinder between the tops of the brass rods which pass into the inside of the Leyden jars and which are connected with the two poles of the *x*-ray coil; and the vacuum electrode becomes filled with ten thousand waves a minute of ultraviolet and violet light passing into the surface of the body. A very large amount of ozone is also generated and carried into the body by the electric current, which is an important feature of the application. The patient actually receives all the way up to one hundred and twenty-five milliamperes. This is quite devoid of any shock or of the unpleasant sensation of Faradic electricity. The intensity of the application is controlled by regulating the current in the *x*-ray coil and the length of the spark-gap in the D'Arsonval. The proper strength seems to be one devoid of prickling sensation, but strong enough to warm up the vacuum bulb where it is in contact with the skin. These vacuum electrodes contain no wires. The current is simply intense enough to penetrate the glass at the top, pass through six or eight inches of a partial vacuum, and penetrate the glass again where it is in contact with the body.

The Cooper-Hewitt lamp is actuated by the street current reduced by a rheostat to five amperes with 110 volts; this current passes through a vacuum tube twenty-four inches long and one inch in diameter, and containing vapor of mercury and at one end a certain amount of liquid mercury. To start the lamp the current is turned on and the tube tipped so that the liquid mercury will form a complete connection between the platinum wires entering the ends of the tube. After the current is once started through the tube in this way, the tube is allowed to assume its normal position with the liquid mercury all in the reservoir at one end and the vapor of mercury continuing to transmit the current becomes incandescent. The light given out has four hundred candle power, its spectrum is almost pure violet—that is, it contains the chemical and life-giving properties of sunlight about a hundred times intensified, for it can be placed within four inches of the bare chest without danger of burning. In my apparatus the light can be adjusted at any height, and a reflector shields the patient's face and eyes. This light is applied almost fifteen minutes in front and almost fifteen minutes behind the chest from a distance of about five or six inches.

The result of treatment has been the disappearance of expectoration, and this took place in three weeks; very great improvement as to the voice—for instance, now she talks over the telephone perfectly well—marked gain in strength; her temperature is normal; and a gain in her average weight of about two pounds. The local condition was examined by Dr. Richard Kalish before treatment, and again a few days ago. Originally he found an area of swelling and hyperæmia below the left ventricular band with a distinct line of abrasion, though scarcely ulceration, there. Now he finds the area of infiltration diminished and the abrasion healed, with a whitish appearance which may be due to cicatricial tissue. Considerable improvement has taken place in regard to swallowing, the difficulty in regard to which has appeared to be entirely psychic from the start. Physical examination of the chest shows slight dulness at the left apex, scarcely any perceptible abnormality at the right apex, and slight dulness below the angle of the left scapula, which may be due to a slight central consolidation or to a spot of pleurisy. The patient is still under treatment.

In the treatment of tuberculosis of the prostate and bladder, my treatment has consisted in allowing the light from an ordinary *x*-ray tube, regulated as described above, to shine obliquely downward through the lower portion of the abdomen and also occasionally through the perineum. This application lasts about five minutes. Alternating with the perineal application, a special *x*-ray tube has been introduced into the rectum. This tube is made for the most part of lead glass, which is opaque

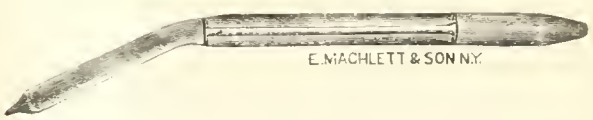

Fig. 10.—Vacuum electrode with insulated shaft for the application of high-frequency currents in the rectum; used in cases of tuberculosis of the prostate.

to the *x-ray*. It has no anodal disk; its cathode stream is directed down a cylindrical prolongation of transparent glass from which the *x*-ray emerges in all directions. This prolongation is cooled by a continuous current passing through a water-jacket, and the application lasts only a couple of minutes. The other portion of the treatment consists in the application of high-frequency currents over the lower portion of the abdomen; and in the rectum on occasions when the intrarectal *x*-ray tube is not used. For the intrarectal applications of high-frequency currents a special vacuum elec-

trode is employed in which the tube is insulated except for its distal two or three inches by a separate external cylinder of glass. In this way all the effect reaches the interior of the rectum. The application lasts five minutes.

The patient upon whose case I wish to make a preliminary report is Mr. M., aged thirty-one, who has suffered for several years from tuberculosis of the bladder and prostrate. He was treated with the *x*-ray a year ago by an excellent man, the application being made daily by allowing the light to shine upon the lower part of the abdomen while the patient stood up in front of the tube, also by the application of vacuum electrodes connected directly with the *x*-ray coil without the D'Arsonval transformer. For about a year and a half before this treatment was begun several enormous pus sacs had been gradually forming, and for almost all that year and a half he had been unable to lie upon his back because of the pain. After the *x*-ray treatment had been applied for several weeks these emptied into the bladder, and at one time he passed a quart of pus in forty-eight hours. At that time he was urinating about a hundred times a day. When he came to me, December 23, 1903, his weight was 147 pounds, he was urinating twenty-five or thirty times a day. Rectal examination showed the prostate to be moderately enlarged and tender. The urine looked like a mixture of blood and pus, and the microscopical examination showed the presence of tubercle bacilli. He has been treated twice a week, and the abdomen and perineum are somewhat tanned from exposure to the rays. Irrigations of various kinds have been continued. There was at first considerable pain and irritation in the urethra, and scales could be washed out of it. This has been relieved by *x*-ray applications, the penis being held up against the abdomen during the *x*-ray treatment. His weight now is 152 pounds, his strength is very much greater, the urine is a great deal clearer, and no visible blood has been present in it during the last two months. The microscopical examinations which have been made at Fraser's laboratory each month showed at first an increasing and lately a rapidly decreasing number of tubercle bacilli. The examination made a day or two ago shows "only an occasional tubercle bacillus."

On several occasions lately when calling on friends he has gone five hours without urinating, without discomfort; previously he always had to consider ways and means of urinating several times during any such period as that. During the present course of treatment there has been no formation of pus sacs, and the comfort and strength of the patient have uninterruptedly improved.

103 West Seventy-sixth Street.

Alcoholism in Normandy.—It is stated that the population of the five departments of Normandy is 150,000 less than it was thirty years ago and the decrease is attributed in great measure to the excessive use of alcohol. M. Debove, the dean of the Paris Faculty of Medicine, shows how alcohol operates in two directions toward the diminution of the population—by raising the average of mortality and by weakening the vitality of the majority that survive. There are places in Normandy where the consumption of brandy is more than a quart per day per head of the adult population. Alcoholism is said to have got a firm hold on a large part of the female population. In the "fairly temperate" canton of Tourouve the average weekly consumption of raw spirits is a little over three and a half quarts for each male adult and about two quarts for grown up women and young children.

INTERNAL URETHROTOMY IN THE TREATMENT OF STRICTURE OF THE MEMBRANOUS URETHRA.

By CHARLES C. MILLER, M.D.,
CHICAGO.

It is usually maintained by surgeons that it is better to treat strictures of the membranous urethra by gradual dilatation than by internal division, and in this article I wish to point out briefly some of the more important reasons for preferring division of such strictures to dilatation, and the precautions which are necessary in performing this operation in order that the results may justify the course.

When extremists advocated internal urethrotomy with undue enthusiasm years ago, it resulted in the development of other extremists who were partisans of the treatment by gradual dilatation, and while the extremists for urethrotomy were proclaiming with exaggerated zeal the virtues of extensive division of strictures, the partisans of dilatation were formulating and propounding even more radical and fully as unjustifiable claims for gradual dilatation.

Many men are blind followers of the gospel of the literature, and at this time the man who was in favor of urethrotomy felt that it was necessary for him to also be in favor of the prevailing vogue of extensive and free division of strictures. Strictures were cut from thirty-six to forty-five French, and while such a plan could be followed with comparative safety in the antescrotal urethra, such divisions in the perineal urethra were followed by free hemorrhage and painful erections in a percentage of cases rather larger than could be desired. Instead of reducing the scale of division of such strictures to within reasonable limits, operators in most instances either conceded that internal operations should here give way to the external section of the urethra or that gradual dilatation be practised. A few capable men with more logic than is usually conceded them held out for divulsion in these cases.

Gradual dilatation is in a great majority of instances a safe and satisfactory method of treating strictures of the urethra, when anterior to the penoscrotal juncture, but the same cannot be said of this treatment for a large proportion of strictures posterior to this point. The reasons for this are clear.

In all strictures of the urethra we have a chronic inflammation and irritation of the mucosa over the stricture and posterior to it. This inflammation, we know, is due to a chronic persisting infection at this point, probably made possible by the increased friction and irritation of the urinary stream.

We have in all cases of stricture of any considerable degree more or less residual urine in the bladder after urination. This can be demonstrated easily by an observer. It will be found to be particularly true in cases of stricture of the perineal urethra. Residual urine which cannot be expelled voluntarily, will alter greatly the character of the bladder from the standpoint of the surgeon, for such a bladder retaining urine after each urination will no longer be a self-draining organ, and as a result infection is much more easily developed, and overcome only with greater difficulty than in the normal bladder.

Careful aseptic precautions should always be taken in practising gradual dilatation if satisfactory results are to be hoped for, yet excluding all external sources of infection, it is still possible to have an acute inflammation develop, as the result of bacterial proliferation. In other words, a sterile sound by its mechanical irritation can favor conditions which will permit of the proliferation of the germs already present in the chronically inflamed mucosa about the site of the stricture. In the patient with stricture in the urethra anterior to the scrotum it is unnecessary

to carry the instruments used in the dilatation into the bladder and as a result the irritation is confined to the urethra, and increased infection, as a rule, is limited to this organ. When the stricture is of the perineal urethra, to insure dilatation of the stricture, the instruments are carried into the prostate and bladder. The bladder may be more or less infected, and the trauma, coupled with the spread of infection from the urethra into such a bladder, makes the development of acute cystitis not infrequent. In these cases we are also liable to have develop, at any time during the treatment, an acute inflammation of the prostate, seminal vesicles, or epididymis.

In all cases of intraurethral instrumentation, we may have develop a form of chronic infection, which is very likely to escape the attention of one, who is dilating a stricture, and yet which may result in no little mischief to the patient.

A patient is examined for stricture and such a lesion is found, and gradual dilatation is instituted in the treatment of the lesion. All aseptic precautions may be taken, and the patient be regularly taking internally urinary antiseptics. Nothing peculiar is noted in the dilatation, except, perhaps, a rather irritable urethra. This patient attends to his business, but as he continues the treatment, you notice, that his face becomes somewhat drawn and haggard, his color becomes somewhat pasty; he may notice some loss of flesh; his tongue is coated and he feels more or less lethargic. If this patient's temperature be taken at frequent intervals following the sounding it would be found above the normal at some time during the twenty-four hours. These forms of infection are not to be ignored, and if they cannot be overcome, the best possible course will be an internal urethrotomy, after due preparation.

The greatest disadvantage of gradual dilatation is the difficulty of holding patients until a caliber has been reached in the dilatation which will make the stricture no longer a menace to them.

If a patient come with a stricture of ten or twelve French and treatment by dilatation be instituted, that patient will almost certainly discontinue treatment before a caliber of twenty-five French has been reached. The reason for this is plain: The treatment will extend over a period of a number of months in most instances, and there is an irksomeness to the treatment which the patient dislikes. He begins to fear the size of the instruments; and all symptoms often disappear except the shreds in the urine. The urinary stream becomes free and satisfactory to him by the time fifteen or eighteen French has been reached. The patient has only the unsupported statement of the surgeon, that the dilatation should be carried up to a size, which appears to him extreme, so that in a great majority of instances gradual dilatation is never completed where a stricture is below fifteen French. Patients with strictures above twenty French and above fifteen where they dilate readily may often be quickly carried up to the full normal caliber, and then be held for sounding every two or four weeks for a considerable time.

In a rather large percentage of cases of stricture of the perineal urethra an examination per rectum will reveal an infected prostate or infected seminal vesicles, and in all such cases internal urethrotomy is indicated, followed by a minimal intraurethral after-treatment.

These patients with the chronic infection of the prostate and vesicles consult suffering from the various neurasthenic symptoms, which manifest themselves in chronic infections of these organs, and an attempt at treatment by gradual dilatation of a stricture of the perineal urethra will be followed by an increase in the inflammatory condition, and as a result the patient will be made worse by the treatment, at least so far as his observations are concerned. In my own experience, I have found it impossible in many instances and too troublesome in the remainder of cases to attempt to hold such cases while treating by gradual dilatation, and therefore submit all such cases to internal urethrotomy.

The operation is done in these cases after very careful preparation, and the after-treatment is minimized in order that the reaction may be as slight as possible. Treatment by massage is instituted as soon as no bleeding occurs during urination or after sounding. When the condition in the vesicles has been decidedly improved, and not until then at least is any considerable intraurethral treatment or manipulations instituted.

When we decide upon internal urethrotomy as an elective operation in the treatment of stricture of the perineal urethra, certain precautions should be taken in the preparation of the patient, in the performance of the operation, and in the after-treatment.

The operation should not be performed as an elective operation in any case, if there is an acute inflammation of any portion of the genitourinary tract. This condition will manifest itself not infrequently by the presence of a considerable amount of pus in the urine. Such should be overcome, and the urine should contain only a few shreds at the time of operation.

The free use of urinary antiseptics is of an advantage. For a long time such agents as boric acid and salol were depended upon in these cases for their antiseptic effect, but of late years certain special urinary antiseptics have come into general favor as superior to these former drugs. I use both types of drugs, the latter agents about the time of operation, the former some time before and some time after the operation. In other words, in clearing a urine of pus a half drachm of boric acid and an equal amount of salol daily may prove very valuable, but beginning three days before an operation and for the same time after operation full doses of the special urinary antiseptics are used. The use of the urinary antiseptics is of secondary importance to the local aseptic and antiseptic precautions.

The patient should be prepared before the operation by a thorough scrubbing of the genital region, and it is well to shave away the pubic hair. The bowels should be emptied by salines or injections, and the same precautions taken in preparation as in all operations requiring a general anæsthetic.

Internal division can be accomplished under local anæsthesia, but it is an unpleasant experience for the patient, and the operation is almost always performed in a hasty and imperfect manner under those circumstances. One can seldom tell when he will meet with a patient who will become extremely nervous as the work progresses, and such a patient is in more danger of doing himself harm than is desirable, so that the risk of a general anæsthetic is more than counterbalanced by a more complete and satisfactory operation.

Everything about the field of operation should be protected by sterile sheets and towels, and the operator should wear a sterile gown and cap. The hands of the operator should be prepared as carefully as though an intraabdominal operation was to be performed, and the instruments should be carefully sterilized by boiling.

The urethra should be irrigated with a one to five thousand solution of formalin, and if the bladder can

be reached with a small catheter it may be washed out.

The popular urethrotome in this country is that of Otis, a modification of which instrument has been devised for operations upon strictures in the perineum. I do not like this instrument for this purpose in most strictures. Before the Otis instrument can be introduced the caliber of the urethra must be about fifteen or seventeen French. If smaller, a long filiform must be threaded through the stricture, and then the Otis threaded upon the filiform and the two carried into the bladder. Now the Otis has a blunt extremity, which when carried through a stricture by force guided by a filiform, more or less laceration of the urethra transversely is likely to occur. This disadvantage is not to be met with when the Maisonneurve urethrotome is used. This instrument, as made at the present day, consists of a small staff about seven French in its greatest diameter. This staff tapers to a woven filiform, which is attached to the staff by a small screw attachment. A channel along the staff guides the knife of the instrument. This knife is triangular, and has a blunt tip which lifts the healthy urethra away from the cutting surface of the blade. It is passed along the groove from the meatus to the bladder after the instrument has been introduced. The knife thus divides any obstruction which it meets in its passage.

The technique of the operation with the Maisonneurve is simple. The filiform is anointed with a sterile lubricant and is passed through the stricture into the bladder. If the stricture is very small in caliber the filiform can be passed before the anæsthetic is given. The operator then screws the staff of the instrument to the filiform, and it is then carried into the bladder just as one would a steel sound. The filiform safely guides the staff into the bladder, and where the stricture resists it can be gently forced by the staff. The filiform coils up in the bladder. The staff is steadied by an assistant, and the knife selected can be passed along the groove into the bladder. The knife can now be withdrawn or the whole instrument can be withdrawn, as the operator elects.

Blades of various sizes are supplied with the Maisonneurve instrument; the largest should cut to thirty-two French. The efficient division of the stricture can be demonstrated by the passage of a sound of this size as a concluding step to the operation. The Otis instrument would permit of a much more free division of the strictures, as its scale runs to fourty-five French, but such free cutting internally is not to be recommended in the membranous urethra.

The operation should be completed by a hot antiseptic irrigation of the urethra and bladder. A special staff is supplied with the Maisonneurve instrument to allow of the passage of a catheter over it, but it is seldom necessary. An ordinary catheter can, as a rule, be passed without difficulty.

No catheter should be retained in the bladder or urethra after the operation, such are not only useless, but harmful. The patient should be put to bed and kept quiet until the bleeding has ceased. This in most instances amounts to less than a drachm. Sometimes the patient will have an oozing for ten or fifteen minutes. It is but seldom that measures need be taken to control the bleeding.

An operator should always be acquainted with the various means of controlling hemorrhage from the urethra, if he contemplates an internal urethrotomy. He will seldom have use for his knowledge.

In these cases of stricture of the perineal urethra we have none too perfect drainage after the internal operation and so we cannot use certain hæmostatic agents with impunity. If we wish to control a bleeding, we have those drugs which act upon the blood and those which act upon the vessels. The agent which acts upon the blood to control bleeding does so by causing a rapid, firm clotting of the blood. Such agents should never be used in the control of bleeding of the perineal urethra, as they form firm adherent clots, which clots, decomposing, favor the development of bacteria. If they are washed away, as I shall describe later, the bleeding will recommence.

Agents which act upon the vessel walls are not to be condemned if sterile, but as a rule they will prove inefficient, in that form of hemorrhage which needs attention. If an operator is foolish enough to become excited and inject hæmostatics into every urethra after the bleeding has persisted for five minutes, he will soon have many cases in which he has secured wonderful effects from some hæmostatic, but if he waits a reasonable time before beginning his efforts to control the bleeding, he will seldom have use for methods to control bleeding.

The agents, which act upon the vessel walls, are not likely to control a persistent bleeding, as such does not come from a large vessel so much as from a number of vessels which are implicated in the cicatricial tissue of the stricture, and which cannot as a result retract and contract.

A very moderate pressure upon the perineum will control a bleeding after internal urethrotomy, if such is properly applied. Internal pressure will not be tolerated. I have tried the passage of a soft rubber catheter in these cases, but the discomfort caused by its presence is too great to make it useful for hæmostasis.

Pressure is best applied to the perineum by the use of a padded pole or splint, after the method described by Otis. A large pad is made with cotton and a bandage over the end of a board or splint which is long enough to reach from the footboard of the bed to the perineum. The patient is pulled down upon the pad, and in this way constant moderate pressure is exerted upon the whole perineum. A large pad, which fills the interval between the legs, will exercise pressure upon the proper point and is better than a small pad, as the latter must be placed so as to exercise pressure upon the right point, and when the patient falls asleep it is very likely to become displaced. The patient should be given a small dose of morphine, and a nurse should be instructed to watch and see that no bleeding occurs during sleep.

The blood escapes from the meatus in these cases, and when under control such can be seen by an inspection of the penis. The patient can relax the pressure every hour, and when the bleeding has ceased he can permit the pressure to remain off.

The most important feature in the care of the patient after the division of strictures in the perineal urethra is to prevent as much as possible constitutional reaction. This will follow a majority of internal urethrotomies, no matter how carefully they have been performed. It will seldom be dangerous, but should never be neglected.

The patient feels perfectly well after the internal urethrotomy, but if his temperature is taken every few hours, within twenty-four or thirty-six hours there is usually a rise of one or two degrees. With it the patient may feel ill, may vomit, or at least suffer a loss of appetite, considerable lassitude, and sometimes become quite alarmed at the various symptoms which have developed.

This reaction is due to imperfect drainage, and can be overcome with ease by an antiseptic urethral irri-

gation. The instruction left after urethrotomy should be for an irrigation of a one to seven thousand formalin solution hot, as soon as the temperature goes above one hundred. This is to be repeated every four or eight hours until the temperature is normal and remains so for at least eight hours. Then the irrigations may be used twice daily during the first week following the operation.

The irrigations with formalin solution, when no stronger than one to five thousand solution, are not unpleasant, and the patient enjoys their use rather than otherwise. A glass tip is used with the irrigator, and the stream is allowed to flow into the meatus and out again, and it will make its way back to the point of section, and thoroughly cleanse this area. The value of the irrigations is demonstrated by the prompt fall of the temperature after their use.

Much has been said regarding the after-treatment of strictures, which have been treated by internal urethrotomy. For my own part I believe that operators have been conceding entirely too much importance to sounding after this operation, and especially after the internal division of strictures in the membranous urethra.

The urinary stream as it emerges from the bladder passes into the large prostatic urethra. From here it enters the smaller membranous urethra, and after an internal urethrotomy the stream plays a very important part in preventing any reunion of the divided ends of the stricture. I have had no reason offered which encourages me to use the sound every day or two after this operation, and have had only the best of results following rather infrequent sounding. I sound patients for the first time from five to seven days after the operation, and then for six weeks at intervals of from five to seven days. I have examined a number of patients from one to two years after this operation, when intervals of months have elapsed after the last sounding, and have had no difficulty in passing a full-sized instrument into their bladder.

In my clinical work during the last eighteen months I have had several patients who refused to permit any sounding immediately after the operation, being satisfied that they had a free stream and these patients, returning, have consented to sounding from two to six months after the operation, and a full-sized instrument has been passed without resistance.

ALCOHOLISM AND INEBRIETY: AN ETIOLOGICAL STUDY.

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Some leading physicians have affirmed with emphasis that alcoholism and inebriety are the same, and that the attempt to dignify them by the term "disease" is absurd, as they all come from alcohol, and disappear when this drug is taken away. A few writers have accepted this opinion, and declared that there could be no disease without alcohol, and even this drug did not produce uniform effects, hence the term disease was not accurate. Within a recent period a leading medical society discussed this question, and concluded that inebriety was a vice, and remediable only by moral means.

One man asserted that the only cure was to remove alcohol, others doubted any cure by medical means, and believed all alcoholics had a depraved brain, which could be reached only by conversion and the stimulation of the will of the patient. Such views coming from medical men at this time show the persistence of the delusive theory of moral causes, which was then urged so prominently by clergymen a quarter of a century ago. These and similar theories have become formulated into many of the great efforts to suppress this evil. Prohibition assumes that stopping the sale of spirits and removing alcohol is an effectual cure for this disorder. The efforts of the law by fine and imprisonment are based on the theory that the causes are the wilfulness of the victim and his reckless disregard of the interests of others.

Moral suasion by the pledge, prayer, and solicitation is based on the theory that the disease is only sin, for which conversion and change of heart are the true remedies. Thus nearly all the measures used to check inebriety are based on the theories that the causes are vicious immoral impulses which not only seek alcohol as an outlet but which alcohol develops in its worst forms. Hence the real remedy is punishment and fear, driving back the vicious nature and encouraging the better part of the man.

One of the great modern efforts to break up inebriety is by teaching to children in public schools the nature and effects of alcohol and the dangers from its use. This is a very important and significant advance toward the scientific study of the subject, and worthy of all encouragement. It is founded on the theory that ignorance and false teachings concerning inebriety are an active cause, the removal of which will largely do away with the evil. Unfortunately, the medical profession have not led in the education of the public concerning inebriety, but have followed, endorsing plans and measures for relief in a confused way. The Association for the Study of Inebriety, which has been over thirty years before the public urging the disease theory of inebriety, and its curability, is still largely unknown. Delusional theories of alcohol, based on mercenary and other interests, have been accepted as true by the public, and the medical profession, as a whole, are reluctant to change and admit errors of old-time theories and beliefs.

Alcohol in these later days has been studied with some degree of exactness, and the dense delusions which have prevailed concerning its action on the body are rapidly disappearing. A careful study of a large number of inebriates has brought out some facts which give an entirely different conception of inebriety and alcoholism, and the diseases which they represent. The term inebriety is used to describe the state of persons who are stupid or demented from alcohol, or other narcotic drugs.

Alcoholism, more accurately, refers to conditions which are specifically due to alcohol as an active or predisposing cause. It is not correct to call all persons alcoholics who use this drug to excess at times or continuously. Many cases when examined indicate that the use of alcohol is only accidental and by no means the cause. The following are examples:

A man jumped off a railroad train, suffering a severe shock by a fall on his head, and almost immediately he began to drink spirits to stupor. Another man, after a protracted illness from typhoid fever, drank constantly to great excess. Another person, after an exhausting period of overwork and mental excitement, began at once to drink spirits to excess. Innumerable instances of this class, dating from some profound change in the brain and organism, are marked by alcoholic excesses, and the use of alcohol is literally a symptom of some central lesion and not the disease itself. These persons were abstainers, or used alcohol in such moderotion as not to attract any attention.

and the sudden appearance of the alcoholic craze was a symptom of distress and pain demanding relief. Such persons are inebriates and not alcoholics. The true alcoholics, or subjects of alcoholism, are those who have been wine, spirit, and beer drinkers from early life, using it at the table with food, or as medicine for all pains and disorders.

The result of this use of spirits is alcoholism, either in paroxysms, with free intervals, or its continuous use without object or purpose. Thus persons in prosperous circles of life, who have used wine or beer with their food regularly from early life, and later take spirits as a medicine, or for any conditions real or imaginary, steadily increase the amount used, until intoxication [or continuous stupor follows, are alcoholics.

In the lower walks of life, where beer is used on the theory that it is a concentrated food, and where spirit-drinking is encouraged by the contagion of surroundings, faults of nutrition, and delusive theories of its value to both body and brain, alcoholism is the natural and inevitable termination. Many persons of both these classes are not stupidly intoxicated, or prominently disabled to perform their daily duties, but they are all more or less demented, with mental and physical incapacity to act normally.

Often in the alcoholic classes there are seen grave mental and physical defects, which have been intensified by the continuous use of alcohol from early life. In the families of the poor and degenerate, where the faults of environment and nutrition are prominent, the use of alcohol not only covers up these conditions, but makes the deviation from health greater, perverting growth and diminishing vitality. If to this is added defective heredity, the damage is intensified; and although the children may survive, and even reach middle life, they are defectives and degenerates, and of this alcohol is a very potent cause. The alcoholics of this country belonging to this class are largely foreigners, either the very rich or the very poor.

The rich are often imitators of customs in high life abroad, and adopt the use of wines at table to show their superior capacity for enjoyment, and continue to do so, unless they become disabled through sickness, poverty, or disease. If they are under strenuous mental and physical conditions, spirits are used to excess, and death from intercurrent disease is common. While the parents may continue to drink wines and spirits, without showing excess, the children born during this period, and brought up under these conditions, are practically alcoholics, having inherited a neurotic and alcoholic diathesis to use spirits for all forms of exhaustion. This diathesis and tendency are cultivated and increased through early life, and down into manhood, and end, in the vast majority of cases, in alcoholism and death. As an exception to the rule, certain children brought up to use spirits at meals in this country may continue moderate drinkers, and live an ordinary lifetime, but the vast majority become alcoholically diseased, and die in early or middle life.

Lower down in the circle the poor foreigner who comes here wedded to the use of beer daily, finds that its effects are more serious in this climate, and after a few years he is broken down, and dies from acute disease. His children may become abstainers, but usually develop into some form of degeneration which gives them a short life. The alcoholics from this circle of life furnish the large stock of criminals of the lowest type of tramps and paupers. From this stock the degenerates and defectives and the dangerous classes are largely recruited.

Fortunately persons of this class coming from the prosperous, and the very poor, who are literally alcoholics in the technical sense, are growing fewer and are early eliminated in the laws of survivals. The other or inebriate class comprises those who are physically and mentally crippled or poisoned and suffer from retarded developments, hereditary tendencies, and all degrees of paranoia. They are all that vast army of men and women, who, through neglect, overwork, and underwork, have precipitated and cultivated soils and conditions for the growth of spirit and drug diseases. They have what may be called a neurotic constitution, or neuropsychosis, with feeble powers of control, nerve instability and defective nutrition. Another term describing their condition is psychoneurasthenia; they are persons in whom brain and nerve failures are more prominent than any other defects.

Such persons have obsessions, impulsions, manias, phobias, states of morbid anxiety, with hesitating, uncertain control and conceptions of life. Forbes Winslow describes these persons as having hysterical brains and constitutions. Associated with this are varied nutritive disturbances and emotional exacerbations, heart irregularities, and acute and transient neuralgias. Another term is the deterioration type, or a class who are slowly or rapidly degenerating and growing feebler, persons in whom the power of resisting pain and discomfort is very feeble, and who are unable to adapt themselves to the changing conditions of environments. Remedies that are narcotic in their effects are most grateful, because they cover up the real conditions with a semblance of vigor and strength that is delusive to the mind.

The craze for alcohol, or any quieting narcotic, may appear at any time and they become inebriates. These persons cannot be called alcoholics, because the removal of this drug is not followed by restoration. On the contrary it often uncovers and brings to the surface other and more serious acute and chronic diseases. This is manifest in the large death rates from acute pneumonia or tuberculosis, noted in abstainers who have been drinkers. Serious functional heart disorders and local inflammation break out with or without cause at this time, and the general impression that the removal of alcohol has had some influence in the cause prevails. In reality, alcohol has only intensified the original degeneration and concealed the acute symptoms, and its use has been a symptom and not an active cause. There is undoubtedly a marked type of neurosis which develops into excessive spirit and drug taking, both with and without temptation. It may take on different forms, and does not always appear as a drug mania.

One symptom may be gormandizing, lack of self-control, and erratic credulity, combined with feeble judgment, low vitality, and physical-pain cowardice. In another, emotional extremes of great depression and exaltation from the most trifling causes. From moderate-drinking parents one son developed a maniacal dread of poverty, and spent his time amassing property and investing it in all sorts of ways to prevent loss. He starved his body, and finally drank alcohol the last two months of his life. The second son was a drug-taker from early life, using spirits and drugs alternately to avoid suffering and discomfort. Both were inebriates, and both had a constitution that was defective in balance and control. These defects were transmitted from their parents. A very large number of persons who suddenly begin the use of spirits in early and middle life suffer from

neurasthenic condition, with low vitality, and tendency to physical and mental exhaustion from the slightest strain. Often this debility is painful, provoking an intense desire for relief from every possible source.

This points to an inebriate constitution, which is very likely to develop into a mania for spirits and narcotics at any time. The removal of alcohol in these people is only a small part of the treatment and practically merely change the symptoms. The restoration must depend on the use of a great variety of restorative measures in exact surroundings. Many times this diathesis or peculiar defective organization is the result of conditions of life, hence the danger of treating exhausted and worn-out persons by giving alcohol or narcotics.

The use of these drugs focalizes and intensifies states of degeneration and organic changes from which recovery is impossible. The alcoholic is partially curable, and when the demand for alcohol and drugs is dispelled a prominent cause is removed. In the inebriate the suppression of this symptom is only turning the degeneracy into other directions and removing the narcotics which have covered it up. The intense egotism of reformed patients as to the finality of their cure is an indication of the delusive state of the brain. When this egotism is based on the effects of specific drugs or forms of treatment it is still stronger evidence of delusion. When the inebriate turns from one drug to another, or from one addiction or phobia to another, there is a progressive deterioration that cannot be mistaken. The alcoholic can be relieved temporarily by long abstinence, exact living in the best surroundings, but his restoration or cure in the sense of totally removing the causes is impossible. Abstinence from alcohol may be complete the rest of his life, owing to physiological change, but the defects of cell and brain circulation and metabolism of the body can never be fully restored. He is crippled and permanently incapacitated, although he may do much work along certain levels of sane normal life.

The inebriate, on the contrary, is often permanently restored, the defects of constitution, if acquired, may be remedied in a measure, and the particular conditions of exhaustion and feebleness which preceded the drink craze can be overcome. It is a question of determining to what extent the brain and body have sustained damage and injury, and of removing these states. The desire for spirits is easily overcome by increasing the vigor and correcting the disorders of the system.

This is not a matter of drugs alone, but is a question of the long use of means for nerve and brain rest. The very best statistics from the most reliable authorities show that over one-third of all inebriates who go under treatment and remain from four to ten months are permanently restored, and remain abstinent, living temperate lives for periods of fifteen or more years. This is the most hopeful indication, and shows how much can be accomplished by exact scientific study and the application of proper means and measures for relief and restoration of the body and brain.

Pneumonia.—Indications for treatment are relief of toxæmia, maintenance of circulation, and meeting complications. Toxæmia is best relieved by purging and sweating. The circulation is improved by vigorous cupping of the chest, by bleeding when the right heart becomes distended, by hypodermoclysis of salt solution, and strychnine hypodermatically in large doses. The mouth should be kept clean.—Delancey Rochester, *New York State Journal of Medicine.*

MINUS CYLINDERS.

By F. W. HIGGINS, M.D.
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My paper is modelled after a Scotch Covenanter's sermon. My text is: "And if the righteous scarcely be saved, where shall the ungodly and the sinner appear?" My firstly is the proposition that fitting a pair of glasses is a problem that requires all the skill which medical training can bring to it. My secondly shall be the conclusion that this problem is totally beyond the so-called graduate optician. As thirdly may appear the exhortation that we, as physicians, should give more attention to the symptoms of eye-strain.

The symptoms of eye-strain are multiple, and their origin in the eyes is often overlooked. About the eyes themselves it will be seen that the lids are red, the edges are crusted, or styes appear; the lids feel rough, as if there were sand or sticks in them; it is difficult to hold them open after reading a short time. The eyeballs ache. There is supraorbital pain or a pressure back of the eyes; letters on the page run together if one persists in using the eyes, and black spots dance about in the field of vision. All these local symptoms are easily referable to the eyes. But other symptoms at a distance may be added or be present when the patient gives none of these plainer evidences of eye-strain.

Pain in the occipital region is due to eye-strain in almost all cases. The feeling termed a pressure at the base of the brain, described in connection with neurasthenia is to be treated by glasses, not medicines. When patients call themselves nervous, and cannot put their bad feelings into words, the eyes are often the cause. Nervous dyspepsia and gastralgia demand an examination of the eyes before any other treatment. Chorea in young persons, and the various jerkings of the face and contortions of the body we call choreiform, can often be stopped by fitting proper glasses. While true epilepsy may not be cured by glasses, I have recently seen a marked case of relief in epileptiform convulsions. These symptoms of eye-strain, some of them manifest in the most distant parts of the body, must be met by every practitioner. They may be due to astigmatism, or want of muscular balance. They are often induced or made worse by badly fitting glasses. The mistake most often made is in putting on minus cylinders. In looking over my last five hundred refraction cases I have noticed eight whose symptoms had been greatly aggravated by trying to wear minus cylinders given by opticians.

Allow me to give some details: One case was that of a student twenty-four years old. She had nervous symptoms enough to occupy my whole paper. She came to me with the diagnosis of floating kidney, which I could not detect. Her abdomen was tense, her hands numb; she had hot feelings; her head felt heavy and dull. I found she was wearing minus cylinders—75 ax. 90. for each eye. She had esophoria of 15°. Here was evidently cause enough for her multifarious symptoms. Examination showed that she had a marked degree of mixed astigmatism accepting—75D. = +1.75 D. ax. 85. With this correction and gymnastic exercise for the internal recti muscles she was enabled to go on with her school work, her condition greatly improving from week to week.

Another patient with mixed astigmatism, who was wearing improperly fitted minus cylinders was a bank cashier, aged thirty-six years. For many years he had worn—4.00 D. cylinders with the rule. He had frequent attacks of migraine, and a constant bad feeling in the back of his head. The blood-ves-

sels in his temples stood out like whip-cords. By wearing the correct lenses he has been able to perform his exacting work with great relief.

A similar case was that of a typesetter, aged thirty-two. He could see at a distance with his minus cylinders, but everything blurred at close work. He also proved to have mixed astigmatism. His lenses were decentered in to assist his very weak interni muscles. He reported six months later that he could do his work comfortably.

One typical case was that of a farmer, aged thirty-five. He came to me wearing weak minus cylinders, fitted by an optician fifteen months before. They had made him see distinctly, but his eyes were bloodshot. His glasses were changed to weak plus cylinders against the rule, which entirely relieved him. I will pass over other similar cases to mention one only. This was a traveling salesman, aged forty-two. He had a heavy feeling over his eyes; his lids were red. He could not read long; he was nervous, and had frequent headaches, for which he was obliged to take acetanilid. At times his eyes would blur; he would become dizzy, and stagger in walking. One would suspect some cerebral affection. But he was wearing minus cylinders, and had esophoria. The weakest plus glass blurred his vision, but by argument, and explaining the reason for it, he finally began wearing the same strength cylinders, made plus instead of minus. Eight months later the symptoms were greatly mitigated; overwork was still possible, but he was comparatively happy.

It was easy to see how the mistake was made of requiring these people to wear minus cylinders. Astigmatism was present in all cases. Astigmatism is a greater curvature in one meridian of the cornea than in the meridian at right angles to it. The endeavor to produce a distinct retinal image with such a distorted corneal lens calls for excessive and unnatural action of the ciliary muscle which controls the accommodation of the crystalline lens. This often results in spasm and overaction of the ciliary muscle, and thus an increased curvature of the lens, and a transient or functional myopia. If now this apparent myopic astigmatism be corrected by minus cylinders, the overaction of this muscle must be kept up constantly in order to see plainly at all. Thus the eye-strain is aggravated rather than relieved by the glasses. In these cases the use of a mydriatic may be absolutely necessary in order to refract the eye properly. But opticians cannot use atropine in the eyes, even if they suspected its necessity.

Another condition which complicated almost all these cases in which the patients were in misery from trying to wear minus cylinders was the presence of esophoria. Esophoria is a tendency of the eyes to turn in. This overconvergence is to be expected with hyperopia or hyperopic astigmatism, and often disappears when corrected by convex lenses. Convergence and accommodation are such associated actions normally that the nerve centers for each come to act conjointly. So when one is called upon for excessive action the other acts excessively. Classes which would lessen the action of the ciliary muscle would also correct the overaction of the internal recti. But if there is already esophoria, wearing minus cylinders would call for increased action of the ciliary, this would produce a consensual stimulation of the convergence, and so the esophoria would be made worse and a vicious circle established.

When we begin to understand how complex is the problem of fitting the proper lenses in such cases we do not wonder that opticians fail. The surprising thing is that intelligent patients, and even physicians expect that they can succeed. The usual history is that the sufferer has gone back to some optician time after time to have his glasses changed. Finally, the optician becomes tired, and the wearer of the lenses desperate, and the patient appears in a doctor's office willing to pay a fee for examination of his eyes.

Is it not strange that it should not be deemed necessary for one to have a medical training before undertaking the treatment of the most delicate organ in the human body? But I suppose doctors are found in every place who tell their patients to go either to an oculist or to an optician and get their eyes fitted. One clever young physician of my acquaintance gives up his office two days in the month to a peripatetic optician.

The case would be bad enough were all the opticians as honest as some of those whom I know. But from the cheap glass-peddler to the so-called professor who puts up at the best hotel in the city for a few weeks, many of the opticians are out simply for the money there is in the business. Much harm results. Let me illustrate by one case of several I have seen. A stenographer had severe headaches after obtaining a fine position. Six months before I saw her she had consulted a "professor" who came to our city monthly for a few days. He had furnished her a pair of glasses at a price which precluded her getting another pair for some time. Her headaches grew worse. She was on the verge of giving up her position when I chanced to examine her eyes. I found she had one diopter of astigmatism with the rule, in each eye. Her glasses, which she was faithfully wearing, in the fond hope that they would cure her headaches were plain window glass. With the proper cylinders she did her work easily.

At times physicians also fail to give entire relief to symptoms of eye-strain, as I know to my sorrow. My contention is that if they succeed only moderately well, while recognizing the factors which complicate the problem, where shall the ungodly and the sinner appear who do not know, and sometimes do not care, for the conditions of success?

I have reserved to the last one case in order to illustrate the evil effects of wearing minus cylinders, and also the close connection which should subsist between fitting glasses and the rest of the practice of medicine. Mrs. M. was brought to me by Dr. Forshee of McGraw, on July 15 of last year. She had all the symptoms which each one of us have heard detailed by little nervous women. She could not sleep; she felt in a constant strain; her face was flushed. Three times recently she had fallen to the floor in an epileptiform condition, having also had lighter attacks. Together we searched for causes of her nervous breakdown. She had borne one child, and the uterus was tender and large. I suggested her eyes, but she had worn her present glasses eight years, and thought that they were all right. So she was treated for the uterus and by general measures for a short time, with but little relief. Her physician then insisted that she come back for a study of the eyes. It was found she had been wearing strong minus cylinders all these years, when her true correction was R + 1.00. D. cyl. ax. 90. L. + .25 = + .75 D. ax. 80. She is still under observation, but very greatly improved. Imagine how impossible it would have been to have restored her to household duties if she had continued wearing minus 1.25 D. cylinders! I am sure that I would have an attack of vertigo in one day by wearing that amount of improper lenses.

I conclude that to prescribe glasses properly requires a medical training, and that as physicians we all should recognize the symptoms of eye-strain.

GASTROSTOMY FOR STOPPAGE AT THE CARDIA.

By H. W. LINCOLN, M.D.,
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A PATIENT, Miss P., was referred to me by Dr. W. A. Little on March 10, 1904, with the following history: Age, forty-nine years; mother died of rheumatism; father of tuberculosis; one grandparent passed away of malignant disease of the stomach. This lady has complained since July, 1903, of progressive inability to get food into the stomach; vomiting of mucus, distention, constipation, dragging pains from the back. One to two years previously she had mucous discharges from the bowels. There is not and never has been any pain, either localized or general. There has been no blood vomited or passed by bowel. Loss of weight amounts to about fifteen pounds. The picture of emaciation would appear extreme but the patient has never weighed more than 110 pounds. Physical examination revealed a low position of the stomach and a freely movable right kidney, as might be imagined from the general appearance. The material brought up (not vomited) resembled that coming from an œsophageal pouch. The woman previous to coming under the care of Dr. Little had been treated at one of the large institutions in Manhattan, and a diagnosis of chronic gastric catarrh formed, after, as was reported, several test-meal examinations had been made. I tried three times to introduce the tube, but each time it met resistance seventeen inches from the incisor teeth. At the suggestion of the doctor we placed the patient in the Bushwick Central Hospital, and she was turned over to the service of Dr. Campbell. On March 16 Dr. Campbell made two *x*-ray exposures, at which I was present, and each time the bougie stopped about 16½ inches from the incisor teeth. The patient came to operation at 12.45 P.M. On March 18 she weighed eighty-five pounds and was, to say the least, on the verge of starvation. A gastrostomy was chosen, as a radical operation was deemed inadvisable on account of the extreme weakness of the subject.

The actual operation consumed about twenty minutes, and the patient was completely out of the ether at 3.30 P.M. Four ounces of warmed peptonized milk and one-half ounce of whiskey were introduced into the stomach immediately after operation, and nourishment has been kept up by that organ ever since. Rectal feeding was continued until March 25, when the canal became a bit irritable. At first feeding was done every four hours; at the present time and for the past two weeks nourishment has been given every three hours. A feeding consists of an ounce of whiskey, four ounces of milk, half a drachm of sodium bicarbonate, half an ounce of olive oil, the white of one egg, one ounce of water, and five minums of tincture of strophanthus. Strychnine sulphate, gr. $\frac{1}{30}$, was used the first three weeks, but latterly seemed to be somewhat disagreeable to the patient. She has also been taking iron since April 12. There has been no untoward symptom since the operation, save on April 5 and 10, when the stomach showed slight signs of irritability and there was a very minute quantity of bloody mucus regurgitated. Stoppage of the strychnine seemed to allay this.

There were two salient points of interest in this case: (1) the length of time elapsed with no pain nor tenderness—in fact, no complaint whatsoever except that the patient was gradually starving; (2) that a diagnosis of chronic gastric catarrh could have been made, and how test-meal examinations could have been reported. I might add that the bowels, formerly constipated, have been acting voluntarily practically since operation. The temperature never reached 101°.

From the date of presentation before the Brooklyn Medical Society, on April 15, 1904, until about May 1, everything went along smoothly, the patient getting into the fresh air, which seemed to act with wonderful tonic effect. At this time a change for the worse set in and progressed most rapidly until, on May 6, death put an end to the general malignant intoxication. I was fortunate enough to secure an autopsy, with the following result: The field at and near the cardia was infected to such an extent that it was impossible to remove the stomach and malignant growth intact. The œsophagus was involved for a distance of about two inches upward toward the pharynx. The lesser curvature was entirely covered anteriorly and posteriorly, while at the cardiac orifice there was a growth of characteristic hardness as large as a walnut. The pancreas was practically one carcinomatous mass. The liver was not involved; the lumbar lymphatics were studded with malignant nodules. The stomach was greatly atrophied, holding not over twelve ounces. The operative wound was clean and perfectly healed.

I venture to publish this history in view of the fact that from the beginning, nearly ten months ago, there had been no pain nor tenderness at any time.

113 HANCOCK STREET.

THE STOMACH REFLEX AND PERCUSSION OF THE STOMACH.

By ALBERT ABRAMS, A.M., M.D.,
SAN FRANCISCO.

THERE are numerous methods suggested for determining the size, shape, and position of the stomach, but unfortunately the methods that are simple are inexact and those that are relatively exact are complicated. As a rule, an accurate outline of the greater curvature of the stomach suffices in the majority of instances. We cannot attain our object by ordinary percussion, owing to the very pertinent fact that gastric tympany is not distinguishable from the percussion note of the surrounding intestine, notably the colon. The elicitation of the stomach reflex,* however, will obviate the foregoing difficulty. To evoke this reflex, we must first locate the half-moon-shaped space of Traube, which is bounded above and latterly by the contiguous borders of the liver, lung, and spleen. This space yields normally on percussion a tympanitic sound, owing to the presence of the cardiac end of the stomach. Even though the tympany in this area is absent, one may nevertheless proceed to evoke the stomach reflex. Next we firmly fix our pleximeter in this region and strike the latter a series of vigorous percussion blows with a percussion hammer and then proceed to percuss the exposed anterior surface of the stomach, which will now be found to yield a dull or tympanitically dull sound, and the dull area can, without difficulty, be distinguished from the contiguous atmosphere of tympany. The dulness of the gastric area subsequent to concussion after the technique described constitutes what the writer has called the "stomach reflex." The duration of the reflex in question varies from one-half to one and one-half minutes; it is therefore imperative to proceed with percussion for the purpose of defining the

* "The Intestinal and Stomach Reflexes," *Medicine*, January, 1904.

gastric area immediately after concussion is made in the Traube area. If, for any reason, the reflex is abolished before topographic percussion is completed, the reflex can again be elicited and the complete area of the stomach outlined. Percussion of the epigastrium by means of the hammer or fingers will abolish the reflex at once. If, for any reason, a pleximeter and hammer are not at our command, concussion of the Traube area may be executed with the flat surface of the fingers of the closed hand, although this manœuvre will be found less effective and agreeable.

The stomach reflex has been variously investigated by the writer with the gastrodiaphane and the Röntgen rays. Investigated according to the latter method, after the stomach is moderately distended by air, the stomach fundus is observed to recede fully an inch or more. The stomach reflex may be variously employed in diagnosis, as may be determined by reference to the writer's original contribution. Suffice it to say, at this time, that not only do we possess in the stomach reflex a simple means of defining the stomach but likewise of gauging the motor power of that organ. The latter may be gauged by the intensity of dulness incident to the concussion blow, which, however, should be uniform. It remains for the writer to explain the altered percussion sound in the stomach reflex.

We will concede that the stomach normally yields on percussion a tympanitic sound, the pitch of which necessarily varies. Thus, if the air or gas in the stomach is under considerable tension, pitch becomes higher, and the volume and intensity so decrease that percussion will yield a dull sound or dull tympanicity. Now in the stomach the tympanitic sound is caused by the periodic vibration of the air or gas within it. If, for any reason, the gastric walls are made tense, vibration is induced by percussion not only of the contained air or gas but also of the walls; the result will be that the vibration of the walls and gas become mutually disturbed and the conventional tympanitic tone is lost. This is the Skodaic interpretation of the condition which exists when dulness supplants tympanicity. We are constrained to assume that in the stomach reflex the walls have become tense, thus putting the air or gas in the stomach under increased tension, and for this reason we have the physical elements necessary for the transition of a tympanitic to a dull sound. We have reason to assume that in the stomach reflex the gastric walls are brought into a condition of contraction.

A New Method of Suicide.—A nurse at one of the Paris hospitals not long since tried a new way of committing suicide—namely, by swallowing two tubes of Eberth's pure culture of the typhoid bacillus. On the following day and the day after that she felt no inconvenience. On the third day she had some headache but no fever. On the sixth day she felt heavy and stupid and experienced great weakness in her legs, being obliged to take to her bed. On the seventh day her temperature was, in the morning, 37.6° C. and in the evening 38.6° C. On the eighth day she had two attacks of epistaxis and her temperature in the evening was 40.2° C. Several rose spots were also visible. On the tenth day serum reaction was positive. Otherwise the typhoid fever followed its normal course, but it was a very severe attack and the patient had in all 176 baths. The remarkable points of this case are the very short duration of the period of incubation—namely, only two days—and the rapid appearance of the rose spots, eight days after infection. M. Duflocq and Voisin, who reported the case, explained the very short duration of the incubation period by the large quantity of bacilli which were introduced at one time into the digestive tract.

Hypertrophied Rectal Valves and Their Treatment.—Wells Teachnor states that the one essential anatomic feature that distinguishes the rectum of man from other animals is that the mucous membrane is reduplicated into folds containing muscular fibers, blood-vessels, and nerves, constituting veritable valves, which partition the cavity of the gut into as many chambers as there are valves. They occur alike in the old and young and in the male and female. The average number is three. If the function of a normal rectal valve is beneficently to retard the descent of the fæces, it must be true that it may be the especial property of the valve in certain other normal conditions maliciously to obstruct the descent of the fæces. As to operation, the writer speaks of the clips devised by Pennington and somewhat modified by Gant. These clips cut out an elliptical piece from the free border of the valve, usually without pain and danger of hemorrhage, and should the peritoneum be opened —and there are no means of knowing when it is not involved in the valve—adhesions from plastic exudations are formed before infection takes place. The writer in conclusion says that the rectal valve is a permanent constituent of the rectum. These valves become hypertrophied and obstructive from an inflammatory condition produced either locally or by a constitutional dyscrasia. The benefit derived from operative procedure depends upon the proper selection of cases. Valve section will not relieve constipation. Operation is beneficial in selected cases.—*The Cincinnati Lancet-Clinic.*

The Diagnosis of Pernicious Anæmia.—T. Law Webb declares that it is necessary in any severe anæmia to ascertain by examination of the blood what changes it has undergone, so that we may definitely know which type of anæmia we have to deal with. This examination must include a count of the red cells, an estimation of the percentage of hæmoglobin, and a careful search over several stained films for megaloblasts. Most observers believe that Ehrlich is correct in saying that in pernicious anæmia the blood is megaloblastic and has a high color index. Exceptions to this rule are exceedingly rare. The writer describes a simple procedure for use at the bedside. After pricking the skin, he allows a 10 c.mm. pipette to fill itself with blood, then takes it out of its handle and drops it bodily into the tube of Pacini's fluid. This must be corked at once and shaken gently to and fro until the blood is diffused throughout the fluid. Next the Von Fleischl pipette is filled with blood, dipped into the wider tube containing the water, and moved quickly from side to side so as to mix its contents with the surrounding liquid. The tube must then be corked securely. Finally a few dried films are to be made, and the practitioner is then in possession of all that is necessary for a complete examination of the blood in a case of pernicious anæmia. The writer insists upon the use of the mechanical stage, combined with slight over-staining before any confident statement is made as to the presence or absence of megaloblasts. As to the exceptions suggested above, in certain anæmias due to worm-infections (with parasites such as bothriocephalus and ankylostomum, for instance), Ehrlich believes that the blood may exactly resemble that of pernicious anæmia. Good observers have recently found, however, that these anæmias are usually of the chlorotic type, having a low color index, and not showing megaloblasts. Moreover, in the few recorded cases in which the blood was truly megaloblastic, the color index was only moderately raised. In a few cancer cases the blood may conform to the type found in pernicious anæmia. But in the greater number of cases of malignant disease, the blood changes are of a type exactly opposite to those of pernicious anæmia. The writer has seen a case of Raynaud's disease in which the color index was high, but yet there were no megaloblasts or megalocytes, nor was there any poikilocytosis. Taking the whole examination together, there could be no mistake in diagnosis.—*The Birmingham Medical Review.*

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HEALTH CONDITIONS OF PANAMA.

THERE is still considerable difference of opinion as to whether Panama and neighborhood can be rendered sufficiently healthy for white men to live therein without serious risk. Some say that this can be brought about, while others assert that no precautionary measures will make of the Isthmus region a locality in which men of the white race can exist in even comparative safety, and that health stations must be selected in available situations to serve as safety valves. Of course it is notorious that the climate and sanitary conditions of the Panama district are at present peculiarly deadly to northern people, and it is doubtful if any improvements will materially change this state of affairs. At the same time it would seem reasonable to suppose that drainage and other obvious and energetic steps taken in this direction should have a beneficial effect upon the situation. Careful living, especially abstinence from alcohol, is a prime factor to be considered by the individual in the solution of the health problem in the projected canal zone.

Public Health Reports of August 5 contains the report of Assistant Surgeon Pierce from Panama for the period extending from January to July, 1904. During the six months of 1904 there occurred 541 deaths in a population of 20,000. American population 100, deaths, 4; rate per 1,000 per year, 80. Panaman population, 14,200, deaths, 360; rate per 1,000 per year, 50.70. West Indian population, 2,500, deaths, 50, rate per 1,000 per year, 40. Chinese population 1,200, deaths, 17; rate per 1,000 per year, 28.32. All others population, 2,000, deaths, 110; rate per 1,000 per year, 110.

A fact worthy of notice is that more deaths occur between the ages of thirty and forty than at any other ten-year period of life except that below ten years of age, which latter period includes the still births. Dr. Pierce thinks that the only explanation of this fact is that during this time, which should be the prime of life, acute diseases tend to terminate fatally, because of weak heart action and sluggish liver, due to the use of alcohol and tobacco in early life and long residence in a tropical climate.

It goes without saying that a death rate based upon so small a population of Americans as in Panama, most of whom have been living under similar sanitary conditions with the natives, has practically no bearing upon what the death rate would be for Americans on the Isthmus. The West Indian population is composed almost entirely of Jamaican negroes and includes many women and children.

The Chinese population is composed practically of adult males only, which accounts for the relatively low death rate among these Orientals, who live under worse sanitary conditions and more closely crowded than any other class in Panama.

Of the diseases reported nearly all the cases of "colic," to which affection many deaths were attributed, occurred in young children. This term includes nearly every gastrointestinal trouble of children. "Many of the cases reported as dropsy," says Dr. Pierce, "might be combined with those reported as liver disease, as there is a general tendency to hepatic troubles, due to use of alcohol, eating a great deal of meat, and the tropical climate. Those cases reported as dropsy in children and young adults were probably uncinariasis. No examination of fæces being made by the doctors here, hookworm disease is never reported, although it has been recognized on the Isthmus by the American doctors."

All fevers are practically of malarial origin, while typhoid is absent or rare. Many cases reported as pneumonia are believed to have been acute tuberculosis, due to the fact that the Spanish term used in a large number of cases could be translated as almost any disease of the lungs. Filarial diseases are present, but no deaths have ever been reported due to this cause. Probably here again the diagnosis has been incorrect, and some of the deaths attributed to albuminuria and abscess and maybe some of the fevers were owing to filarial affection. There were six deaths from yellow fever, four of which occurred in natives and two in Europeans.

The lesson to be learned from a consideration of the above facts would seem to be that competent well trained medical men are badly needed in the canal district. So long as inaccurate diagnoses are made it is impossible to publish with any degree of correctness proper records of the causes of death.

Another point which stands out prominently is that if a white man is to keep in good health on the Isthmus, he must be careful in his diet, especially in respect to alcohol, and live generally under those sanitary conditions which have been demonstrated as most applicable to tropical climates. Much can doubtless be done by thorough sanitation to improve the canal route from a health standpoint, but residents can do more to retain their health by pursuing a rational mode of life.

TREATMENT OF INTESTINAL AUTO-INTOXICATION.

PROFESSOR COMBE of Lausanne treats of this subject in the *Archives de Médecine des Enfants*. Referring to treatment, the writer thinks that the only rational mode of procedure is by diet. Nitrogenous food should be diminished, and the intestine filled with carbohydrates. Farinaceous food is mainly indicated, supplemented by milk. Milk has a strikingly antiputrescent effect in the bowel, an action which is also very markedly possessed by fresh cheese. Dr. Combe pins his faith to farinaceous foods. They are slowly absorbed, giving off lactic and succinic acids gradually. They should be given in large amounts, but in small and frequently repeated meals the following general rules for the diet are recommended: (1) Not to drink with meals; and not to eat when drinking. (2) To divide the nour-

ishment into numerous small meals, taking alternately a solid and liquid meal. (3) To rest lying down, either on the back or on the right side for an hour after each meal, but not to go to sleep. (4) To exclude from the diet all foods which are capable of acting as culture media for the proteolytic bacteria. (5) To avoid all meat that is "high" or apt to undergo fermentation. (6) If enteritis be present, to avoid all food which contains a large amount of cellulose. (7) In severe cases of autointoxication or enteritis, to give up meat entirely, and even milk at first. (8) To prefer, when possible, raw milk to boiled, and either to sterilized milk. (9) To take into the alimentary canal as much farinaceous food as possible.

It must be borne in mind that this diet is but a temporary and medicinal one, and that as soon as its effect has been produced, a fresh element should be added to it, such as pasteurized milk and blackberry juice, so as to avoid scurvy. The next object is to get rid of the products of putrefaction in the large intestine. With this end in view, the putrescible matters should be washed out of the top of the bowel by a thorough irrigation of the colon. Such irrigation serves the further office by means of partial absorption, of not only allaying the patient's thirst, but of producing a beneficial diuresis, and of washing out, as it were, the liver, the blood, and the kidneys. As a rule, nothing answers so well for the irrigations as sterile salt solution, but in some cases solutions of tannin, columba, or ichthyol and oxygenated water may be used. Boric acid is not to be recommended, as it may become absorbed, and to give rise to symptoms of poisoning. The aim now is to lessen the putrefaction of nitrogenous matters in the large intestine. An ordinary purgative, as castor oil, or a saline given alone, does not accomplish this result, merely stirring up the débris in the bowel and tending to aggravate the symptoms of autointoxication, and is found to be followed by an increase of the sulphoethers in the urine. A disinfectant dose of calomel, however ($\frac{1}{3}$, $\frac{3}{4}$, or $1\frac{1}{2}$ gms., according to the age of the patient), given twice at intervals of two hours, and followed by castor oil, has a distinctly beneficial effect. This should be repeated after ten days, and afterward, at longer intervals. The last measure to be taken is to favor the elimination of those poisons which have already found their way into the circulation. Irrigation of the bowel generally effects this purpose, but in severe cases, large subcutaneous injections of sterilized saline solution, may be used.

Prevention of Typhoid Fever.

Dr. William G. Daggett read a paper on this subject at the annual meeting of the Connecticut Medical Society, held on May 26, 1904. Dr. Daggett takes the view presented by Dr. John S. Fulton in the *Journal of the American Medical Association*, January 9, 1904, that typhoid fever is essentially a rural disease and that its propagation "is in general from the country to the town rather than from town to country." The writer thinks that in our present methods of fighting typhoid fever, there is not sufficient attention paid to prevention. In order to strike at the root of the matter, infection should not be awaited, but its occurrence should be anticipated. Dr. Daggett thinks that this can be done only by comprehensive rural sanitation. By such means an effective warfare can be waged against the pollution of water and milk, the two most prominent factors in the dissemination of typhoid fever, as well as that of garden produce.

The meal privy is pointed at as the original plague spot. This building is generally located wherever most convenient, and its situation is seldom or ever based upon sanitary considerations. It is cleaned or screened but rarely, and its vault is never disinfected. As a matter of ordinary precaution against the spreading of typhoid fever, it should be located very carefully, thoroughly screened so as to keep away flies, and should be disinfected daily whether or not there is sickness on the premises.

The author deems that the first step in the direction of reforms should be the formulation of the best practicable methods of keeping privy vaults in a good sanitary condition. The next, the appointment of a number of State sanitary inspectors whose duty should be to make a complete sanitary survey of the State, with power to condemn improperly located or improperly managed privies. They should exercise a general supervision over the sanitary condition of farm buildings generally, and endeavor to instruct those connected with the farm in the best methods of keeping the same free from the germs of infection.

Opium Smoking in New York.

A young lady artist, walking on Seventh Avenue in this city the other day, was attracted by some cups she saw in the grimy window of one of the Chinese curio shops which have sprung up here so numerously in the past year or two. She entered and asked to see some cups, but the Chinaman inside was strangely indifferent to the wants of his customer and could hardly be induced to show her anything but one or two broken bits of porcelain. During the time she was talking with the proprietor she noticed a rather well-dressed man come in and say a word in a low tone to a Chinaman in the rear of the shop. Instantly a door opened and she could see down a long dark corridor in which many hats were hanging. Feeling rather uncomfortable in the place, the young lady left the shop and the Chinaman called after her, with a smile, "You come back tomollow?"

This girl had wandered innocently into an opium "joint," the number of which in this city is increasing alarmingly. Not all of these places have smoking rooms attached, their trade being chiefly in opium pills which are bought by dissolute women and others who "hit the pipe" in their own rooms. The character of these places is notorious, but the police, for some reason best known to their superiors, put no obstacles in the way of business. The Government Opium Committee, which has made a thorough study of the opium habit and the opium trade in the Orient, is said to have recommended the issuing of a license to all inveterate smokers in the Philippines. Were such licenses issued in New York for a moderate fee, the income of the municipality would be very appreciably increased. The suppression of these dens is an undertaking in which the Commissioner of Health might legitimately join forces with his colleague the Police Commissioner.

Some Medical Lessons of the War.

Dr. Suzuki, surgeon-in-chief on Admiral Togo's flagship, has contributed to the *British Medical Journal* some notes on the present war. He advises that clean linen be worn during an action, to obviate the danger of shells or bullets carrying into the wounds pieces of clothing which, unless clean, are likely to set up septic infection. Dr.

Suzuki states that most of the wounds observed by him caused by shell fire were lacerated and larger than bullet wounds, and he therefore recommends the use of larger first-aid packages. He suggests that two operating rooms be provided for in different parts of every ship, but recognizes the fact that serious operations whenever possible should be performed on the hospital ships. He is of the opinion that that side of the ship which is firing, is more suitable for the disposal of the wounded than is one that is not firing, because fragments of bursting shells are dispersed in a radiating manner. Dr. Suzuki thinks that the time will come when all combatants will wear protecting masks and jackets.

News of the Week.

Washington Threatened with Typhoid Fever.—Some apprehension has been caused by a warning from the District Board of Health that there is danger of an epidemic of typhoid fever in the city. The source of danger is at Mount Savage, near Cumberland, Md. The town has an epidemic of typhoid fever, there being 120 cases, and the drainage is into a creek that empties into the Potomac. The returns for August show there were more than fifty more cases in the district during that month than in July. In the winter of 1899–1900 a severe outbreak of typhoid fever in Washington followed closely on an outbreak at Cumberland. The health authorities are urging the boiling of all water used for drinking or culinary purposes.

Yellow Fever in Texas.—A despatch from Austin says that the Texas State Health Department has been informed of the breaking out of yellow fever at the government military post at Brownsville, Texas. One death was reported last Saturday, and several cases are said to exist there. This is a good opportunity for a trial of the "safe and sane" method of dealing with a yellow-fever outbreak—the Havana method, for example, as instituted by Colonel Gorgas when health officer of the city.

Typhoid Fever in the Bronx.—A small epidemic of typhoid fever exists among the Italian laborers working on the Jerome Park reservoir. It began about three weeks ago, when twenty-five cases were found in one of the laborers' settlements in the Bedford Park section, and now it is estimated that there are over 200 cases. Fordham Hospital is filled, and many patients have been sent to the Harlem Hospital and to Bellevue. A temporary pavilion is being built on the grounds of the Fordham Hospital. There is apparently no danger of contamination of the city water supply, as the reservoir on which the Italians are working is only in process of construction, and will not be in use for a long time.

Sanitary Provisions Nullified by the Courts.—A justice of the Supreme Court in Brooklyn has recently delivered an opinion, which, if supported, will tend to obstruct the Board of Health in its efforts to preserve the purity of atmosphere so necessary to the health of city dwellers. In setting free a man who had been arrested for allowing black smoke to issue from the chimney of his molding mill, the justice said that "that part of the Sanitary Code, which forbids any owner, lessee, tenant, occupant, superintendent, manager, fireman, or any other person, where business is done in the city of New York, to cause, suffer, or allow smoke to escape from any such building, and makes it a crime so to do, is unreasonable, in restraint of trade, against public policy, and void."

The Society of Chemical Industry, an international association of chemists and analysts, will meet in this city on September 7, under the presidency of Mr. William H. Nichols, who succeeds Sir William Ramsay. After the close of the meeting a special train over the Pennsylvania Railroad will take the visitors on a tour of the principal manufacturing cities between here and St. Louis. Four days will be spent at the world's fair to give them an opportunity of attending the international congresses. On the return trip, after visiting Chicago, Detroit, and Buffalo, the party will disband in Boston.

Pan-American Medical Congress.—President Amador of the Republic of Panama has appointed the following officers of the Fourth Pan-American Medical Congress, to be held in Panama the first week in January, 1905: *President*, Dr. Julio Ycaza; *Vice-President*, Dr. Manuel Coroalles; *Secretary*, Dr. Jose E. Calvo; *Treasurer*, Dr. Pedro de Obarrio; *Committee on Organization*, Drs. J. W. Ross, J. Tomaselli, and M. Gasteazoro. There will be but four sections, to which the following officers were appointed: *Surgical Section*, Major Louis LaGarde, President; Dr. E. B. Harrick, Secretary. *Medical Section*, Dr. Moritz Stern, President; Dr. Daniel R. Oduber, Secretary. *Section on Hygiene*, Colonel W. C. Gorgas, President; Dr. Henry E. Carter, Secretary. *Section on Specialties*, Dr. W. P. Spratling, President; Dr. Charles A. Cooke, Secretary.

Dr. Kenneth W. Millican of this city, for the past six years associate editor of the *New York Medical Journal*, has resigned in order to take entire charge, including the editorship, of the *St. Louis Medical Review*. Dr. Millican is well fitted by long experience for the duties which he has assumed, and we can confidently predict for him success in his new undertaking.

Dr. William H. Welch of Johns Hopkins University has just completed a course of lectures on Infection and Immunity at San Francisco, it being the ninth course of the Lane lectures at the Cooper Medical College. A large attendance attested the appreciation of the lectures by the members of the profession in the city.

Dr. W. P. Dunbar of Hamburg has come to this country to take charge of a section of the German exhibit at St. Louis relating to hay-fever. He has, as is well-known, devised a method of treatment of the disease by an antiserum, obtained by injecting the poisonous albumin of certain kinds of pollen into horses. Dr. Dunbar is a native of St. Paul, Minn., but lives in Hamburg, being the head of the State Hygienic Institute in that city.

Dr. E. H. Bruns, House Surgeon at the Cincinnati Hospital, was one of two candidates who successfully finished the army examinations held at Fort Thomas, Newport, Ky., last week. Five of the seven candidates failed.

Library for Cooper Medical College.—Under a bequest made by Mrs. Pauline C. Lane, who was the wife of the late Dr. L. C. Lane, the Cooper Medical College of San Francisco is to receive a medical library which, it is claimed, will surpass any similar collection in the West. Work on the building has already begun.

The Oldest Living Graduate of the Missouri Medical College.—*A propos* of the statement recently made in an obituary notice, that Dr. William D. Spore of St. Louis was reputed to be the oldest living graduate of the Missouri Medical College, Dr. J. D. Collins of Covington, Ky., writes that he took his degree from the Missouri Medical College, then the medical department of Kemper College, in 1845. As Dr.

Spore was then only four years old, it is evident that Dr. Collins' graduation must have antedated his. Dr. Collins is now eighty years of age and is still in active practice.

The American Roentgen Ray Society will hold its fifth annual meeting at the Louisiana Building, 911 North Vandewater Avenue, St. Louis, on September 9, 10, 12, and 13, under the presidency of Dr. James B. Bullitt of Louisville, Ky. It has been arranged to have the sessions in the mornings only, the afternoons and evenings, as well as the intervening Sunday, will be reserved for general sight-seeing. The exhibit of apparatus will be held in the hall of the Louisiana Building. This will be especially important and interesting, giving the members an opportunity to inspect and familiarize themselves with the improvements and advancements of the past year. A Print Exhibit of much interest will be arranged in a room adjoining the exhibit hall. Arrangements have also been made for the exhibition of *x*-ray apparatus and the epidiascope in the German Section of the Educational Building at the World's Fair. A lantern, with competent operator, will be on hand and ready for use at any time. Those who desire to illustrate remarks need only bring the slides. The Grand Avenue Apartments, Grand Avenue and Morgan Street, will be the Official Headquarters. The secretary of the society is Dr. Russell H. Boggs, Empire Building, Pittsburg, Pa.

Smallpox in Illinois.—Dr. John E. Owens, chief surgeon of the Illinois Central Railroad, wrote the Secretary of the State Board of Health, Dr. Egan, under date of August 26, that there were cases of smallpox in houses opposite the Illinois Central Station at Centralia, and that his efforts to have the cases quarantined had failed. The railroad men threatened to quit work because of the incoming and outgoing of these people with smallpox. The Mayor of Centralia had failed to quarantine at his request. Dr. Egan immediately sent Dr. Baker to Centralia, who still remains on the ground until the disease is under control, and who will see to it that the cases are quarantined. There were sixty-eight cases of smallpox at East St. Louis during July, eight of which having terminated fatally.

Charges against a Hospital.—A complaint has been made to the State Board of Charities against the trustees and managers of the Sydenham Hospital at 339 East 116th street by four physicians who were formerly members of the medical staff, but who now ask that the charter be revoked. The complainants charge that they were made to pay for their appointments on the attending staff of the hospital a certain sum as a sort of initiation fee and a definite amount monthly. They also say that the institution has been conducted in "an unsanitary, unlawful, negligent, and improper manner." The managers deny the truth of these charges, and say that the members of the attending staff knew that the hospital was a charitable institution without endowment, and came in with the understanding that the money they contributed was to go toward the support of the hospital. One of the attending physicians who was dismissed has sued the chairman of the board of trustees for $50,000 damages.

Lectures on Hygiene at the New York School of Philanthropy.—The committee on philanthropic education of the New York Charity Organization Society has announced a partial list of the lectures and courses of the School of Philanthropy for the session of 1904-05. The school, opening on October 3, will continue in session until June 1, with holiday and spring vacations, and be followed by the summer school from June 19 to July 28. From the list of lectures published in *Charities* of August 27, we find thirty lectures devoted to hygiene, hospitals, and the prevention of disease, as follows: Silas F. Hallock, M. D., "The Use of Hospitals, Dispensaries, and Diet Kitchens," three lectures. Hermann M. Biggs, M.D., "The Scope and Function of the Board of Health," two lectures. William H. Allen, general agent, Association for Improving the Condition of the Poor, "Sanitary Aspects of Social Work," ten lectures. Miss Lilian Brandt, statistician, Committee on Prevention of Tuberculosis, "Social Factors in the Problem of Tuberculosis."

The Tri-State Medical Society of Alabama, Georgia, and Tennessee will hold its sixteenth annual meeting at Chattanooga on October, 12, 13, and 14, under the presidency of Dr. F. B. Sloan of Cowan, Tenn. Addresses will be made by Drs. William J. Mayo of Rochester, Minn., and A. J. Ochsner of Chicago. Information regarding the meeting may be obtained by addressing the secretary, Dr. Raymond Wallace, Loveman Building, Chattanooga, Tenn.

A Canteen Argument.—Two poor fellows of the Sandy Hook garrison have fallen victims to anti-canteen legislation in the army. They died from the effects of poisoning by wood alcohol, and the deaths are ascribed by officers at Fort Hancock to the abolishment of the post exchange. It is five miles of hot sandy road to Highland Beach, the nearest place where a drink can be had. Men who go that far for a drink will not be satisfied with one or two, but having so few chances, such is human nature, embrace the opportunity to get drunk. It was to allay the depression and thirst the morning after a visit to Highland Beach that these men drank some bay rum with fatal results. Both men bore good characters and had been in the service several terms of enlistment. Neither had been considered a heavy drinker before the post exchange was removed from the fort, four years ago.

International Amenities.—M. Waldeck-Rousseau, the French statesman, died recently of cancer. He was operated upon shortly before his death by Dr. Hans Kehr of Halberstadt, and the French medical journals are now asserting that his death was hastened by the operation and blaming the surgeon. Dr. Kehr replies to these attacks in the *Deutsche medizinische Wochenschrift* of August 25. He says the patient had absolutely no chance to recover without an operation, whereas an operation saves 34 per cent. of such cases. M. Waldeck-Rousseau, he says, had nothing to lose through the operation, since without it he had only a few weeks at most to live.

Dr. Robert Koch retires on October 1 from his post as director of the Institute for Infectious Diseases in Berlin. He will be succeeded by Dr. Gaffky of Giessen.

The California State Board of Pharmacy is undergoing a rigid investigation. Charges had been brought alleging misconduct, from official extravagance to partiality toward the students of one of the colleges.

A New Hospital at Orange.—The estate of the late Samuel F. Jayne and three adjoining lots in Orange, N. J., have been purchased by the rector of the church of Our Lady of Mount Carmel as a site for a new Catholic hospital. The building will face on Centre Street.

Dr. A. W. Dodd has been appointed District Physician in the First Ward, Cincinnati, to succeed Dr. Bateman resigned.

Bethesda Hospital Improvements.—The Bethesd a Hospital and Home for German Deaconesses, at Oak Street and Reading Road, Cincinnati, will be improved to the extent of $25,000. A chapel and additional sleeping apartments will be erected.

Suture of the Heart.—The patient on whom the operation of heart-suture was performed recently at Los Angeles died on the eighth day as a result of pericarditis. The wound in the wall of the heart was found to have made a perfect union.

Bacteriological Condition of Chicago Milk.—During the months of May and June, the laboratory of the Chicago Health Department devoted its attention especially to the bacteriological condition of milk, and the Bulletin of June 11 stated that "the directory reports that the laboratory has been making a thorough bacteriological examination of the milk supplied to the Chicago market, and finds that while the milk is usually up to standard as regards chemical constituents, the conditions from a bacteriological standpoint are not at all satisfactory. The average milk contains a far greater number of bacteria than is usually found in wholesome milk. The remedy of this condition lies not only in the careful handling of milk in the city, but also in the careful production and handling of milk according to sanitary regulations on the farm." The Department, therefore, immediately began an active effort to remove the cause, first, by prohibiting the sale of milk from cows that were fed on brewery slops or refuse from vinegar factories. Up to the present time the department has returned the milk to over one hundred shippers for this cause alone. They have been notified that they must either discontinue feeding "wet malt," or their milk will be returned or destroyed if shipped to Chicago. Of these hundred shippers, thirty have given affidavits to the effect that they have stopped feeding "wet malt" and will not do so again

Dr. Edmund J. James has accepted the Presidency of the University of Illinois. He was formerly President of Northwestern University. He will take charge of his new office November 1.

Rauch Park.—The late Dr. John H. Rauch was a wonderfully energetic and capable santitarian. For many years he was secretary of the Illinois State Board of Health, and it has been suggested that in selecting names for public parks for Chicago, his name be among those chosen, as he was said to be the father of the park system of that city.

Obituary Notes.—Dr. William Rice Pryor of this city died on August 25 in St. Vincent's Hospital, after a fortnight's illness, at the age of forty-six years. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1881. He was professor of gynecology in the Polyclinic, visiting gynecologist to St. Elizabeth's Hospital, and consulting gynecologist to St.Vincent's Hospital. He was a member of the American Medical Association, the New York Academy of Medicine, the American Gynecological Association, and the Southern Surgical and Gynecological Society. He wrote a "Textbook of American Gynecology," 1896, "Pelvic Inflammations," 1900, and a "Textbook of Gynecology," 1903. The funeral services were held in the Church of the Transfiguration on Sunday afternoon. The pall-bearers were Dr. Howard Kelly of Baltimore, and Drs. H. C. Coe, George T. Harrison, J. P. Tuttle, W. R. Townsend, and A. R. Robinson of New York.

Dr. Harriet E. Goodrich of Salem, Mass., died on August 23, at the Salem Hospital, as a result of head injuries received in falling from a street car. She was thirty-three years old and a graduate of Tufts Medical School in the class of 1900.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CONGRESS SEASON—ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, COMING MEETING—OXFORD ECHOES—MOSQUITOS AND COLORS—DEATHS OF SIR W. MITCHELL BANKS, SIR FREDERIC BATEMAN, DR. GILBART-SMITH, DR. G. HOLLOWAY, STAFF-SURGEON SCANLAN.

London, August 12, 1904.

We are in the full season of Congress and conferences. Two on sanitary matters have passed and but for the pressure of the Oxford meeting might have claimed more attention. The mother of these meetings, The British Association for the Advancement of Science, will soon be in session, and the Prime Minister will deliver the presidential address. This function has often given rise to prolonged press discussions, and the forthcoming meeting at Cambridge is not likely to lack in lively debate. Sir William Crookes said at one of these congresses that one member was in the habit of stating his views in the physical section, while other members stated exactly the opposite, and that each side, satisfied that their case could not be demolished, went away and let the matter rest for another year. Really this might be said of many another meeting of scientists, and—"take it not in Gath"—of doctors also. Among promised topics I may mention "World Weather" and the suggestion "that our meterological office should work with yours," "Heredity and Variation," "Housing of the Poor," and in the physiological section "Condition in Nerve Cells." A joint discussion of the zoological and botanical sections is to be held on the significance of the nuclear division of cells and the reduced number of chromosomes in relation to cancer. Radioactivity and the disintergration of atoms also offer scope for a renewal of controversy and a shoal of hypotheses.

British Medical items still occupy attention, especially of returned friends from Oxford. Some express pleasure with the sectional work and some, as usual, the reverse. One tells me his section was very poor—another pronounces his "stale, flat, and unprofitable." A third writes to me of the whole meeting, that it was "dull, uninteresting, and without focus." Yet another says of all the papers and discussions he heard none was above the average and several were under it. On the other hand, some speak and write of originality and value as characterizing their section. This is especially so with the tropical section, about which the majority are enthusiastic. The discussion in this section on trypanosomiasis was certainly the occasion of bringing out quite recent researches, and that on the Leishman-Donovan bodies was replete with still newer investigations. These two should have a special interest in America. So for that matter should the discussion on malaria, but in this there was little that your readers are not acquainted with

In the dermatological section Dr. Sequeira, who has charge of the Finsen light department at the London Hospital, opened a discussion on comparative value, new and older methods of the treatment. He considered *x*-rays and Finsen's method in lupus, rodent ulcer, epithelioma, etc., and pointed out the limitations of these plans as well as some indications for their employment. Dr. Hall-Edwards read a paper on *x*-ray dermatitis, and described what he had suffered personally from repeated demonstrations. The pain had been very acute, and his paper should be taken to heart by all who are working with these rays. It will be remembered that the injury they may cause has already been the subject of proceedings in our law courts. Dr. Whitfield opened a discussion on bacterial and other factors in the causation of skin diseases, a subject he illustrated by lantern slides.

Complaints have often been made as to the difficulty of inducing native races to adopt precautions against malaria, and West African sanitary authorities have asserted that Europeans do not take the mosquito theory seriously. Perhaps they think nothing will get rid of the pests, and so, considering their numbers, escape from a bite or two is impossible. Then there are discussions that the ordinary resident white man fails to appreciate. He smiles at the notion that mosquitos have taste in colors and hardly believes that the investigator who entered a tent in dark gray flannels was at once attacked, while another in white garments was avoided, or at least neglected. If white clothing is so obnoxious to mosquitos, why don't they let alone white faces, hands, etc.? The experiments in this direction are, however, interesting if not convincing. Boxes lined with various colored cloth were placed on the floor; mosquitos went into the blue in great numbers but fewer into other colors, and a sort of scale was established as follows: blue, dark red, brown, scarlet, black, slate, gray, olive, green, violet, leaf green, pearl, pale green, light blue, white,

and orange What artistic creatures these anopheles must be! Or did individuals display different tastes?

Profound regret was produced in Liverpool on Tuesday afternoon by the receipt of a telegram announcing the sudden death of her great surgeon, Sir William Mitchell Banks. He was spending his holidays on the Continent and died there from an attack of angina pectoris. He was born in 1842, educated at Edinburgh, where he took his M.D. with honors, gaining the university gold medal for an anatomical thesis. He was demonstrator of anatomy at the Glasgow University from 1865 to 1867, and then settled in Liverpool, where, as a surgeon and teacher, his reputation has ever since been growing. He devoted much time to the Royal Infirmary, to which he was surgeon, and to University College—now the Liverpool University—of which he was Emeritus Professor, and he took a leading part in the resuscitation of the medical school. He had been on the council of the Royal College of Surgeons and on the General Medical Council. You will not have forgotten his oration at the Medical Society of London (1892), nor his address on surgery at the Montreal meeting of the B. M. A. It was a treat to read any of his surgical contributions. He was knighted in 1899, and the same year received the honorary degree of LL.D. of the Edinburgh University. He was also a justice of the peace.

Sir Frederic Bateman, M.D., LL.D., of Norwich, died from a stroke of paralysis on Wednesday at the age of eighty years. His name will be familiar to you as the author of "Aphasia, or Loss of Speech and the Localization of the Faculty of Articulate Language," the essay which gained for him the Prix Alvarenga of the French Academy of Medicine in 1891. He was educated at Paris and University College, London. He took the French diploma of Officier de Santé in 1846. In 1849 he became M.R.C.S., Eng., and the next year M.D., Aberdeen. He was elected F.R.C.P. in 1870, his reputation having then been long established. He was physician for many years to the Norfolk and Norwich Hospital and on retirement elected consulting physician, besides which he was connected in the same capacity with most of the charities of the city and neighborhood. He was a fellow and laureate of the Paris Academy of Medicine and corresponding member of various foreign societies, especially those devoted to neurology. He was knighted in 1892 for his researches on aphasia. Besides his contributions to that subject, he also wrote "Darwinism Tested by Language," "The Idiot and His Place in Creation," and various articles in the journals, both English and French; some, too, in those of the United States.

Dr. Gilbart-Smith, F.R.C.P., physician to the London Hospital, died suddenly on the 3d inst., in his fifty-sixth year. He was on a bicycle ride with his son and two ladies, when he fell from his cycle and died almost immediately from heart failure. His son went to the nearest town, five miles, for assistance, leaving the two ladies with the corpse, and during his absence there was a heavy thunderstorm. The inquest was held on Friday; verdict heart failure, and the body was brought to London that evening. Dr. Gilbart-Smith was appointed assistant in 1878 and became full physician to the London Hospital in 1894. He was a T.C.D. graduate, M.B. 1869, and M.D. 1873. The Irish Medical Graduates' Association lose in him its president and the London Hospital a greatly respected teacher and students' friend and guide.

Dr. William George Holloway, surgeon to the Central Throat Hopsital, has died at the early age of forty-three years. He took first class in the Natural Science Tripos at Cambridge, 1883; M.B. 1888, and M.D. 1890. He had meantime studied at St. Mary's Hospital, where he was also a prizeman.

Henry Scanlan, M.B., staff surgeon, R. N., retired, died on the 31st ult., aged fifty-five years. He entered the navy in 1872 and became staff surgeon in 1884, when he went to the Soudan and earned the medal with clasp and the Khedive's bronze star. He was retired in 1885.

Capillary Pulsation in Urticarial Wheals.—George Carpenter writes that urticaria in early childhood is one of the most common ailments, but capillary pulsation in the wheals is a decidedly unusual feature. He describes the case of a small boy of two and one-half years, who suffered with marked urticaria of one day's duration. The wheals were large and prominent, and many of them were surmounted by a diffused and clear exudate. Some were capped by tense bullæ. Capillary pulsation was a prominent feature in the various lesions, and factitious urticaria was observed.—*The British Journal of Children's Diseases.*

OUR VIENNA LETTER.

(From Our Special Correspondent.)

PHARYNGEAL TUBERCULOSIS—CARDIAC ARRHYTHMIA IN CHILDHOOD—AN ACID-PROOF BACILLUS FOUND IN A PECULIAR DERMATOSIS—WEIGHT TREATMENT OF PELVIC ADHESIONS—THYROID EXTRACT IN CRETINISM—RETIREMENT OF PROF. VOGEL—MONUMENT TO KAHLER.

Vienna, August 6, 1904.

At a recent meeting of the Society for Internal Medicine and Pediatrics, Dr. Bela Schick demonstrated a case of pharyngeal tuberculosis in a boy of thirteen. The child, who had previously seemed perfectly healthy, was brought to the Escherich Clinic complaining of sore throat. Upon admittance an examination of the pharynx showed a yellowish-gray membrane, 1.5 cm. long and ¾ mm. wide, beginning at the root of the uvula and extending along the edge of the posterior pillar of the fauces on the right side. The membrane was very adherent and slightly raised above the level of the mucosa, which showed no reactionary reddening. Scattered over the posterior pharyngeal wall were found numerous small patches, some of which attained the size of a pin head. A smear taken from the membrane showed tubercle bacilli. The glands of the neck were much swollen and there was moreover, a distinct involvement of the apex of the left lung. The case was the more interesting, because a sister of the patient also showed symptoms of pharyngeal tuberculosis, so that a family predisposition toward tuberculous affections of the pharynx may be assumed.

Professor Escherich presented a case of idiopathic arrhythmia of the pulse in a child of nine years. The boy, who was admitted to the hospital suffering from diabetes insipidus, showed an irregularity of the heart's action which remained unchanged during the two weeks he spent at the hospital and manifested itself in the form of occasional intermittences, which were especially noticed when the pulse was infrequent, and disappeared when the pulse became rapid. The affection might easily be overlooked during a hasty examination. According to Escherich's experience, arrhythmia of the pulse is a very frequent occurrence in childhood, being in most cases a symptom of some morbid condition and disappearing with the cure of the disease.

Before the Budapest Royal Association of Physicians Prof. S. Rona reported on an acid-proof bacillus which he had found in a peculiar skin lesion. The patient, a driver, thirty-four years old, had suffered for a year from a most peculiar skin affection which took the form of a disseminated folliculitis, perifolliculitis, furuncles, and phlegmons, in connection with cutaneous suppuration. It was at first believed to be a staphylococcus infection; later, as suggested by the occupation of the patient, an infection with the bacillus mallei. Bacterial examinations, however, were negative. In the pus of a subcutaneous lesion great numbers of an acid-proof bacillus were found. Animal experiments for tubercle bacillus were negative, and the author assumed that the peculiar cutaneous affection was caused by this acid-proof bacillus. Morphologically and biochemically the organism strongly resembled the tubercle bacillus, and the histological changes corresponded with those found in tuberculosis.

Dr. Arthur Foges not long since read a paper on "Some New Methods of Gynecological Treatment" before the Vienna Association of Physicians. He said there was now a more conservative tendency in the treatment of inflammatory affections of the female genital apparatus, the main reason being that the radical removal of the adnexa was not an indifferent matter to the individual. In case of a collection of pus in the adnexa, their complete removal is probably indicated. On the other hand, the various forms of pelvic peritonitis which remain after acute inflammations of the genitalia (puerperal infection, ascending gonorrhœa, etc.), offer a fine opportunity for the employment of conservative therapeutic measures. The Thure-Brandt method of pelvic massage has for some time been used to stretch or separate such inflammatory adhesions, but it is surpassed in efficiency by the weight treatment. The chief indications for the use of this method are peritoneal adhesions in the small pelvis, following gonorrhœal, puerperal, or appendicular inflammations or operations. In many cases a marked subjective improvement was noticed after a few treatments, the weight in the vagina being gradually increased from one-half to one kilogram. The objective improvement did not keep pace with the relief experienced by the patient; in more than one-half the cases the adhesions were palpable in Douglas' cul-de-sac, even after repeated treatment, but these had wholly or in great part lost their tenderness. In retroversion and flexion of the uterus, complete replacement was impossible in seven out of eight cases, but subjective improvement was marked,

and any fresh disturbances were temporarily relieved by two to three repetitions of the treatment. The weight method also acts very well in cases of movable retroflexion, retroflexion of the gravid uterus, parametritis, for the stretching of painful cicatrices or cicatricial contractions of the vagina. In cases of chronic inflammation of the adnexa, the weight treatment must be cautiously employed, since it may set up an acute exacerbation; the slightest rise in temperature must serve as a warning to discontinue the treatment. In cases of chronic inflammatory swelling of the adnexa or the pelvic cellular tissues, abdominal weights in the form of sand or shot bags weighing one-and one-half to two kilograms are used in addition to the weights in the vagina. The speaker had had good results with Apostoli's method in five cases of endometritis and climacteric hemorrhages. The current must be turned on and off gradually; for an active intrauterine electrode the speaker used a platinum or aluminum sound, and for the inactive abdominal electrode he employed a piece of sheet zinc wrapped in a moist compress. In eight cases of marked prolapse in old patients who had refused operation, good results were obtained by the use of Rosenfeld's stem pessary.

The publication of Professor Wagner's experiments on the cure of cretinism has aroused widespread interest. Four years ago, at a session of the Health Board of Lower Austria, Professor Wagner advocated that this body request the Ministry of the Interior to conduct, officially, experiments on the treatment of cretinism with thyroid extract. The Chief Sanitary Council unanimously supported him and further steps were taken in the matter by the Board of Health. The experiments were very successful and lead us to hope that a cure of this endemic disease may eventually be found. Cretinism is very frequent in our Alpine provinces and occurs, though less frequently, in Switzerland, Savoy, and Piedmont. In the Pyrenees also we meet individuals who show all signs of a physical and mental degeneration. Thyroid extract is found to stimulate the dwarfed bodies to growth. Persons beyond the age when growth ceases normally began to gain in height; at the same time they lost fat, the pendulous abdomen disappeared, the cheeks seemed less puffed up; the goiter also underwent retrograde changes, proving that the degenerated thyroid gland changed into one with healthy functions. The mental effects which Wagner reports were phenomenal. Children treated by his method became more lively and active. They began to play, their curiosity and their imitative faculties were aroused. They showed an interest in the work and occupation of adults, they began to talk, their hearing improved, they learned to sing. A few of the little patients were enabled, by continued treatment, to attend school, and showed a certain desire to learn, while previously they had avoided all mental exertions. These are very important results, for the number of cretins in our Alpine provinces is estimated at 40,000. Even though Professor Wagner's treatment cannot make all of them healthy, it can certainly bring thousands back to a useful life.

Last month the well-known pharmacologist Professor Ritter von Vogel retired from his position in the university, owing to his advanced age. Numerous ovations were tendered him, and on the occasion of the farewel dinner the eminent scientist was presented with an artistic placque bearing his portrait and with an address setting forth the great services he had rendered to science.

On the same day another celebration took place at the Vienna University—the unveiling of a monument to Prof. Otto Kahler, who succeeded Dr. Bamberger at the university. Unfortunately, he worked here for but a short time, since a sad fate cut short his career and darkened his mind, the eminent physician and investigator dying insane in 1893. His foremost pupil, Dr. Kraus of Berlin, delivered the memorial address, and Professor Nothnagel spoke in heartfelt words of the achievements of the deceased.

The Relative Efficiency of Surgical Dressings.—McGregor and Ramsey have undertaken experiments to determine the relative absorbent power of surgical dressing materials. Their conclusions are: (1) The most suitable drainage material for the conveyance of fluids with iodide in suspension is dry boracic lint; cellulose wadding is almost as efficient, but more friable, unless enclosed in gauze; (2) The best covering materials for facilitating discharge from the distal end of the drain are cellulose wadding and gauze; the covering material should be sufficient to act as long as the drain; as the blocking of the drain takes place in four to eight hours, a more frequent dressing than usual is required.—*British Medical Journal.*

Progress of Medical Science.

Boston Medical and Surgical Journal, August 25, 1904.

The Practical Application of Hydrotherapeutic Measures.—Charles S. Millet advises us to keep in mind the facts that hydrotherapy has to do with sensation, excretion, and heat radiation, in order that we may find its application easy. By applying water to the skin at various degrees of temperature, and in various ways, we can, by reflex action, produce decided effects upon the mind, the central nervous system, and the internal organs. Whether to use hot water or cold in fever depends on the pulse; if it be of high tension, full in volume, and the skin hot, a cold bath will give the best results. The sponge bath may be used for slight febrile conditions; if severe, the tub bath is most useful, accompanied by friction and cold to the head. The temperature may be reduced gradually from 100° to 90° in ten minutes. This is excellent for children, but water should be used colder for adults. It is important to secure a good reaction after the bath. In melancholia or acute mania the patient may secure good sleep by the use of a hot bath, with a pail of cold water thrown suddenly over the shoulders while sitting in the tub. In kidney diseases the hot pack is most useful, followed in chronic cases by a short, quick, cold affusion and rubbing. In chlorosis, anæmia, chronic pulmonary, and organic heart diseases, perspiration should be first produced, and then a warm shower, followed by a cold shower given. Locally heat and cold act just as they do on the whole body. Ice is the best substitute for opium.

Journal of the American Medical Association, Aug. 27, 1904

Linear Nævi.—M. L. Heidingsfeld states that linear nævus is a dermatological affection, for the most part easily recognized as a type, *sui generis*, possessing an unmistakable identity. Great variations in clinical appearance, location, duration, development of secondary changes, have permitted an endless amount of unnecessary redundant nomenclature. It also possesses an exceedingly varied pathology. Great disparity in histological structure exists between lesions that are clinically similar; great disparity exists between lesions in close proximity from the same patient; a deceptive histological resemblance often exists between lesions of linear nævi and types of dermatological affections totally different in character. The affection aptly illustrates some foibles of present-day dermatology, namely, the tendency to individualize and thereby complicate, rather than generalize and thereby simplify single types in classification; and secondly, to give to dermatological pathology an inflated diagnostic rather than a mere confirmatory value.

A Case of Tetanus Treated by Subdural and Intraspinal Injections of Antitoxin.—C. W. Wille reports such a case. The points of interest to be noted are the short period of incubation, which was exactly five days; the extreme rapidity of the disease—forty-two hours—the marked involvement and apparent selection of the lumbar spinal and abdominal group of muscles, and the comparative freedom from involvement of the muscles of the limb through which the tetanus organisms and toxin made their entrance. The negative evidence deduced from this case would advise an early recourse to the use of antitoxin administered subcutaneously or along the sheath of the nerve trunk supplying the injured location as a preventive measure, or subdurally or intraspinally as a curative procedure.

A Case of Carbolic Acid Gangrene.—E. Dunster Kremers reports the case of a schoolboy, fifteen years old, who had always been strong and healthy. On July 4, 1904, he cut his little finger with a piece of glass, and because there had been a case of tetanus in the town the boy's sister, on the morning following the injury, applied a rag soaked in carbolic acid solution, three drops of the liquefied acid being added to fifty drops of water. Twenty-four hours later the rag was removed and the patient thought it was not strong enough and accordingly applied a stronger solution and the bandage was applied very tightly. The next morning the finger looked very white and was massaged. On July 8 the doctor was called, who ordered a wash of boracic acid, hoping to restore the circulation. On July 11 the finger was black and began to be tender. On July 13 the patient went to bed with evident fever. The finger was now entirely bluish black and had a well-marked line of demarcation about one-half an inch below the metacarpophalangeal joint. Above this there was a line of redness and swelling. Under chloroform anæsthesia the finger was amputated at the metacarpophalangeal joint. No pus was found and a healthy flap was secured. The wound healed by primary intention. Urine examination was negative. The strength of the solution used in this case was probably about 5 per cent. It was applied for

about twenty-four hours and caused no pain or discomfort. The tight constriction of the finger undoubtedly assisted in the production of the complete gangrene.

Medical News, August 27, 1904.

Need of More Accurate Knowledge in the Diagnosis and Treatment of Chronic Suppurative Otitis Media.—James F. McCaw believes that many die from intracranial complications in which chronic suppurative middle-ear disease is never recognized as the cause. The disease progresses insidiously, destroys the delicate structures of the middle-ear, invades the bony walls, impairing their nutrition, and ends in caries or necrosis. The symptoms often progress without much pain. The nose and nasopharynx should receive careful attention early in the disease. Then free drainage should be established, if necessary by enlarging the opening in the drum membrane. A perforation high up in the drum usually signifies necrosis of the ossicles, or involvement of the attic structures. Polypi and granulations should be removed, and cholesteatomatous changes or involvement of the mastoid call for radical operation at once.

Delirium from Nervous Shock.—Pearce Bailey gives clinical examples of the character of the symptoms, and the variations in their severity, which result from nervous shock in presumably normal persons. The mental symptoms are essentially delirious. They vary from slight and transient attacks of mental confusion to profound disturbances of consciousness with the physical symptoms entailed thereby. The outcome may be complete and perfect recovery, or recovery with defect, or the symptoms may become progressively worse and end fatally. When the result of injury, this psychosis may appear immediately or may succeed by a few days the unconsciousness due to the injury. In symptoms it can hardly be distinguished from delirium of other origin. Nervous shock, from sudden fright, grief, or remorse, and perhaps even joy, may be the determining source of such symptoms. Hysteria and neurasthenia are the neuroses in which emotional causes figure most prominently. In insanity emotional factors operate commonly in producing the attack. The pathology of delirium from nervous shock is entirely speculative; at the same time, in the cases that have ended in autopsy, there have been found evidences of disturbed circulation. Fright causes the blood to leave the surface of the body, there are then different effects, such as tachycardia, or slow pulse. A fall in blood presure follows the initial rise. Traumatic delirium is probably due to change in blood pressures.

New York Medical Journal, August 27, 1904.

Status Lymphaticus and Death Following Chloroform Anæsthesia.—Frederick A. Simmons, having noted the frequent incomplete reports of death due to chloroform anæsthesia, and references to the possibility of existing lymphoid diathesis in patients thus dying, reports a case which is particularly interesting, in that it presents a thorough investigation of a death from chloroform, such records being rare. At the time of death status lymphaticus was suggested as a possible cause, and it is interesting to note that literature upon this subject presents conditions closely allied to the autopsy findings of the case reported, the present definition of status lymphaticus being "a so-called constitutional disorder characterized by a persistence or hyperplasia of the thymus, and by general lymphadenoid hyperplasia, frequently associated with cardiac and arterial hypoplasia, and the osseous evidences of rachitis."

Multiple Sarcoma of the Subcutaneous Tissue, without Evidence of a Preceding Primary Growth.—T. Turner Thomas reports such a case occurring in a man eighty years old. In an analyses of 2,515 cases made by Picot, Williams, and Gurlt, to establish the initial seat of the disease, not one was shown to have begun in the subcutaneous tissue. In the history of the cases reported, there was nothing elicited pointing to any other than the first tumor which was noticed in the subcutaneous tissue. In the absence of evidence of primary tumor, the diagnosis is not always easy; such tumors may be mistaken for tuberculosis, syphilis, or other conditions not distinctly inflammatory. The advanced age of the patient was worthy of note, because sarcoma occurring in senile tissue is very rare. The tumors apparently did not begin and spread in the skin, nor did they originate in the hands and feet, and spread toward the trunk. In the case reported there was nothing suggesting eczema, erysipelas, or anything inflammatory, no ulceration, and nothing of the fungoid, or mushroom appearance. There were but few pigmented areas. Regarding treatment, little can be said. When primary sarcoma of the skin is seen early, it should be excised freely, but it should not be forgotten that excision of such tumors has been followed by a more malignant course of the disease. Suspiciously active moles should always be excised early.

Facts and Arguments for and against the Infectious Nature of Malignant New Growths.—Charles H. Richardson, after reviewing the history of the germ and the cell theories of cancer, and noting the results of observations and experiments of investigators, concludes that the various mentioned so-called parasites fail to make good in fulfilling the requirements of an infective agent; but, according to competent authorities, are changed or degenerated cells, not thoroughly classified. Contaminations could not be excluded in the few cases that showed any growth out of the vast number of cultures taken on every known media. The tumors produced by inoculation of blastomycetes show them to be only granulomata; blastomycetes can be cultivated from the air, and hence, contamination is always possible. In short, it is true that no one has so far been able to grow or demonstrate parasites in malignant growths. The facts and arguments are so overwhelmingly on the side of embryonic theory, that for the present at least, we shall have to believe that malignancy is due to an abnormal play of forces within the body of which we, as yet, know but little. He believes that time will show a reaction in the present movement of parasitism, and many of its strongest advocates will refute their theories and admit that their conclusions were reached without sufficient investigation.

Röntgen Rays in the Treatment of Tuberculosis of the Joints. J. Rudis-Jicinsky states that the *x*-ray will not only absolutely diagnosticate tuberculosis of the joints in the earliest stage, show the smallest tuberculous focus developing in the spongy tissue of the bone near the epiphysis, or any extension of the destructive process toward the surface of the joint, or perforation of the joint by the focus, or the inception of tuberculous synovitis, but will show the effusion by dark and marked shadows. He relates a number of typical cases in which he has had remarkable cures as the result of the *x*-ray treatment. He applies the proper support to the joint so that it will become ankylosed in about four months. In simple tuberculous synovitis he injects the joint only once with iodoform emulsion, formalin, and glycerin and exposes it immediately to the *x*-ray. In children, exposures were given daily for five minutes in the beginning, up to ten minutes later with a low vacuum tube; in older patients he employs a high vacuum tube, at a distance of from six to eight inches. This treatment does not prove successful in cases of tuberculosis of the hip-joint and spine. When we find albumin in the urine, a peculiar itching in the exposed joint, and profuse sweating of alkaline reaction, the ray must be stopped for a few days. Further investigation, more thorough technique, and standard doses should produce better and more uniform results in radiotherapy.

American Medicine, August, 27, 1904.

Torsio-hæmatocrit and Centrifuge.—Henry Emerson Wetherill describes an improvement on the hæmatocrit which renders it possible to determine more rapidly the amount of blood cells. The quantity of chemical precipitate can be determined in urine, milk, sputum, etc., and suspended solids can be determined quantitatively by means of it. The instrument is scientific, mechanical, and low priced, and the determination can be made at the bedside. The whirligig principle applied by jewelers in bow drilling is used in its construction. The speed is much greater than in the hæmatocrit. The double motion of the tube gives less precipitate on one side of the tube, as the corpuscles are thrown down in a zigzag course to the outer end of the tube. The author calls his instrument the torsio-hæmatocrit.

A Case of Large Fibromyxosarcoma of the Sacrum, Successfully Treated by Cataphoric Operations.—G. Betton Massey reports a case of large tumor of the sacrum in a woman of twenty-six, who had had two difficult labors, followed by a normal one. The tumor was the size of two fists, behind the rectum, and attached to the inner surface of the sacrum by a broad base. It was growing rapidly. The patient was anæsthetized and placed on a negative pad on a cot. An incision was made over the upper part of the coccyx and a sharp pointed zinc-mercury electrode was introduced and thrust through the healthy tissues about the coccyx into the tumor, so as to avoid injuring the sphincter ani. A current of 1600 milliampères was slowly turned on, which developed the ionized chemicals by electrolytic destruction of the anode, and dispersed them radially from the electrode, necrosing and sterilizing an increasing area of skin, subcutaneous tissue, and malignant growth. The current was used for three hours. The necrosed area covered three inches. Twenty-one days later, three of the bones of the coccyx and one-half of the tumor sloughed out of the opening. Another application of electricity caused the remainder of the tumor to come away. The recovery was slow, but resulted in the entire removal of the tumor, with a useful rectum and a very small sinus.

Treatment of Chronic Colitis.—Jesse Shoup includes all forms of colitis under one head, and applies the same treatment. Most cases of colitis occur in women, and are accompanied by gastroptosis, enteroptosis, or nephroptosis. The author believes that improperly prepared chyme entering the intestines, causes irritation, and inflammation, ending in chronic colitis. He supports the organs by a corset that is put on lying down, and laced from below up. He sums up the treatment as follows: (1) Treat the attack of pain which precedes the passage of mucus by a hypodermic of morphine and atropine, and promote thorough evacuation of the bowels by large doses of castor-oil by the mouth, and high enemas of oils or of alkaline solutions. (2) A carefully selected diet to suit the individual case, after a chemical examination of the stomach contents has been made. (3) Assist digestion and allay fermentation. (4) Keep the bowels open by means of oils by the mouth, which have the double office of laxative and lubricant. (5) Apply suitable support to overcome any ptosis of the abdominal organs. (6) Apply local treatment by means of astringent enemas and oils, and tropical application of the same when necessary. (7) See that the patient gets sufficient rest in the recumbent position, and when practical a change to the air of the mountains or seashore.

The Lancet, August 13, 1904.

The Value of the Addition of Citrate of Sodium to Cow's Milk in Infant Feeding.—F. J. Poynton, in his summary, states that the use of citrate of sodium offers certain advantages in that it renders the curd of cow's milk more easily digestible; that it is cheap; that it is convenient to handle, easy to control, and progressive in principle; that it allows the milk to be given in a more concentrated form, and thus avoids to some extent the dangers of underfeeding; that there is no danger of scurvy; that given as a medicine it gains the confidence of the mother. The indications are as a routine for weaning a healthy infant on to cow's milk, and for correcting milk dyspepsia. The drawback is a tendency to constipation, which is, however, easily controlled. The limitations are in rare cases of complete intolerance of cow's milk; in severe cases of gastroenteritis from impure milk; in organic disease, such as congenital hypertrophic stenosis; in very intractible cases which have been subjected to all sorts of different methods beforehand. This limitation needs more investigation. If he was asked for a routine method for the artificial feeding of the poor child he would say: First try citrate of sodium in the milk, provided the milk is sound.

"Interrupted Circulation" as a Therapeutic Agent.—William Ewart illustrates this by two cases of rheumatoid arthritis. He states that good effects have been derived from a continuous passive hyperæmia induced by slight compression of the veins above the part affected. The principle of treatment described has a wide range of application to the various tissues, including the extravascular tissues. The forces used are intensified by rapid alternations of capillary flushing, and of capillary emptying. The tourniquet is applied intermittently and sufficient pressure is used to close the arteries after draining the limb by elevation and stroking. The simpler view seems to be held that the emptied arteries suddenly receive a ramming charge when the tourniquet is removed, and that the internal surface of the capillaries, and of the lymphatic spaces in which they are immersed is subjected to sudden stimulation; whilst, on the other hand, during the preceding stage of ischæmia a certain amount of suction must have existed within them not only owing to the collapse of the elastic tissues, but also from the intravascular negative pressure set up by the procedure. The tendency would be for the emptied blood-vessels to suck up some of the remaining tissue lymph, or in case of inflammation some of the more fluid inflammatory exudates. In both the cases reported the synovial and lymphatic effusions appeared to have been benefited more largely than the periarticular fibrosis. The method was especially promising in the early stages, and in the exudative forms of rheumatoid arthitis.

Infective Cyclitis So-called Sympathetic Ophthalmia.—H. Percy Dunn emphasizes his belief in the possibility of infective cyclitis becoming an almost unknown disease, or of remaining in so modified a form as to cause but little anxiety either to the surgeon or the patient. By our acceptance of the infective theory, although it still lacks bacteriological confirmation, we are, nevertheless, placed in a position of knowing how successfully to avert and combat the disease, a disease which by its virulence in former days consigned so many hapless patients to absolute blindness. Possibly a specific organism of infective cyclitis may never be isolated, and the failure to isolate it may be explained by the incompleteness of bacteriological technique. The conjunctival sac may be described as the dumping-ground of the host of microorganisms which are met with in the human body. Apart from those which it receives from without, it is well supplied by cultivations from the nose and lacrymal sac, not to mention the possibility of another source of supply as furnished by disease of the neighboring bones and inflammation of their sinuses. In view of the conjunctival sac forming so favorable a medium for the cultivation of such complexity of microorganisms, and the impossibility of sterilizing it, the wonder is not that a disease of the nature of infective cyclitis should occur, but that any intraocular wound or operation should escape septic contamination. The probability is that the best course to pursue is to rely more on the mechanical removal of the microorganisms than on any attempt to insure complete sterilization of the conjunctival sac; it is, then, for this reason that after each step in any intraocular operations the wound is thoroughly douched with a 1 to 4000 solution of chinosol.

The Lancet, August 20, 1904.

The Medical Treatment of Deep-seated Hemorrhage.—Francis Hare reports five consecutive cases of hæmoptysis occurring in four patients which were stopped instantaneously by the administration of amyl nitrite inhalations. Hemorrhage depends essentially upon the existence of a certain blood pressure in the bleeding area, and the indication for medical treatment consists in reducing this localized blood pressure, and this might be achieved by promoting vasoconstriction of the arterioles supplying the bleeding area, or by promoting fall of blood pressure through widespread vasodilation in other areas. It is to the latter that he directs his attention.

A Case of Intestinal Obstruction after Gastroenterostomy.—H. M. W. Gray reports the case of an unmarried woman, thirty-one years of age, upon whom a posterior rectocolic gastroenterostomy had been performed, sutures alone being used. Seven days later intestinal obstruction was diagnosed and operation performed. It was found that practically the whole of the small intestine had insinuated itself from left to right through the ring formed at the first operation by the peritoneum of the under layer of the mesocolon, that lining the posterior wall of the abdomen and forming the upper layer of the mesentery, and completed anteriorly by the gastrojejunal junction. It was easily pulled back and the ring closed by suturing the under layer of the mesocolon to the upper layer of the mesentery to prevent recurrence of the hernia. There was enormous distension of the colon with gas. It was found to be quite patent down to the rectum. It was punctured by a trocar and cannula and the gas liberated. He could find no record in the literature on gastroenterostomy of such a post-operative condition.

The Respiratory and Cardiac Reflex Induced by Peripheral Impressions on the Pudic Nerve During Anæsthesia.—Alexander Wilson refers to Macewen's statement regarding the familiar spasm of the glottis produced during anæsthesia by forcible dilatation of the sphincter ani irritation on the parts supplied by the pudic nerve, and says that this spasm is part of an expulsive effort. The causes which give rise to it are of a kind which in normal circumstances tend to initiate expulsive efforts, and chief among these is any sudden increase in the intraabdominal pressure, as from distension of the bladder or rectum, etc. During narcosis normal stimuli conveyed to the nerve centers by a distended bladder or rectum or abnormal stimulation by forcible dilatation of the sphincter ani or irritation of the pudic nerve result in an expulsive effort. The completeness of this effort depends upon the degree of narcosis. It is interesting to note that forcible dilatation of the sphincter ani has been suggested as a remedy in chloroform accidents, the object being to stimulate respiration; it is questionable if at any stage of narcosis other than a very slight one this almost involuntary inspiration could be elicted by dilatation of the sphincter ani.

Electrocution on the Railway; Dangers of the Live Rail.—Thomas Oliver says that it is quite apparent from the number of accidents which have already taken place that a sufficient protection is not afforded the public against the dangers of the electric traction. For the distribution of electricity into town two kinds of currents are employed, the continuous, which at high tension causes burns and considerable disorganization of tissues and which, when severe, nearly always causes death, and the alternating which causes less severe burns while the destruction of the tissues is both less severe and not so diffuse. He refers to the experimental evidence that has been published during the past few years and then considers the voltage required to kill, regarding which opinions differ. As Professor Fleming states, "You may stand on a live rail or even sit or lie on it. . . . There is no danger so long as you are entirely on the rail. If you could be absolutely insulated from the earth there is probably no pressure of current that

would do you any harm. The danger comes when one part of you, especially a bare part, such as the hand or face, touches the live rail and some other part is in contact with the earth. That is where the 'live' rail constitutes so grave a danger." The manner in which this rail should be protected is a matter for electrical and railway engineers. After removing the victims of electrical shock from contacts artificial respiration should at once be resorted to and maintained for a considerable period of time. In addition Cunningham recommends transfusion of defibrinated blood.

British Medical Journal, August 20, 1904.

"First Aid" in Civil Life in the Tropics, as Illustrated by Indian Experience.—T. H Hendley uses the words "first aid" in their fullest sense, as including some instruction in the elements of sanitation, hygiene, and the prevention of accidents and disease. In so large a country as India, where there are so few well-instructed physicians that the natives are often from thirteen to twenty miles from any physician, and where they are themselves so ignorant of hygiene and physiology, it often happens that great suffering and even death result in cases of injury and disease that are capable of prevention by the layman. The author advocates, and has to some extent been able to secure, the education in "first aid" of government officials, police and constabulary officers, and even of the more intelligent class of natives. He believes, also, that the instruction of the young in schools is of the first importance. Volunteer women, as well as men, can also be trained. He advocates giving such a moderate amount of instruction as can be easily and safely acquired by persons of ordinary intelligence. Instruction in ordinary cleanliness is of the first importance in surgical cases. During the twenty-five years of the author's service he was able to instruct the public vaccinators, who in the summer acted as dressers in the hospitals, thus learning simple surgical methods, as well as the need of the trained assistance of a physician as soon as practicable. "First aid" in the treatment of domestic animals was found of great service in gaining the confidence of the natives. A simple manual was also arranged, with illustrations suitable to the country. A good deal of valuable training has been accomplished among the police, railway employees, and among youths in institutions of learning. Even slight knowledge is better than none at all, and although there may be mistakes, the risk of injury is slight.

Deutsche medizinische Wochenschrift, August 11, 1904.

Diagnosis of Typhoid Fever.—Kurt Walter, as the result of extensive trials of all the adopted methods, in military medicine particularly, concludes that the agglutination phenomena form an efficient aid to diagnosis, but must be applied with caution and cannot be considered as a substitute for the direct demonstration of the typhoid bacilli. Among the macroscopical methods, that proposed by Ficker is the most reliable in ordinary practice, but for scientific results, the microscopical procedures must still be applied. Ficker's method, however, affords a ready means of making use of the advantages of the agglutination phenomena for diagnostic purposes, without resorting to bacteriological laboratories.

Diabetes Insipidus Treated with Strychnine Injections.—B Leick reports an instance of the development of this disease in a man of forty-nine, previously in good health, after a fall which was accompanied by severe shock to the central nervous system. Other methods of treatment being without results, the author guided by the experience of Feilchenfeld in a similar case, began the injection of strychnine nitrate, in doses of from .0025 to 0.005 gm. daily for twenty days. The urine decreased in amount from 8000 c.c. Symptoms of intoxication by the drug prohibited its further use for a time, but the urine continued to decrease in amount down to 2400 c.c The other symptoms also improved, and at the end of four weeks the patient was practically cured, the urine being about 2000 c.c. in amount. The specific gravity, however, remained the same, 1005, throughout the treatment The author offers no explanation of the action of the remedy in this disease.

Treatment of Chronic Urethritis.—H. Lohnstein comments on the value of gradual dilatation in treating old urethral strictures, and describes an instrument devised by himself by means of which is not only the stretching of the stricture accomplished, but the urethral follicles are also emptied. The instrument consists of a metallic catheter, provided at one end with two windows through which can be made to project blunt currettes. The angle of the latter to the tube can be regulated by a screw arrangement at the distal end of the instrument. The writer claims that by this means every section of the urethra may be reached, and not only the follicles emptied, but proliferations on the surface of the mucosa removed, and constricting bands dilated. The method of application is like that used in the case of the ordinary dilators, but the effect is secured by a sort of rocking motion after the currettes are expanded. It was used in twenty-six cases with great success.

The Present Status of the Neuron Theory.—A. Bethe believes that recent research has shown that the neuron theory as first advanced, is no longer tenable. Certain facts may now be entirely denied and well marked doubts may be brought forward against the others. It is claimed that the neuron cannot be considered a cell unit, because later findings in development and histology, and also the demonstration of autogenous regeneration, show that at least the axis cylinders of the peripheral nerves are of multicellular origin. It is probable that in addition to the neuron complexes, there are other nerve elements, genetically independent of the former. In every nerve plexus, as found both in vertebrate and invertebrate animals, the cells are connected together by well marked anastomoses. In the central nervous system of the snails and crustaceans, fibrillary connections between the individual neurons can be demonstrated with certainty. In vertebrates such connections are not definitely proved, but sufficient evidence is at hand to make it quite certain that they are present. The author claims in conclusion that the neurons do not represent trophic units, much less functional ones. The name may, however, be retained and applied to the complex of ganglion cells, dendrites, and cylinder process. This term, however, should be limited to the idea of a teaching scheme and nothing more.

Berliner klinische Wochenschrift, July 25, 1904.

Progressive Inoculation from a Chimpanzee Infected with Syphilis.—O. Lasser published an account several months ago of a successful inoculation of a chimpanzee with syphilis and now presents a further communication in which he claims to have succeeded in inoculating a second member of this species from the first. The eruption was in the form of a generalized papular syphilide. A number of excellent pictures are submitted. The animal died shortly afterward of miliary tuberculosis and then the existence of the papules could be verified post mortem. Lasser believes that this experiment demonstrated conclusively that infection of the higher apes is possible, and that this animal may serve as a "test object" for the syphilitic virus and also permit of the production of a specific serum.

The Hæmolytic Action of Sublimate.—Detre and Sellei claim, as the result of their experiments, that corrosive sublimate acts as a poison to the red blood cells and, in a definite concentration, produces hæmolysis. Strong solutions fix the red cells, weak solutions dissolved them only partially or not at all. The degree of hæmolysis is dependent upon the time of action and the temperature. The blood serum protects the red cells depending on the amount present. The protective action disappears only when the temperature of the serum reaches 80° C., and the resulting coagulation does not afford any protection. Treatment with ether or alcohol detroys the protective power of the serum, but this faculty is then transferred to the ether. The authors conclude that the statement that the hæmolytic action of the sublimate on living protoplasm is brought about by the presence of lecithin.

Berliner klinische Wochenschrift, August 8, 1904.

Polymyositis in Measles.—Jessen reports a case of interest, in which a woman of thirty-two, who was taken ill with measles, developed on the sixteenth day a condition which was diagnosed as articular and muscular rheumatism, but later defined as an acute polymyositis. This was accompanied by a severe dermatitis. The patient made a very slow recovery. Such cases are rare and the etiology in this instance is of interest—no other cause could be assigned aside from the measles. Aside from instituting diaphoresis, the only remedy which had any effect was a 10 per cent. ichthargan ointment.

Treatment of Rhinoscleroma.—Begrow thinks that among the methods for treating this condition, decortication is preferable to excision, either partial or whole. The principal lesion in these cases is a hyperplasia of the dermal glands and connective tissue, and the removal of this hypertrophied tissue can be accomplished by simply shaving off the superabundant material with a razor. The finger may be held in the nostril and all irregular elevation trimmed away. In a case which the writer reports this was done under cocaine, and on the second day after operation bits of new epidermis could be detected which had proliferated from the remnants of the glands. The cosmetic result was excellent.

Belladonna Poisoning in Ophthalmic Practice. J. Fefler calls attention to the risks attending the administration of belladonna and that special care must be given to the mode

of administration and the dosage. In one case which he reports, toxic symptoms followed the taking of a powder in which belladonna was one of the ingredients. In this instance it was found that the powder was not thoroughly mixed and the belladonna was unequally distributed, showing the necessity for prescribing in divided doses instead of in bulk. Paralysis of the ocular muscles came on, however, before any other symptoms were noted. In another case temporary blindness, lasting five days, followed the administration of a similar powder, the daily dose averaging about 0.09 gm.

Münchener medizinsche Wochenschrift, August, 9, 1904.

Pressure in the Auricles in the Presence of Valvular Defects.—A. Horner has made a series of measurements in both healthy and ill persons which are based on the suggestions of Frey and Gärtner, that the pressure in the right auricle may be gauged by the height to which it is necessary to raise the arm in order to empty the veins. Observation in a number of cases of mitral insufficiency and stenosis showed that the auricular pressure in most instances did not exceed that of the normal heart, or only to a very slight degree. For this reason it would not be wise to exclude cardiac disease, even where the veins are emptied at a normal height.

Cardiac Disturbances in Scarlatina and Their Consequences.—Schmaltz states that less attention is given to the cardiac complications of scarlet fever than to those of diphtheria, because the severe conditions met with in the latter case are seldom attendant upon the former. The writer, in a material comprising 191 cases, has observed, however, that abnormal circulatory conditions were present in 35 per cent. These were accompanied in most instances by comparatively slight subjective symptoms—mostly palpitation and dyspnœa of a moderate degree. It was noted, moreover, that these symptoms depended in no manner on the severity of the original disease, the milder cases seemed to be the most often afflicted. Comparative observations disclosed the fact that cardiac complications following scarlatina lead to permanent disturbances more frequently than those attendant upon diphtheria. Of the cases reported, thirteen came to autopsy, and in only one of these could any disease of the endocardium on the valves be demonstrated. In another series of thirty-three cases, recent valvular changes were noted in only three instances. There is no doubt, therefore, that the clinical signs which are observed during the period of convalescence in scarlatina, are in the large majority of cases due to a myocarditis rather than to an endocarditis. The latter fact has been confirmed by Romberg on microscopical examination. The writer desires to call attention to the necessity of watching scarlet-fever patients carefully during the stage of convalescence, and the best therapeutic measure, in his estimation, is continued rest with the addition of an ice-bag over the cardiac region when the heart action becomes tumultuous. From the use of digitalis he had little results.

French and Italian Journals.

Experimental Tuberculosis of the Salivary Glands.—P. L. Fiorani has made experiments on dogs as to the possibility of infecting the salivary glands with human tuberculosis. The infection might occur by way of the lymphatics, the blood or the excretory ducts of the gland. There are two forms of salivary tuberculosis, a diffuse and a confluent infection; the latter is the most frequent. The author concludes as follows: (1) The normal salivary gland, even when the duct has been obliterated, is with difficulty attacked by the tubercle bacillus. (2) When the conditions are altered from the normal by traumatism, the gland is easily attacked. (3) When the conditions are thus altered, it is easy to produce the infection by inoculating the germs by way of the excretory duct. (4) This form of infection gives localized deposits in the glands. (5) It is always circumscribed. (6) Macroscopically and microscopically it corresponds to the lesion found in man.—*La Riforma Medica*, July 27, 1904.

Generalized Peritonitis of Appendicular Origin.—L. Bérard declares that in the majority of cases of acute appendicitis medical treatment should be instituted before any other. The numerous successes due to it are not contested by the modern physician or surgeon. Nevertheless, there are certain forms or rather certain phases of acute appendicits in which surgical intervention is necessary. Too often patients are first seen when the peritoneum is already widely infected. Operation offers the only hope. This chance is slight, it is true, but should be offered to the patient, regardless of statistics. In every case of appendicitis, however slight, which has been followed from the beginning, and has been rationally treated by means of ice, suitable diet and repose, if on the second or third day, the symptoms, both local and general, have not clearly subsided, the case ought to be referred to a surgeon for his opinion as to operation. For although useless operations have been performed, nevertheless, cases may often be saved by surgical intervention which otherwise would be left to die with peritonitis.—*Le Bulletin Médical*, August 3, 1904.

Papillomatous Tumor of the Larynx in a Man of Sixty Years; Operation, Recurrence, and Death.—Duret and Lavrand report this case. The patient first complained of trouble in swallowing. Operation was advised on account of the fact that the patient could not obtain sufficient nourishment on account of the pain in swallowing. The tumor, also, appeared to be clearly limited to the larynx without any extra laryngeal invasion. The tumor, therefore, was removed. It was pediculated. Its surface was very irregular and papillomatous at certain points. In other places, it was slightly ulcerated. Even with the naked eye, the epitheliomatous character of the mass could be discerned, in spite of the benign appearance of the tumor at first sight. Microscopical examination showed stratified pavement epithelium. In the section near the pedicle, were seen vessels filled with blood, though as a whole, the tumor was only slightly vascular. The patient recovered, but some weeks later, a laryngoscopical examination showed a recurrence, although absolutely no symptoms, either local or functional had yet appeared. The general condition was excellent. Ulceration of the growth advanced, and the patient finally died. There had never been any dyspnœa in the history of the case.—*Journal des Siences Médicales de Lille*, July 30, 1904.

The Toxic Effect of Intestinal Worms.—L. Jammes and H. Mandoul have studied this question, about which there has been so much controversy, and have come to the following conclusions concerning it: The exceptional production of disorders in the hosts of common intestinal worms, and the innocuous liquids extracted from the bodies of these worms, tend to demonstrate that the morbid manifestations observed in the hosts, cannot be related to the habitually toxic properties of the secretions of the worms. It seems more rational to believe that the disorders produced by these worms, are due essentially to mechanical causes. These are sufficient to explain the phenomena which have been observed. The irritation caused by the action of the worms on the intestinal mucosa, is the starting point of various disorders: the symptomatology of these disorders does not differ at all from that of ordinary digestive troubles. These disorders will vary with the conditions present, such as the number, seat, mode of nutrition and so on, of the parasite, as well as with the degree of sensitiveness of the host. To these purely mechanical effects, there may be added, in relation to the ascaris, the action of the volatile substance, the irritating effect of which, on the mucous membranes of various parts of the body, has often been noted. This substance may also have some effect on the intestinal mucosa, but even if this is true, it is hardly worth mentioning. Intestinal worms ought not to be considered as the absolute cause of troubles which are sometimes coincident with their presence, but as agents acting indirectly in certain conditions as the occasional cause of various morbid manifestations.—*Le Bulletin Médical*, July 6, 1904.

Non-tuberculous Meningitis, of Prolonged Duration, Cured by Lumbar Puncture.—M. Moukhtar reviews the history of a boy of fifteen years, who was admitted to the medical clinic of Bard with symptoms of meningitis. Lumbar puncture revealed polynuclears only. On the third day there developed in the patient, quite suddenly, a right hemiplegia with complete motor aphasia. The aphasia commenced to disappear three days later, and six days after its appearance the patient spoke as he formerly did. As to the paralysis, improvement was very marked during the first five days, but the patient was decidedly weak on his right side throughout his entire illness. Babinski's sign was very clear. On the eighth and fourteenth days, lumbar puncture was again practised, and the polymorphonuclears were seen both times in great abundance. Cultures remained sterile. Since that time there have been periods of remission and exacerbation. The remissions lasted from three to five days, during which time the patient felt very well, in spite of the persistent fever. Again, the phenomena of meningitis would reappear without any apparent cause, the pulse would become irregular, and the patient would sometimes fall into a state of profound coma. It was at this time that lumbar puncture was practised, and it was repeated twelve times. The effect was very favorable. The patient appears to be cured. There remains only a slight weakness of the right hand and leg. Bard calls attention to the value of lumbar puncture in relation to the diagnosis and treatment of these affections, for in the present case the symptoms were as characteristic of tuberculous meningitis as of septic meningitis, but the results of lumbar puncture have pointed to the presence of septic meningitis.—*Le Bulletin Médical*, July 30, 1904.

Book Reviews.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; one-time Clinical Professor of Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Medical Dispensary of the Jefferson Medical College Hospital; Member of the Staff of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. March 1, 1904. Surgery of the Head, Neck, and Thorax—Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia, and Influenza—The Disease of Children—Laryngology and Rhinology—Otology. Philadelphia: Lea Brothers & Co., 1904.

The publishers claim for this quarterly that it now equals as a conspectus of medical progress the German Jahrbücher. In some features it might be said that the claim is too modest. American works of the kind have at times the advantage of working practicability. Too much space is not devoted to pure strict science to make the work prosy to the practical worker seeking aid. The serial under consideration has established a reputation on its careful selection of sub or department editors who appreciated the needs of the American subscriber. Condensation, cutting out of all burdensome matter in scientific and clinical reports, and giving what appears to the department head the essentials for the largest number of readers has been the evident aim. The present issue has the usual chapters reviewing the progress for the quarter in the different branches with comments of the editors. As a useful and accurate review we can recommend it.

Diseases of the Intestines and Peritoneum. By Prof. D. H. Nothnagel. Edited with Additions by H. D. Rolleston, M.D., F.R.C.P. Translated by A. Stengel, M.D. Philadelphia, New York, and London: W. B. Saunders & Co., 1904.

The author of this work having such world-wide fame, especially in this field of medicine, his book hardly requires any commendation. The reader will find it full of useful information.

Nothnagel does not think much of the value of intestinal antiseptics. None of the so-called intestinal antiseptics, he says, really deserves that name. There is only one means of securing anything like intestinal antisepsis, and that is a thorough emptying of the bowels. To this end calomel ranks first in effectiveness. Not only is it a powerful purgative, but it has the additional advantage that all, or nearly all, bacteria removed with the calomel stools are completely destroyed within twenty-four hours. Change of diet is another valuable means of modifying the intestinal flow and the chemical processes in the bowels as well.

Nothnagel recommends the use of opium in appendicitis. By forbidding opium, both the patient and the medical attendant are deprived of the best means of combating the disease. The chief objection, viz., that the drug masks the symptoms, is unimportant, he thinks, in comparison with its actual value, particularly if the case is carefully watched.

Tuberculosis and Acute General Miliary Tuberculosis. By Dr. G. Cornet of Berlin. Edited with additions, by Walter B. James, M.D., Professor of the Practice of Medicine in the College of Physicians and Surgeons (Columbia University), New York. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

It is a pleasure to peruse a volume so satisfactory and so well balanced as the one before us. The author has been ably seconded by the editor, who without interfering with the original text has brought it fully up to date (the volume is one of the series of Nothnagel's "Practice," issued several years ago) and has added much that is of value to American readers. Among these additions are sections on the relation of bovine to human tuberculosis, artificial immunity, the chemistry of the tubercle bacillus, and a list of sanatoria in the United States and Canada.

The first portion of the book treats of the etiology, the tubercle bacillus, its histology, its mode of invasion, the factors in infection, and the significance of heredity and predisposition. The second part gives the lesions, symptoms, course, diagnosis, and complications, together with the prophylaxis and treatment. Over a hundred pages are allotted to the concluding section, dealing with acute miliary tuberculosis.

The work is not simply a compilation, but represents the weighed knowledge of an expert who has thoroughly considered his material, discarding much that is currently accepted and pointing out errors in the usual statistics.

The translation is excellent and runs very smoothly, making the subject-matter easily understood and grasped with a minimum of effort.

A Manual of Fever Nursing By Reynold Webb Wilcox, M.A., M.D., LL.D., Professor of Medicine in the New York Post-Graduate Medical School and Hospital; Consulting Physician to the Nassau Hospital; Visiting Physician to St. Mark's Hospital; Fellow of the American Academy of Medicine; Member of the American Therapeutic Society, etc. Illustrated. 236 pages. Philadelphia: P. Blakiston's Son & Co., 1904.

This little volume consists of a series of lectures delivered originally to the nurses at St. Mark's Hospital. The author employs simple language throughout, thus making the work adapted to less advanced students and nurses as well as to practitioners. The first portion of the book treats of fever in general, its causes, varieties, symptoms, and treatment; embracing also diet lists, beverages, quarantine, and disinfection. Full details are given regarding the preparation of the sick room, and many hints for the comfort of the patient are added.

The second half of the work takes up the fevers as special diseases, describes their usual symptoms and the complications of each, and a graphic temperature chart is given to let the attendant know the normal course, an unusual deviation from which might necessitate a report from nurse to doctor.

The advice given accords in general with the usual treatment of to-day and can be considered trustworthy and reliable.

Diseases of the Intestines. By Dr. I. Boas; Specialist for Gastrointestinal Diseases in Berlin. Second Revised and Enlarged American Edition. Translated by Permission from the German Edition with Special Notations and Additions. By Seymour Basch, M.D., New York City. With forty-eight illustrations. New York and London: D. Appleton & Company, 1904.

The second edition appearing so soon after the first speaks well for the popularity and need of works of this kind. Although the text follows very closely that of its predecessor, we note a few additions which bring the work up to date and make it more complete. By far the most important of these is the new chapter on dysentery, in which the author takes up the most recent investigations regarding the etiology of the various forms and gives statistics which have a bearing on the results of the newer methods of treatment. The other two additions consist in a chapter on actinomycosis and on syphilis of the intestines, which are interesting, although the affections are of unusual occurrence.

The work can be recommended as an exposition of the views of one who speaks from personal experience and whose clinical observations have been extensive.

A Textbook of Mechanotherapy. (Massage and Medical Gymnastics.) Prepared for the Use of Medical Students, Trained Nurses, and Medical Gymnasts. By Axel V. Grafstrom, B.Sc., M.D., Late Lieutenant in the Royal Swedish Army; Late House Physician City Hospital, New York; Attending Physician to the Gustavus Adolphus Orphanage, Jamestown, N. Y. Second Edition. Revised and Enlarged. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

The present edition has been rewritten entirely as well as being very much enlarged. There are two new chapters—one on Massage of the Eye, Ear, Nose, and Throat, and the other on Pelvic Massage. The book is intended for students, trained nurses, and medical gymnasts, and as a reference book for the general practitioner. It well fulfils its purpose.

Practical Materia Medica for Nurses, with an Appendix Containing Poisons and Their Antidotes, with Poison Emergencies, Mineral Waters, Weights and Measures, Dose List, and a Glossary of the Terms Used in Materia Medica and Therapeutics. By Emily A. M. Stoney, Graduate of the Training School for Nurses, Lawrence, Mass.; late Head Nurse, Mercy Hospital Chicago, Ill.; late Superintendent of Training School for Nurses, Carney Hospital, South Boston, Mass.; Author of "Practical Points in Nursing." Second Edition. Thoroughly Revised. Philadelphia, New York, and London: W. B. Saunders & Company, 1904.

This well-known work now appears in its second edition. The entire text has been very carefully revised, and may be depended upon for accuracy. The style is clear and definite. New drugs, which have been proved to be of real therapeutic value, are considered with their preparations, uses, and doses. There is much valuable matter to be found in the appendix, such as Poison Emergencies, Dose Lists, Weights and Measures, etc., as well as a glossary of the terms used in materia medica. The first edition has proved of great value to the nursing profession, and the present volume will undoubtedly be even more useful.

Society Reports.

AMERICAN PEDIATRIC SOCIETY.

Sixteenth Annual Meeting at Detroit, Michigan, May 30 and 31 and June 1.

AUGUSTUS CAILLÉ, M.D., PRESIDENT, IN THE CHAIR.
(Special Report to the MEDICAL RECORD).

Monday, May 30—First Day.

Intussusception; Cure by Sloughing of the Intussusceptum.—Dr. IRVING M. SNOW of Buffalo reported this case, occurring in a baby, seven months old, with illness of sixteen days, with symptoms simulating ileocolitis on the sixteenth day and protrusion of a gangrenous intestine from the anus. The removal of six inches of necrotic intestine hanging outside the sphincter was followed by recovery. Dr. Snow also gave the abstract of four similar cases.

Influence of Laboratory Feeding on Infants with Diseases of the Gastroenteric Tract, with Special Reference to the Weight Index.—Dr. MAYNARD LADD of Boston presented this communication. The influence of laboratory feeding was studied in 216 infants with diseases of the gastrointestinal tract, the great majority of which were cases of fermental diarrhœa and ileocolitis. The acute cases were ill on the average of seventeen days and the chronic cases 3.2 months before they were brought to the clinic for treatment. They were treated for lengths of time varying from one to thirty-one weeks. As an aid in comparing the influence of the feeding upon infants of different ages and stages of development, the nutrition of each infant at the beginning and the end of treatment was judged by the estimation of its weight development. This was calculated from the *weight index*, which was simply the ratio of the weight of a given infant to the weight of the average normal infant of the same age. Judged by this standard, over 50 per cent. of the cases had a weight development of only 40 to 70 per cent. when first seen. In giving results of the treatment, the series was divided into four groups:

1. Infants which maintained or increased their weight index while on laboratory milk and entirely recovered from the acute gastric and intestinal symptoms for which they were brought to the clinic. This group comprised 109 cases, or 50.4 per cent. The group as a whole gained 8 per cent. in weight index, or a maximum average gain per week of 156 grams from the lowest weight reached during treatment.

2. Infants which showed a loss in weight indices and yet recovered from the acute gastric and intestinal symptoms and showed material gains in weight. This group includes fifty-eight cases, or 26.8 per cent. The maximum gain per week from the lowest weight reached was 94 grams. This was not sufficient to maintain the weight indices the average loss of which was 3.4 per cent. This group received treatment on the average for only 5.9 weeks as compared with 8.5 weeks in group 1.

3. Infants which, for the most part, recovered from the acute gastric and intestinal symptoms while under treatment but whose weight was not materially increased. This group includes thirty-seven cases, or 17.2 per cent. The average length of treatment was 3.7 weeks, the loss in weight index 7.2 per cent. and the average loss in weight from the lowest point reached was 6.5 grams per week. Eleven cases in this group were "not improved" while under treatment. Of these eight could not be traced and some of them might have died.

4. The fatal cases. These were twelve in number, making a mortality of 5.6 per cent. in the series of 216 cases, the results of which were known at the time the treatment was stopped.

Disturbances from High Fat Percentage in Infant Feeding.—Dr. L. E. HOLT of New York said that he was convinced that many physicians and nurses greatly erred in respect to the fat in feeding by the percentage meth d, with at times most serious results. This was particularly so when they selected a very rich or Jersey milk with 5 per cent. or 5.5 per cent. fat, because the average milk looked so blue and poor; they used this as they would have employed an ordinary 4 per cent. fat milk. Therefore, instead of giving in the formula a 3.5 or 4 per cent. fat, as they intended, the fat had often been 5 per cent., 6 per cent., or even higher. The object of the paper was to record some of the results seen when such high fats had been added. In the first cases reported the following points were noted: The suddenness and severity of the disturbances; the convulsions, tetany, and laryngismus stridulus; the very large liver; the stools consisting of almost pure fat; the cessation of the nervous symptoms on reduction of the fat and their return one week later, the fat meanwhile having been put back to nearly previous strength. The points that were noted in the second case were as follows: Development of slight rickets, as shown by late dentition and craniotabes; the return of convulsions one week after the first ones occurred, the fat meanwhile having been increased to nearly full strength; the bowels were constipated unless magnesia was given. With increasing experience Dr. Holt said he was using less fat and higher proteids, especially in those cases in which there was much derangement of digestion.

Dr. CHARLES G. KERLEY of New York said that he could not get the same results as Dr. Ladd, and he gave a smaller amount until the fever was normal and the activity of the bowels had ceased and the stools were practically normal, then he gave a weak formula and never over ½ per cent. fat and 4 or 5 sugar. In the Infant's Asylum in New York he said they were unable to get milk containing more than 2 per cent. fat to children under six months of age; these children were less susceptible to intestinal derangements, they thrived better in every respect on a low fat milk.

Dr. ROWLAND G. FREEMAN of New York said the most important thing in the paper was the working out of the weight index, and he asked if it would not be better to substitute for the weight index measurements of the length; if a child weighed five pounds at birth and measured seventeen inches in length he thought the weight index should be corrected for that child. Regarding high fats, he said that much ignorance existed as to what was high fats and what was cream; in the books cream was ordered; and mothers or nurses added cream to the milk regardless of the fact that it might be a centrifugal cream of 40 per cent. instead of the usual 16 per cent. fat.

Dr. FLOYD M. CRANDALL of New York thought that the general practitioner should have in mind what Dr. Holt said regarding constipation and the ingestion of fats; it was a very important point.

Dr. J. LOVETT MORSE of Boston corroborated all that had been said regarding high fat. Eczema was often due to too high fat. Another sign he had not heard mentioned was the ammoniacal urine, which would cease when the fats were reduced.

Dr. THOMAS M. ROTCH of Boston believed that the study of fats should be more extensively carried out than it had been; the intelligent use of fats was to be advocated. Some babies had constipation and some had diarrhœa as the result of high fat. A baby may have a perfect fat digestion and yet become weaker and develop serious nervous symptoms.

Dr. B. K. RACHFORD of Cincinnati asked what was the cause of the nervous conditions which developed from too high fat feeding; was it an autointoxication?

Dr. L. E. La FETRA of New York said that in his experience babies born prematurely, weighing 4, 5, or 6 pounds, would increase in weight more rapidly than others, and at the end of one year would weigh three times the birth weight.

Dr. J. E. Winters of New York said that these disturbances referred to were not due to percentages but to too frequent feedings. Constipation was not due to the high fat so much as to the excess of food beyond what any child should take.

Dr. A. Jacobi of New York said that he had been writing and speaking on this subject for forty or fifty years and yet he was not prepared to enlighten them regarding it. In nearly all these cases indican would be found and that denoted intoxication. It had been stated that little babies would tolerate fat and the older ones would not, but that was not so because little babies would not tolerate fat at all. With regard to the constipation, the cause lay in the insufficiency of the muscular layers. These babies were fat, rotund, and weighed much, but it was only fat and no muscle. Regarding the amount of fat, he believed that they would thrive on milk with a little over 2 per cent. fat.

Dr. Ladd, in answer to Dr. Freeman, said that he had not taken any measurements at all, his paper referring to weights and not to lengths.

Dr. Holt said there were two kinds of cases, one in which the milk must be stopped at once for a short time, the other in which it must be stopped for a long time. He thought it was a mistake in the summer diarrhœas of children to keep them too long from milk. In the first class of cases, in which there might be an acute intoxication, they must be kept off the milk until they are almost well. This was a different class of cases from those in which there was simply an intestinal indigestion due to dysenteric organisms.

Congenital Hypertrophic Stenosis of the Pylorus in an Infant.—Dr. John Dorning of New York read this paper. The child was born March 23, 1903, after a natural labor, of healthy parents. Weighed at birth 8½ pounds. The diet was breast milk exclusively. Child vomited after nursing. The mother never noticed mucus in the vomit and the milk was always returned fluid. The baby seemed to be able to retain water; it would frequently sleep twelve hours, and never awoke more than once during the night, and seemed always to be sleepy. The bowels moved several times a day, always yellow in color and digested. The baby grew long, the face was plump and body not thin, but the arms and legs were always very emaciated. The above history was obtained from the mother. On May 24 Dr. Dorning saw the baby, and he found a pale, extremely emaciated, very weak, and listless infant. The abdomen was somewhat distended, but soft, tympanitic, and not tender on pressure. A small mass could be found in the epigastric region, just to the right of the median line. On June 7 the baby became unconscious while nursing and died two hours later. Autopsy was performed on June 8. The stomach was distended, the pylorus thickened and hard, and the duodenum one inch beyond the pylorus was deeply congested. The gastric mucous membrane was pale and showed no ulceration. The wall of the stomach presented a decided thickening toward the pylorus. Dr. Dorning said there were now on record about sixty cases of this condition. A study of the literature led one to infer that there were either two distinct pathological conditions with similar clinical manifestations, one amenable to dietetic management, the other fatal, unless relieved by operation, or that there were simply varying grades of one and the same lesion. The diagnostic symptoms of hypertrophic stenosis of the pylorus are persistent and apparently causeless vomiting, progressive wasting, and a palpable pylorus. The absence of bile in the vomitus would ordinarily indicate an obstruction to be above the entrance of the common bile duct; its presence, however, would not exclude pyloric stenosis. In cases of moderate stenosis, in which muscular spasm is, perhaps, a prominent factor, the gastric symptoms, though sometimes rather pronounced, are generally not very urgent in character, and improve and even seem to subside under dietetic treatment. The presence of a palpable tumor in the region of the pylorus in conjunction with the previously mentioned symptoms, established the diagnosis beyond a reasonable doubt. As it was not always possible to detect, with palpating fingers, small masses in the upper abdominal zone, its absence did not altogether negative the diagnosis. When the patient's condition would warrant it, an examination under anæsthesia might disclose the presence of a thickened pylorus, not otherwise to be detected. The symptoms of congenital pyloric stenosis were practically those of pyloric obstruction, and other lesions were so rare in infancy that when symptoms of pyloric obstruction were in evidence this condition should at least be strongly suspected. Every case was not necessarily immediately fatal. Some children lived to a more or less advanced age, suffering all the time more or less marked dyspeptic symptoms.

A Cure of Chronic Nephritis Following Renal Decapsulation.—Dr. Augustus Caillé of New York reported the case of a girl, four and a half years old, suffering from chronic nephritis. The urine was scanty and dark, containing albumin, casts, renal elements, blood, and pus. The eyes were puffy and the abdomen contained fluid. After a course of sweating, intestinal irrigation, diuretics, and diaphoretics, she returned home improved, but nine months later again was an inmate of the hospital. There was general œdema, with enlarged heart, the apex beat being at the sixth interspace, an inch to the left of the nipple line. A decapsulation of both kidneys was performed, and there was found a typical chronic parenchymatous nephritis, the large white kidney, on both sides. Each kidney measured over four inches in length and was three times larger in bulk than normal. There was primary union of both wounds and convalescence was uneventful. After the discharge from the hospital there was no more œdema, no headache, and no uræmia. The patient for a year past had been in perfect health and had taken up her school life. The urine was practically normal and the general health was all that could be desired.

Dr. Caillé said that, from his observation in this case and in other cases that had come under his observation, he would not hesitate to advise inspection of the kidneys through lumbar incision in cases in which an acute nephritis, not secondary to cardiac lesions, did not clear up in a reasonable time, say six or eight months; and he would furthermore advise splitting the capsule or decapsulating one or both organs, should they appear swollen and enlarged, with the hope of preventing an acute nephritis from becoming chronic and incurable. The same procedure was indicated in cases of acute nephritis with complete suppression of urine.

Dr. Kerley of New York asked what the effects would be upon these children if they became victims of scarlet fever or other infectious diseases.

Dr. Caillé said he could not answer this question. The whole matter was new and very little positive definite knowledge on the subject was yet to be had. There were quite a number of cases that had been operated upon in a quiet way and not yet reported because the operators were waiting for results. In the case he reported he was convinced that the benefit from the operation was a very marked one, but whether it was due to increased blood supply or to massage incident to the handling of the organ or not he could not say. He said that Dr. Edebohls was preparing statistics showing, out of eighty cases operated upon, ten or twelve absolutely positive ideal cures, and eight or ten other practical cures. Dr. Caillé had seen the operation performed about twenty times without a mishap. He had seen better results from operation than he had from medication in these cases.

Some Observations on Epidemic Vulvovaginitis in Infants and Children.—Dr. A. C. Cotton of Chicago

presented this report of an epidemic of gonococcus infection which occurred in the hospital from August, 1902, to September, 1903, during which period 319 children were admitted. The first case was observed on August 8 in a boy, two years old, who had a urethral discharge. Gonococci was next found in the vulvovaginal discharge in a girl with typhoid fever. These two patients seemed to have given rise to the epidemic. Dr. Cotton formulated the following conclusions: Every hospital for children must be protected against infection from without by well-arranged detention wards, in which the newly admitted patient may be submitted to the closest scrutiny for a period of at least fourteen days to determine his freedom from acute infectious disease before admission to the general ward. A complete hospital should have ready for use properly located isolation wards to which patients may be removed upon the first appearance of suspicious symptoms of an acute infection. Gonorrhœa was a most formidable disease in a children's hospital, and female infants were peculiarly susceptible to this disease. A patient in a children's hospital showing gonorrhœa should be properly isolated and placed in charge of a special nurse. The interne or nurse while treating a gonorrhœa patient should be relieved from other duties in the wards. The efficiency of any isolation may be questioned which did not individualize strictly not only in regard to the treatment, care, and manipulation of the patient but also as to the use of clothing, bed linen, feeding untensils, thermometers, douche-pans, etc. The same care in sterilization by nurse and physician was necessary as would be observed in the case of any other acute infection.

Dr. A. Jacobi of New York said that undiapered children of two, three, or four years of age carry their fingers everywhere, and by preference about the abdomen, and it would be expected that they would carry pus to the eyelids, but such was not, as a rule, the case. No doubt all physicians had seen in these cases secondary involvement of the cervix, the uterus, occasionally nephritis, a pericarditis, etc., but a more favorable course was run in children than in adults.

Dr. Charles G. Kerley of New York said that at the Babies Hospital there were fifteen or twenty cases of genococcal arthritis in two years, and it was peculiar that there was found no evident source of infection. Dr. Kimball had reported eight cases, seven in boys, and the only possible source of infection was a stomatitis. In the boy there were no local lesions.

Dr. Jacobi had seen one case in which there was a myositis.

Dr. L. E. La Fetra said he had seen two cases of gonorrhœal arthritis, one in a baby three weeks old, the other in a child eight months old. In the case of the baby the source of the infection appeared to come from the mother; the child had been circumcised and the mother had gonorrhœa at the time the baby was born.

Dr. Isaac Abt of Chicago had seen but two cases of vulvovaginitis with complications, one being an arthritis the other a cystitis.

Dr. Augustus Caillé of New York said that some years ago the attention of the Post-Graduate Hospital was called to this disease by reason of a suit against the institution. A child was admitted apparently in good health; ten days later she developed a severe specific vulvovaginitis. Every child now admitted to the institution was carefully examined and a swab culture made. If gonococci were found the child was rejected.

Dr. Samuel S. Adams of Washington, D. C., referred to a family of seven children, all of whom were infected from both father and mother; they were admitted to the hospital and successfully treated in a short time. Each of these children had alternately slept in the bed with their parents and so contracted their vulvovaginitis.

A Case of Carbolic Acid Poisoning Simulating Acute Scarlatinal Nephritis.—Dr. Samuel S. Adams of Washington, D. C., reported this case. The patient was a child of ten years, white, who had a moderately severe attack of scarlet fever without any troublesome symptoms, and who was first seen by him February 3, 1904. On the 9th the child complained of intense itching, and he instructed the mother to bath her twice daily with a solution of commercial carbolic acid and water, a teaspoonful to the quart. On the 19th she was again visited and found to be in excellent condition. Desquamation was very profuse. The itching had been allayed by the baths, and there was apparently no tingling or irritation from the carbolic acid. On February 22 the report was received that the child was bright and happy, but had passed some dark urine, a specimen of which was sent him. Examination of this showed albumin, red cells, and hyaline and granular casts, all in moderate numbers. When he saw the patient the eyes were puffy; otherwise she was in good condition. The baths were stopped. On the 24th the puffiness had disappeared. The urine gradually improved. Dr. Adams said that, having previously reported cases of carbolic poisoning following its use on the skin, he was satisfied from the uranalysis made that the nephritic symptoms were due to the irritation of the drug and not to the toxæmic effects of the scarlatina. This opinion was confirmed by the speedy relief of the kidney irritation *pari pasu* with the elimination of the carbolic acid. Such a weak solution of the acid was used, it seemed to him reasonable, to attribute the toxic effect to an idiosyncrasy on the part of the patient.

Gastrointestinal Toxæmia.—Dr. B. K. Rachford of Cincinnati read this paper. He said that gastrointestinal toxæmia, as differentiated from autointoxication, was a systemic intoxication, produced by poisons formed in and absorbed from the gastrointestinal canal. He said it was possible that the poisons produced by bacteria in the intestinal canal might have their origin from three different sources: (1) The components of dead bacteria might furnish a certain amount of proteins as, for example, tuberculin, which is a portion of the tubercle bacillus. (2) Living bacteria in the intestinal canal might and did excrete ferments or toxins, capable of producing the most profound symptoms. (3) Substances produced by bacteria from the culture media were possibly important sources of intestinal intoxication. Among the poisons of this class ptomains held the most important place. Acute intestinal toxæmia, he said, was more common in the infant and young child than in the adult, and was probably due chiefly to the great irritability and the immaturity of the child's nervous system. A small quantity of the poison absorbed might produce high fever, convulsions, and other pronounced nervous symptoms which in an adult might be easily resisted. It was also true that severe albuminous fermentations, capable of producing virulent toxins, were more common in the child than in the adult. This was probably due to the fact that the hydrochloric acid function of the stomach was not so well developed in the young child as in the adult, and therefore not capable of exercising the some control in preventing intestinal fermentation.

It was to chronic intestinal toxæmia that he wished to call special attention, because of its importance as an etiological factor in producing nervous symptoms in children, and which was so often overlooked. This form might be associated with diarrhœa, although constipation might exist. In order to prevent hyperfermentation and increased absorption of intestinal toxins the food material should not be allowed to be retarded, and when ejected the fæces should have the moist form of a normal intestinal evacuation. So important was the rôle played by chronic intestinal toxæmia in the production of neurotic

diseases in a child that he invariably began his treatment of nervous diseases by a careful investigation of the intestinal canal. Among the symptoms which might be produced or exaggerated by intestinal toxæmia might be mentioned malnutrition, anæmia, headaches, general malaise, fever, heightened reflexes, general nervous irritability, hysterical and neurasthenic symptoms, bradycardia, hyperæsthesia, nervous anxiety, psychoses, etc. The urine furnished valuable evidence of the existence of intestinal intoxication by showing the presence of indican and the ethereal sulphates. The etiological importance of the vegetable organisms in producing intestinal toxæmia should not cause one to overlook the rôle animal parasites play.

Dr. A. Jacobi of New York said that formerly the textbooks gave worms as a cause of the symptoms as described. The raw vegetables, such as are taken in Germany and Hungary, would produce just such a train of symptoms. Dr. Jacobi had frequently thought that a protracted anæmia would cause an insufficient secretion of gastric and pancreatic juices and so interfere with normal digestion. The presence of indican in the urine added much to the ease in diagnosis.

Dr. F. Forchheimer of Cincinnati said that he had been interested in this subject for years, especially as many men did not believe in the existence of this condition as an etiological factor. When indican became so much talked about the speaker examined the urine in all cases in which a diagnosis of chronic intestinal autointoxication was made, and in a very large number of cases indican was not present at all. To find indican in the urine once meant nothing at all; but if found many times after repeated examinations then it was to be presumed that there was some abnormal condition going on in the intestinal canal. In children there was an accumulation of fecal material in peculiar shaped places, *i.e.* in the intestines where there were extra curvatures, as at the sigmoid, the fæces being retained for some time, and this accounted for the constipation and also for the diarrhœa; for when fecal matter remained in one place a certain length of time diarrhœa followed. But in adults the condition was different. Here the special places for the deposit of fecal matter were at various curvatures, at the sigmoid flexure, at the hepatic flexure, at the splenic flexure, and at the head of the colon. Sometimes the whole of the large intestine was blocked up. He wished to lay particular stress upon the condition he had once described as chronic ulcerative stomatitis, which occurred in children quite rarely and in adults quite frequently in the form of Riggs' disease. Curiously enough, in Riggs' disease he had always found uric acid, and he came to the conclusion that uric acid was due to some autointoxication.

Dr. B. K. Rachford of Cincinnati said there were cases of autointoxication in which indican did not occur in the urine because fermentation had not occurred. Again there was a class of cases in which indican could be found in the urine and without any clinical symptoms of autointoxication, possibly because the child was able to resist it and filter the poison and so manage it. Indol was formed in the intestinal canal by hyperfermentation and was one of the results of putrefaction; it was a poison and probably was associated with other poisons about which nothing was known. The presence of indican in the urine meant the presence of indol in the intestinal canal, therefore there was a relationship.

Clinical Manifestations of Acute Otitis in Children; a Study of Fifty-one Cases in Private Practice.—Dr. Charles G. Kerley of New York reported a few of these cases, illustrating them by a number of temperature charts.

(To Be Continued).

Infantile Syphilis.—Schwab and Levi-Bing advise the use of hypodermic injections of biniodide of mercury in doses of 1 to 2 milligrams in aqueous solution, given once daily.—*La Presse Médicale.*

BRITISH MEDICAL ASSOCIATION.

Seventy-second Annual Meeting, Held at Oxford, July 26, 27, 28, and 29, 1904.

(Special Report to the Medical Record.)

(Continued from page 355.)

SECTION OF TROPICAL DISEASES.

Second Day—Thursday, July 28.

The Prophylaxis of Malaria.—Dr. T. W. W. Stephens, Walter Meyers Lecturer in Tropical Medicine, Liverpool University, opened this discussion. He said it was not unnecessary even now to point out how malaria is contracted. Not one in a hundred laymen in the tropics knew that malaria was a contagious disease. The source of contagion unsuspected by the layman, lay in the fact that in the tropics the native population, especially the child population, carried malarial parasites in its blood, often while presenting not the least outward sign of sickness. It was now known that certain mosquitos of the sub-family Anophelina alone could convey the contagion. There exist about a hundred species of Anophelines, but of a dozen species only could we say with any certainty they conveyed malaria. In two very malarial places in India, Mian Mir (Punjab) and Ennur (Madras) there were caught in the same huts at the same time two species of Anophelines *M. rosii* and *M. culicifacies*. Actual dissection showed that *M. rossii* contained no parasites (sporozoits), and therefore was not carrying malaria under conditions in which *M. culicifacies* was. These observations had been repeated by others with the same result. *M. rosii* did not in nature convey malaria. This, while scientifically of great interest, was also of practical value. Should we spend money and occupy our time in eradicating *M. rossi* when, as far as we know, it is not concerned in the transmission of malaria? Recently Hirshberg, in the United States, obtained similar results, though in this case by feeding experiments. Two species, *Anopheles maculipennis* and *A. punctipennis* were fed on the same subject of malignant tertian malaria under the same conditions, with the following result: *A. maculipennis*, number fed, 48; number infected, 8; *A. punctipennis*, number fed, 58, number infected, 0.

Similar results have also been obtained in Japan. The practical bearing of these facts was obvious. If we could positively state that a certain species of Anophelia did not transmit malaria it would obviously simplify operations directed against mosquitos. Broadly speaking, each Anopheline has a breeding ground of its own. For instance, whereas *M. rossi* breeds in the shallow pool or puddle some inches deep only, *M. culicifacies* loves clear fresh water of streams, rivers, canals, and other moving waters. Now if it is true that *M. rossi* does not carry malaria it is unecessary to attack the breeding grounds of *M. rossi*.

Another important problem was that of flight of mosquitos. If mosquitos could really fly fifteen miles, as stated by some authors, whatever might be done to free a place from Anophelines, it would be impossible to prevent their return and undoing all one's labors. But close observations showed that under ordinary conditions nothing of the kind happened. The normal flight of Anophelines being a matter of some hundred yards, the prophylaxis of malaria would not be best achieved by blindly proceeding to act against mosquitos as a whole, but by careful action based upon accurate study of all the habits of mosquitos. Of the modes of prophylaxis the antilarval method appeared to be fundamental and thorough, provided it took the form of a systematic drainage. Its merits consisted in the obvious fact that as the mosquito breeds in water, if this water could be drained away the number of larvæ in that area must diminish, and if there was no influx from without, the number of mosquitos also. That by mechanical prophylaxis excellent results could be got, was shown in Italy. The Japanese had likewise applied it to their troops, with the remarkable result that

in a particular regiment the entries diminished from 2,000 odd in 1900 to 256 in the first six months of 1903. Prophylaxis by means of quinine was an excellent method. But its applicability was somewhat limited.

The segregation of Europeans was another definite prophylactic measure, based upon the fact that the natives are the source of European infection in the tropics. It has been said that this method was not a just method, for the native was neglected. The native must be treated as the white man—within limits this was true, but the limits altered the nature of the case—when the sanitary and general education of the native population had made any progress whatever, it would then perhaps be possible to begin to treat natives and Europeans alike, but until that happy day arrived it was not right to sacrifice European lives to such false and sentimental ideas.

Dr. Stephens closed his paper by referring to the antimalarial operations carried out at Ismailia and Mian Mir. At Ismailia the campaign was against mosquitos as a whole, and it was difficult to know what the effect on the Anophelines had been. Indeed we did not even know what Anopheline was carrying malaria at Ismailia. Yet we had the brilliant result of the diminution of the fever entries from an average of 2,000 to 200 roughly. As to Mian Mir, the selection of the locality was unfortunate. The preliminary survey was very thorough. All the species of Anophelines were collected. It was determined which were carrying malaria. The breeding places of each species were carefully mapped out. The endemic index of the various native bazaars was determined each month. Adequate care was taken to have control areas, the necessity of which was clearly shown during the operations, *e. g.* the endemic index in the area of operations at one time fell rapidly, and it might have been concluded that it was the result of the anti-larval measures, and indeed, one could not have said it was not, had it not been for the control. But in the control bazaar, where no measures were taken, a parallel fall in the endemic index took place. The Unfortunate factor that was not anticipated, viz., the flight of mosquitos into the area from as far as two miles away, had been discussed by Captain James and Lieutenant Christophers in their report on Mian Mir. Anyhow the Mian Mir experiment had taught some useful lessons. The difficulties were greater than were perhaps anticipated, but that they would be overcome there was no doubt. Prophylaxis, be it of typhoid fever, tuberculosis, or malaria, was necessarily slow in its progress. We should endeavor, however, to do our utmost to hasten it.

The Antimalarial Experiment at Mian Mir.—Major Ronald Ross, Professor of Tropical Medicine, University of Liverpool, criticised the Mian Mir experiment. He said he was not convinced that mosquito propagation at Mian Mir was really suppressed to the extent claimed. The test employed for detecting reduction in the number of mosquitos consisted of nothing but the formation of a personal impression, unsupported by definite figures. The figures given regarding variations in the amount of malaria were not sufficient to enable one to form any opinion one way or another. Several of the statements made in the reports appeared either to be contradictory or unintelligible, or to involve mathematical impossibilities. Even admitting the thoroughness of the work done and the validity of the tests used, the whole experiment was still open to the final criticism (*a*) that it might not have been continued long enough, and (*b*) that the radius of operation might not have been large enough. In conclusion, Major Ross thought that Lieutenant Christophers and Captain James were not entitled to claim any more than is contained in the following sentence, "That after operation extending to a half-mile radius and lasting a year and a half and costing between two and three hundred pounds, no very large reduction in the number of mosquitos or in the the amount of malaria was affected." James and Christophers apparently expected to banish all the mosquitos within their area of operation for a few hundred pounds. Malaria at Mian Mir must cost the Government alone some thousands of pounds annually. Logan Taylor spent over £1,000 for a preliminary draining of the waste puddles of Freetown. Ismailia, though it was both a smaller and an easier area to deal with than Mian Mir, cost £5,000 for the first year. According to Watson, Klang and Port Swettenham cost about £3,225 and £8,600 respectively for the first year's work. Sir William Mac Gregor had stated that Lagos has been costing about £10,000 per annum for antimalarial work. Work like that carried out at Mian Mir only tended to arrest enthusiasm in the cause without really adding anything definite to our knowledge.

The Success of Mosquito Destruction Operations.—Capt. S. C. James and Lieut. S. R. Christophers said that so many operations where mosquito destruction had been successfully carried out were reported that it appeared almost unnecessary to ask how far such measures might be considered of practical utility in diminishing the incidence of malaria. It was indeed only when one made a closer study of the reports of operations that it was realized in how many cases little or no proof of success was given and in how many the conclusion of success was based on such inconclusive evidence as the number of admissions to hospital and popular report. In perusing such accounts the author found it very difficult to reconcile the easy and triumphant successes with the extreme difficulty encountered in their efforts. The operation undertaken by the Government of India at Mian Mir were throughout very thorough. Every effort was made to make the destruction of breeding places complete and the experiments were continued for over two years. Many hundreds of pools were drained and filled, and throughout the whole area systematic search for and destruction of breeding places were consistently carried out. Here, then, if mosquito destruction was so readily brought about, as would seem from so many accounts, they would have been able to show a very marked and decided reduction in the number of adult anopheles and in the prevalence of malaria. As a matter of fact the result in both cases was poor and totally out of proportion to the means employed. To what, they asked, was to be ascribed the absence of the usual successful issue? They did not feel justified in considering it due to want of thoroughness in the conduct of the operations nor to peculiar conditions in Mian Mir. There was indeed little doubt that the difference was entirely due to the great disparity in the value of the tests used in estimating the reality of results achieved. Perhaps the most valuable result of the Mian Mir operations was that they gave an insight into the difficulties which are almost certainly to be encountered in most really malarious places. The speakers had found it very difficult to keep up with the ever-changing situation of anopheles breeding places under different degrees of rainfall. They found that they had to deal with breeding places at considerable distances, and that quite local destruction was utterly futile. Moreover, they had to count upon what appeared to have been the main factor causing their want of success, an infiltration of adult anopheles from outside the area which could not be prevented by any means in their power.

They fully realized the inadvisability of damping enterprise by the suggestion of possible failure, but they thought little good could result from proclaiming a successful issue, the evidence for which would not bear criticism. Mosquito operation reports were very often extremely uncritical and even ridiculous, since they claimed an amount of success for which they had no evidence. They hoped their remarks might not be without some result in directing attention to the need of more rigid experiments and the desirability of further knowledge regarding details being amassed which should enable us eventually to form a special branch of sanitary science dealing with this important subject.

Dr. Louis D. Sambon, Lecturer to the London School

of Tropical Medicine, said that the question whether only some species of Anophelines are able to carry malaria was one of great importance. Dr. Stephens having premised that certain species did not carry malaria, asked whether it was reasonable to waste money and labor to destroy such species as *M. rossii* which, though extremely abundant in certain areas in India, did not appear to be concerned in the malarial endemicity of the areas. He was inclined to question Dr. Stephen's premise. We had abundant evidence to show that the same species of Anopheline in different districts and at different epochs might or might not be a carrier of the infection. *Anopheles maculipennis* was the principal carrier of malaria in Italy, yet there were districts such as Fucecchio in Tuscany which have no malaria though abounding in *A. maculipennis*. In the Cambridgeshire Fen malaria used to be very prevalent at one time, now it is practically extinct, but *A. maculipennis* is still very numerous. In Holland malaria had disappeared, but a few years ago it broke out again and now is steadily increasing. *A. maculipennis* is the species of Anopheline most prevalent in that country. He believed that the fostering of certain parasites by mosquito depended on the different feeding habits of these insects in different places and on the peculiar circumstances of their respective environments, but we needed numerous and careful experiments to elucidate this question. We should do our utmost to find out the reason why certain species, or better, in certain localities, the local variety of certain species were not able to carry malarial infection, because such knowledge would probably enable us to combat malaria in an easy, economical, and efficient manner. In several papers he suggested that hyperparasitism was possibly the cause, the hyperparasite or secondary parasite destroying the malarial parasite within the body of the mosquito just as the larva of one ichneuman-fly destroys that of another species within the body of its capillary host. In the case of malaria, as also in the case of certain Filarial infections, a *Nosema*, the so-called "Brown spore," probably acts as a useful hyperparasite. Hyperparasitism is of universal occurrence in Nature, and no doubt it has an important rôle in pathology Some species of Anophelines seemed very partial to certain kinds of breeding grounds, others appeared to be far more indifferent, but it would be a mistake to believe that the nature of the breeding ground was invariably a matter of choice. Feeding opportunities and natural enemies were potent factors in the determination of larva-stations. According to his experience, the chief characteristic of larva-stations was their remarkable shiftiness. They shifted with the rise and fall of the water-table and with the appearance and disappearance of certain plants and animals. It would therefore be unwise to limit antilarval operations in any way whatsoever. As to the distance to which mosquitos could fly, it was again a matter of locality and œcology. Moreover, in certain years, under favorable conditions, mosquitos, like other insects, might swarm and extend their excursions.

As to prophylaxis, he thought the use of wire or cotton netting an excellent means of individual protection in the hands of intelligent people, but of no practical value when left to native and ignorant populations. The segregation of Europeans was neither practicable nor efficacious. At best it could only be regarded as a temporary measure. The wide administration of quinine to the infected population appeared to be a most commendable means of prophylaxis when possible. The value of efficient drainage and intense cultivation was, of course, undisputed.

Col. Kennett Macleod remarked that Dr. Stephens had omitted to mention the food of larval mosquitos. The different species of anopheline-larvæ probably subsisted on different food. Additional information was required on this point. The flight of mosquitos was very important with regard to the conveyance of the plasmodium from one part of the country to another, but Dr. Stephens forgot the conveyance of mosquitos by ships, caravans, railways, etc. He regretted that no mention had been made of the value of belts of trees and of plants believed to be prejudicial to the life of mosquitos. Dr. Stephens suggested that anti-malarial operations should be directed against the malaria germ-carriers and not against all species of anophelines. In the successful experiment at Ismailia, we are told that the battle was indiscriminate. In Havana also all mosquitos were dealt with, and Colonel Gorgas stated that the campaign did not only stamp out yellow fever, but that it caused also a great diminution in malaria Then again the broom was not mentioned—mosquitos during the day inhabit dusty, dark places in huts and houses. The use of the domestic broom seemed, therefore, very important.

Captain Drenger, I.M.S., said that while doing duty with European troops in India he had the opportunity of testing quinine prophylaxis. The regiment had suffered much from malaria. Therefore, at the beginning of the next malaria season, it was decided to give the troops quinine. The drug was administered in ten-grain doses on three consecutive days of each week, and this treatment was carried on for a considerable time. The result was that the number of malaria cases was greater than in any of the five previous years. The general opinion among officers was that quinine prophylaxis was useless. Certainly in this case it seemed to have had no effect.

Dr. Louis W. Sambon remarked that in discussing the value of quinine prophylaxis one should discriminate between the administration of quinine to infected persons in order to prevent the spread of the disease, and the administration of quinine to healthy men with the object of preventing them from contracting the infection. The former measure was appropriate and had already proved very useful; the latter he objected to. Quinine was the most valuable remedy we have for malaria, but it did not confer any immunity against the disease. Therefore its administration to healthy people in efficient doses, and for a lengthened period, was inadvisable. In cases of unusual exposure to the infection, he would certainly recommend the administration of quinine before any manifestation of the disease, but that would be early treatment, not prevention. The facts brought forward by Captain Drenger were in no way opposed to quinine prophylaxis. The regiment had been exposed to malarial infection for five consecutive years, the men were saturated with malaria parasites, and probably on the year of the experiment they suffered chiefly from relapses which we know cannot be avoided by the administration of quinine.

Sir Patrick Manson said he doubted the diagnosis in Captain Drenger's cases. Hitherto all fevers had been looked upon as malarial in India. He wished to draw the attention of the meeting to the introduction of malaria in new localities, such as Mauritius. There are many islands which are still exempt from malaria. In time they might become infected. We must devise means for preventing the introduction of the disease in these places.

Dr. W. J. Simpson said it was a great pity that the experiment of the Government of India had been carried out at Mian Mir. There was an error in the experiment, and one that was very likely to lead to an unfortunate result. It was known that the Government expected bricks to be made without straw. Other experiments on a much wider scale had been ordered. These experiments were to be carried out in five provinces by the local civil surgeons. But civil surgeons had no time for any scientific work in India, they had to look after so many other questions. It would be impossible for them to carry out these experiments, and he hoped they would

not try, because under the circumstances they could only do harm. If any experiments were to be carried out they should be carried out on a proper basis.

The President, Dr. Alexander Crombie, said he could not allow the discussion to close without making some remarks upon this important subject. People would look to this discussion to know what had to be done to prevent malaria. There was a lesson to be learned—the object lesson of Ismailia, where malaria was obliterated; the lesson of Havana, and the complete failure at Mian Mir. If we wanted to find the reason of the difference it was not difficult to find. If the experiment at Mian Mir had been confined to a small area, and if other mistakes had not been made, we should have had a good result. At Ismailia the anti-malarial measures were as complete as possible, and they could not have been more successful.

Third Day—Friday, July 29.

Nature and Significance of the Leishman-Donovan Body.—Major W. B. Leishman described the main facts which have been brought to light in connection with these parasites. Since the Leishman-Donovan bodies were first brought to notice quite a large number of cases had been put on record by Donovan, Marchand and Ledingham, Manson and Low, Bentley, Rogers, and others, and it was becoming more and more evident that the disease associated with their presence was by no means uncommon in tropical countries. Originally found in the spleen, the parasites had since been met with in the liver, the mesenteric glands, the bone marrow, the kidney, and in ulcers involving the intestinal mucosa.

According to Marchand and Ledingham and to Christophers, the parasite appeared to be chiefly, if not solely, intracellular, and were met with in the protoplasm of large mononuclear cells, which were probably, as Christophers suggested, "macrophages." In specimens obtained by splenic or hepatic puncture during life the parasites were, however, usually found free in groups of several members, and such free or agglomerated parasites were frequently embedded in a structureless matrix or stroma, staining gray or pale blue with Romanowsky's method. This stroma represented a fragment of the protoplasm of the large mononuclear cells which became disintegrated. The chief symptoms so far noticed in patients harboring these parasites were (1) Splenic and hepatic enlargement, the former being apparently constant while the latter was common but not invariable. (2) A peculiar earthy pallor of the skin, and in the advanced stages an intense degree of emaciation and muscular atrophy. (3) A long continued irregularly remittent fever of no definite type, lasting frequently for many months with or without remissions. (4) Hemorrhages, such as epistaxis, bleeding from the gums, subcutaneous hemorrhages, or purpuric eruptions. (5) Transitory œdemas of various regions or of the limbs. (6) Complications, such as congestion of the lungs, diarrhœa, and dysentery, had been frequently reported, and were occasionally the immediate cause of death. (7) A marked mononuclear increase, an interesting point in view of the proved absence of malaria. To these positive signs might be added certain negative ones of hardly less importance: (1) The absence of malaria, except as a concurrent affection yielding to appropriate treatment. (2) The negative result of the agglutination test of typhoid and Malta fever. (3) The resistance to medication, and especially to quinine, at all events in the later stages of the disease. The symptoms detailed above were very similar to those of kâla-azár. It was perhaps too early to say definitely that the Leishman-Donovan bodies were the cause of kâla-azár, but it certainly looked as if this were the case, as they seemed to occur constantly in this condition. If it should be so, the question arose whether the other cases in which the parasites had been found were identical with kâla-azár, and if this identity was proved, then we must admit that the geographical distribution of this disease was much wider than had been supposed, and further, that it was not uncommon among white men.

Several views had been enunciated as to the nature of the parasite: (1) Major Ross, working with films sent to him by Donovan, came to the conclusion that the bodies represented a new genus belonging to the sporozoa which he called *Leishmania*. (2) Laveran, also working with films from Donovan's cases, pronounced the bodies to belong to the piroplasmata, and gave them the name *Piroplasma donovani*. (3) They appeared to him (Major Leishman) to represent a stage in the life history of a flagellate organism closely resembling a trypanosome, if not actually belonging to that genus. Marchand and Ledingham had come to the same conclusion. Laveran's view had met with little support from other observers, whose careful search had failed to demonstrate the presence of the parasites within the red cells of the peripheral circulation. In Major Ross's view we had to deal with a new genus of the sporozoa and regard "the individual bodies as spores produced in the matrices, which would appear to be relics of the parent organism." In his first communication Major Leishman suggested that the bodies were possibly degenerated trypanosomes. Later, November 21, 1903, and February 6, 1904, he spoke of them as possible involution forms of trypanosomes or encysted trypanosomes, and as representing a stage in the life history of these organisms. Further prolonged study of the atypical forms assumed by trypanosomes had only strengthened his impression that the new bodies represented a stage in the development either of a trypanosome or of some closely allied member of the flagellata. Schander, in following the various transformations undergone by a blood parasite of the stone owl when taken into the stomach of a mosquito (*Culex pipiens*), had come to the conclusion that this parasite (*Halteridium*) was in reality, a sexual form of a true trypanosome, to which he gave the name *Trypanosoma noctuæ*. He described how at one stage the trypanosomes, free in the mid-gut of the mosquito, lose their typical shape and enter the epithelial cells of the intestine, in and among which they assume a resting form, the body becoming contracted and the flagellum shrinking up into a short rod-shaped structure. In this resting stage division by simple fission may occur, so that frequently large aggregations of these non-flagellated parasites are found in the intestinal epithelium. Further, after describing the mode in which these trypanosomes may push their way between the cells of the muscular coat of the stomach, he says, "when they come to rest here they become almost spherical and the flagellar apparatus reverts to its primitive form"—that is, to the blepharoplast or micronucleus from which it was derived. From this resting form a freely mobile trypanosome is again developed, the flagellar apparatus arising from the blepharoplast by the elaborate mitotic process whose details have been so minutely studied and described by this author. Again Prorvazek, working with a parasite of the house-fly, *Herpetomonas muscæ domesticæ*, found similar trypanosomal forms, which also assumed resting forms in much the same manner as *Trypanasoma noctuæ*. From the description and figures given by Schaudinn and Prorvazek of these resting forms of trypanosomes a very close resemblance might be traced between them and the new bodies.

A fact of great importance in connection with the possible means by which the parasites escape from the body was their presence in ulcerations of the intestinal mucosa. This fact was brought out by Christophers, and also by Manson and Low, and from the frequency with which dysenteric complications had been reported in the course of the disease, it seemed probable that this ulceration was a fairly constant feature.

With regard to the discovery of Wright, that very similar parasites were met with in the well-known Delhi boil, it was obviously of the first importance that the identity or non-identity of these parasites with the splenic bodies should be established. Should Wright's parasites prove to be identical with those under discussion there would be no great difficulty in reconciling the marked differences of

symptomatology, as bacteriology shows us so many examples of a given germ producing at one time only a local inflammatory process, at another a possibly fatal septicæmia or other grave general affection. Quite recently an announcement had been made by Captain Rogers that trypanosomes had developed in cultures of these bodies, and from the details published by him in the last number of the *Lancet* there would appear to be little doubt that this was actually the case, and that we might soon be justified in taking the connection between the Leishman-Donovan bodies and trypanosomes as an established fact.

Human Piroplasmosis.—Major C. Donovan, I.M.S., Second Physician, General Hospital, Madras, continued the discussion with a paper with this title. He said that for the present he accepted Laveran and Mesnil's determination of the organism in the genus *Proplasma*. Leishman first found the parasite in November, 1900, in smears of spleen pulp taken post mortem; he (Major Donovan) met with the parasite in the same organ, also post mortem, on the 9th of April, 1903. On June 17, 1903, he procured the parasites in blood taken by puncture from the spleen during life. Besides the spleen, the parasites were also found in the peripheral circulation when the temperature was above 103° F. (this find had been confirmed by Laveran and Mesnil), in the liver, bone, marrow, submucosa of the large intestines, ulcers of the skin, and ulcerations of the mouth; occasionally in the blood from the kidneys and suprarenals. The disease attacked the poorer classes of natives of both sexes and all castes and creeds; Eurasians and Europeans less frequently. Age was no bar to infection. In Madras the disease was chiefly endemic in the unsanitary native quarter of the city called Blacktown. The most characteristic features of this disease were an enlarged spleen, an irregular pyrexia unaffected by quinine, and the absence of the malarial parasite in the peripheral circulation. Seventy-two cases were carefully examined. The temperature was of an irregular type with occasional lapses of apyrexia. In the beginning it was of a marked intermittent type, varying from 97° to 103° or 104° F., of daily occurrence, coming on chiefly in the afternoon, associated with shivering; in the later stages it simulated hectic fever with profuse night sweats. The spleen was enlarged in nearly all cases. The increase was as a rule not great, but it varied according to the temperature in a very remarkable way. The liver was not so frequently affected in size. Diarrhœa was present in more than half the cases (40 out of 70), the motions were of a dysenteric character. This intestinal symptom was not always present, but recurred with the severity of the disease. In nearly all the cases there were skin eruptions. Sometimes there were eruptions simulating those caused by the itch mite, by the scratching of which small ulcers were formed; in two cases such ulcers reached the size of a rupee and had a great resemblance to Delhi boil. Subcutaneous hemorrhages or petechiæ were present in twelve cases, especially over the chest and ankles; outcrops of these appeared and disappeared, and were of bad augury. Pigmentation of the skin was very prevalent, noticeable usually on the palms of the hands and the soles of the feet. Another constant feature was œdema of the feet occurring in more than half the cases. Rarely was ascites found to be present. As to mortality, twenty-two died; seven were removed moribund; and with the exception of three still in hospital, the remainder were discharged at their own request, invariably in a much worse condition than on admission. In only one case was there any semblance to a cure.

The blood examinations always showed a marked decrease of the red blood-corpuscles; these varied from two to three millions to the cubic millimeter. There was no actual increase of the leucocytes, but a relative one of the mononuclears, as in malaria. The post-mortem find was generally an enlarged, pigmented, or unpigmented spleen; liver enlarged, congested, or cirrhosed; intestines, especially the large, deeply congested, inflamed, or ulcerated. Quinine had been given by mouth, hypodermically, and intramuscularly *ad nauseam*, with no appreciable result. The same might be said of other drugs, *i.e.* arsenic, salicylate of sodium, carbolic acid, creosote, tincture of iodine, etc.

Tropical Splenomegaly and Oriental Sore.—Lieut. S. R. Christophers, I.M.S., read this paper. Whoever might have first seen the parasitic bodies variously known as the Leishman-Donovan bodies, *Piroplasma donovani*, *Leishmania*, or *Helcosoma*, it was undoubtedly chiefly owing to the researches of Donovan that the occurrence of an entirely new parasitic disease of man was first brought to the attention of parasitologists and students of tropical medicine generally. Leishman's suggestion that they were any form of degenerated trypanosome was exceedingly unlikely in the face of the large number of recorded cases in which no trypanosomes had been present. The same unlikelihood pertained to their supposed affinities with the genus *Piroplasma*. On the data at our disposal it was indeed impossible to place these bodies in any of the genera or better-known divisions of the sporozoa. A good deal of speculation had raged around the nature of the so-called "matrix" of Ross, "zoöglœa mass" of Manson, and "red corpuscle" of Laveran. A study of sections showed very clearly the real condition which was one of endothelial cells gorged with the parasites. While the attention of many observers was still directed to the novelty of the presence of the bodies in the spleen and liver of cases of tropical splenomegaly, Wright in America had, apparently independently, discovered the same bodies in large numbers in the granulation tissue of tropical ulcer. Later, Captain James, I.M.S. found them in cases of "Oriental sore" from North India. Shortly after Wright's paper reached India, Donovan found the characteristic bodies in small numbers in ulcers in an advanced case of the Madras disease with enlarged spleen and cachexia. Stimulated by the discoveries of Wright and Donovan, he (Lieutenant Christophers) examined very thoroughly the tissues of fatal cases of the disease, especially with reference to the skin and intestinal lesions found in such cases. The bodies were found in non-ulcerated papules of the skin and in small and large ulcers of the skin and the intestine. They were, as a rule, scattered singly through the tissue, and appeared to be embedded in the cytoplasm of tissue cells. Closer investigation showed that they lay in the endothelial cells of the finest capillaries. No bodies were ever detected lying free in the lumen of vessels. In larger vessels, in the immediate neighborhood of granulation tissue, endothelial cells were seen containing from two to six bodies, and in many of the still larger ones cells crowded with bodies almost blocked the lumen. If we said that the disease seen in Madras is a systemic infection of septicæmic type we should most nearly express what was known as to the nature of this new protozoan disease. This view would also allow us to see in Oriental sore a local infection by the same organism.

As regards the cycle of development of the parasite, the multiplications of forms appeared to be mainly by binary fission, the larger fission forms being of secondary importance. The parasites having entered or been taken in by an endothelial cell, would appear to proliferate, causing the eventual disruption of the cell and the temporary setting free into the blood stream of the crowd of contained bodies. There did not appear to be any intracellular digestion of forms included in the endothelial cells, and the latter very probably constituted a suitable host for the parasites, in spite of the fact that it might originally take them in by reason of its phagocytic properties.

Some Notes upon Kâla-azár and the New Parasite.—Dr. Chas. A. Bentley of Tezpur, Assam, followed with a paper with this title. The discoveries of the past twelve months had now shown the connection between kâla-azár, the epidemic fever of Assam, and the so-called malarial cachexias of Bengal, Madras, and other parts of India. They had also indicated the wide-spread incidence of this

disease in many other parts of the tropics. As suggested by Christophers, the blue-staining stroma or zoöglœa mass, which was frequently to be seen enveloping masses of parasites, was in all probability derived from the large macrophages fractured in making the microscopical preparation.

In discussing the various suggestions regarding the probable nature of the Leishman-Donovan bodies Dr. Bentley said that Major Leishman's theory could not be entertained, as otherwise we should expect to find recognizable trypanosomes in some part of the human body in cases of kâla-azár. The presence of developmental forms among the new parasites entirely negatived Leishman's original view. Professor Laveran's suggestion was likewise untenable. He thought the most reasonable was that of Prof. R. Ross, who regarded the parasite as belonging to an entirely new genus.

While combating Major Leishman's view, Dr. Bentley said: "I should like to suggest that these bodies may be one phase in the life-history of some flagellate. The possibility has struck me in view of certain facts which I have been able to elect while investigating the occurrence of kâla-azár. It appears that certain species of mud fish, taken from marshes or bheels adjacent to kâla-azár infected lines, in nearly every instance showed marked trypanosomiasis. This has held good in the case of a number of different coolie lines and a kâla-azár infected village. Fishes obtained from bheels at a distance from any source of fecal contamination, on the other hand, appeared to be entirely free from trypanosome infection. I am not pursuing my investigation on these lines, but up to the present moment have been able to arrive at no definite conclusion." In the course of a long series of investigations suggested by Sir Patrick Manson, Dr. Bentley carefully examined the blood and tissues of a large number of animals of various kinds in the hope of finding some clue. He failed to find the parasite in dogs, cats, goats, cattle, rats, deer, bats, fish, frogs, and snakes. The examination of the stomach and salivary glands of mosquitos was likewise fruitless, and the dissection of several species of blood-sucking flies gave no result. Describing various researches made to discover the mode of exit of the parasite from the human body, Dr. Bentley stated that he had failed to find the parasite in any skin lesion among the natives of Assam. He said further investigations might show some connection between the local skin lesions and the general infection, but that so far the known facts appeared to indicate the existence of two different species of parasites belonging to the same genus.

Speaking of the epidemiology of the disease, he said that patients suffering from high fever appeared to be more dangerous with regard to the spread of the disease, and that cases which presented dysenteric symptoms were sure to be followed by fresh cases in the same household or among attendants. An important fact was the comparative immunity of Europeans. It indicated that certain conditions were necessary for the spread of the disease to which Europeans as a class were rarely exposed, and therefore the careful study of the case history of such patients when they were met with might be expected to give a valuable indication regarding the source of infection.

Dr. Aldo Castellani, Director of the Bacteriological Institute of Colombo (Ceylon), read a paper on "Leishmania donovani in Ceylon." He described a case of Leishmania infection in a native (Singhalese) who died of lobar pneumonia in the general hospital of Colombo. The Leishman-Donovan bodies were found in stained smear films from the spleen. They were very numerous, especially the free forms. Large numbers of leucocytes contained masses deeply stained, resembling closely the Leishman-Donovan bodies (15 to 25 per cent. of leucocytes, mononuclear as well as polymorphonuclear, presented such masses). The post-mortem examination was held less than six hours after death. No intracorpuscular forms could be seen. Castellani considered that the Leishman-Donovan bodies did not belong to the genus *Piroplasma*, as suggested by Laveran and Mesnil; he did not believe theirs to be degenerated trypanosomes, as suggested by Leishman, but thought with Ross that they probably represented a new genus (Leishmania). He further suggested that these bodies might be leucocytozoa, because in the preparations that he had examined the nuclei of the leucocytes showed very frequently masses resembling the Leishman-Donovan bodies. The bodies were far more frequently in the nucleus than in the protoplasm of the infected leucocytes, and some of the nuclei of these cells appeared to have been damaged or almost destroyed by the parasites. Castellani's case proved the existence of the disease in Ceylon, where it had not been previously observed. The case was not a typical one of tropical splenomegaly, for the spleen was not markedly enlarged.

Dr. Llewellyn Phillips of Kasr-el-Ainy Hospital, Cairo, Egypt, read a "Note on the Occurrence of the Leishman-Donovan Parasite in Arabia and Egypt." Having heard from Dr. Balfour of Khartoum that in a case at Khartoum on splenic puncture Leishman's parasite had been discovered, Dr. Phillips decided to search for the parasite in cases under his care at Kasr-el-Ainy Hospital, feeling fairly certain that some of the cases of enlargement of the spleen of doubtful etiology would turn out to be associated with the parasite in question. He found the parasite in large quantities in the splenic pulp of a Turk who had lived for a long time in Yemen in Arabia. He also found it in another patient who had lived at Mecca in Arabia, and in an Indian from Delhi. Dr. Bittes of the Sanitary Department, Cairo, to whom the parasite was shown, recognized it as identical with the one he had been shown by Dr. Sheffield Neave in slides from the Khartoum case. We must therefore add Arabia to the countries in which this parasite occurs, and since the Hedjaz was the place of pilgrimage of the whole Mohammedan world, we might have to reckon with a parasite of great import. Further, as it had been found in the Delhi boil, so it might be found in the Aleppo boil of Arabia. Taking into consideration its occurrence in Arabia and the great prevalence of chronic enlargement of the spleen in Egypt, Dr Phillips determined to look for it in the latter country, and found it in a native of the Menufiah province of Egypt in fair numbers, and also in another case of a native Egyptian in small numbers.

Dr. Leonard Rogers, Acting Professor of Pathology, Calcutta, followed with a paper entitled "Cachexial Fever in India Associated with Cunningham-Leishman-Donovan bodies." He said he associated the name of Cunningham with the parasite, in addition to those of the recent discoverers of the organism in the spleen of chronic fevers, for it had been shown by Capt. S. P. James, I.M.S., that the bodies described by D. D. Cunningham many years ago in Delhi boil were indistinguishable from those in the splenic cases. In describing the clinical features of the disease, Dr. Rogers drew attention to the fact that the temperature very frequently exhibited double daily remissions. This characteristic feature of the temperature curve was perhaps more marked in the earlier stages of the disease and might be of diagnostic value. Another characteristic feature of the disease was the remarkable and constant reduction in the number of white corpuscles. In the majority of cases they numbered less than 2,000 per cubic millimeter, but it was quite common for them to fall to 1,000 or less. The chief reduction was that of the polynuclear leucocytes; the lymphocytes and large mononuclears were relatively increased, although their total number per cubic millimeter was much below the normal. The degree of anæmia was usually only a moderate one, and might be very slight in spite of a marked white corpuscular decrease. Parasites were most numerous during marked fever. In cases with only a low intermittent fever, or none at all for days together, few parasites were found. In some cases, when they were very numerous in the spleen blood, several cubic centimeters of blood

were taken from a vein in the arm and centrifuged, but no parasites of any kind were detected in the peripheral blood by this means, so that they were probably absent from it. The recent cultivation of trypanosoma led Dr. Rogers to try to obtain similar results with the Leishman-Donovan parasite by means of adding the blood obtained by spleen puncture to a small quantity of sterile citrate-of-sodium solution to prevent the blood clotting, and then keeping it under different conditions. When the solutions were kept at blood heat the parasites very rapidly degenerated and disappeared, yet when placed in a cold incubator at 27°C. they retained their natural conditions for several days and stained perfectly. Moreover they increased markedly in numbers, so that in some instances instead of two or three in a field of an oil immersion lens, as in the freshly taken blood, after a day or two scores and even a hundred very young forms could be found in the same area. The very young forms, so numerous in the cultures, were rarely met with in fresh spleen-puncture blood and then only within large cells and not free in a gelatinous zoöglœa mass as in the cultures. The multiple forms resulted from the repeated subdivision of the nuclei of the ordinary oval form. In addition to this method of division another frequent manner was a single division of both nuclei followed by the splitting up of the parasite into two, the separation usually beginning from one end. We had, then, clear evidence of the survival and multiplication of the organism outside the body. As at a temperature of 27°C. the parasites only lived for three or four days, Dr. Rogers next reduced the temperature of the cold incubator to 22°C. This temperature was found to be more suitable to the parasites, as they multiplied more readily. Further forms of a considerably larger size appeared, and in two of the cultures unmistakable trypanosomes appeared, together with smaller pear-shaped flagellated bodies like those described by Plimmer in tsetse-fly disease. These two cultures were made respectively from a typical case of the cachexial fever of Lower Bengal and from a patient with Assam kâla-agár whose blood before incubation showed only the oval forms described by Leishman. Thus the true nature of the organism was at last clear. Major Leishman's original hypothesis that the bodies he found were degenerate trypanosomes not being very far from the truth, as they must now be looked on as one stage of the life history of the new human trypanosome found by Dr. Rogers. In this connection is was worth recalling that Assistant Surgeon Chatterji found a trypanosoma in the proboscis of a mosquito caught near Calcutta as long ago as October, 1901 (*Indian Medical Gazette*).

As to treatment, Dr. Rogers stated that he could not agree with the opinion that quinine was quite useless in this form of fever. He had frequently seen the fever stopped or greatly decreased by this drug in cases in which over 2,000 leucocytes were still present in the blood, while in chronic cases, on leaving off the drug, the fever often rose to a considerably greater height than while it was being taken regularly. Further, once the fever had been reduced a single large dose daily would often prevent a relapse. Another remedy which he recommended seven years ago, was fresh uncooked bone marrow. It was not to be expected that this substance would have a direct effect on the fever, but if this could be controlled or was mild, or absent for a time, then a more rapid renewal of the leucocytes might be brought about, the resisting power of the patient increased and recovery eventually ensue. For the prevention of the disease Dr. Rogers recommended segregation, and stated that the adoption of this measure had already been attended with success, thus demonstrating the local nature of the infection.

Sir Patrick Manson said it was certain that many medical men would be exploring spleens for Leishman-Donovan bodies. The operation was not free from danger, and as possibly the splenomegaly of other diseases might be mistaken for kâla-azár he would urge blood examination before spleen puncture. A matter of great practical importance was the settlement of the way of exit and of the way of entrance of the parasite. Its association with ulceration, dysentery, and Oriental sore suggested that it emerged through ulcerations and entered by insect bite. Oriental sore must now be regarded as a serious disease, sometimes leading to a general infection.

Dr. Louis W. Sambon, in lectures to the London School of Tropical Medicine, said that when he first saw the Leishman-Donovan organisms, in the preparations sent by Major Donovan to Sir Patrick Manson, he was struck with their resemblance to some of the so-called amœboid forms of trypanosomes which he had the opportunity of examining in Dr. Castellani's preparations. The presence of a well-marked blepharoplast in close proximity to the nucleus of the organism seemed an indubitable proof of the flagellate nature of the parasite. The observations by Major Leishman, Major Rogers, and Dr. Castellani seemed to show that the Leishman-Donovan bodies in man were chiefly found within the leucocytes, and in this respect resembled the so-called leucocytozoa of birds. He had no doubt that the study of the Leishman-Donovan parasites would help us to elucidate many obscure points in the pathology of sleeping sickness. As to the transmission of the new parasite, analogy would incriminate some of the dipterous insects, and he thought very careful investigations should be made on this point.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 27, 1904:

	Cases.	Deaths.
Measles	70	4
Diphtheria and croup	244	25
Scarlet fever	48	2
Smallpox	...	...
Varicella	3	...
Tuberculosis	371	147
Typhoid fever	140	27
Cerebrospinal meningitis	...	17

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended August 27, 1904:

SMALLPOX—UNITED STATES.

		CASES	DEATHS
Georgia, Macon	Aug. 13–20	1	..
Illinois, Chicago	Aug. 13–20	6	..
Louisiania, New Orleans	Aug. 13–20	2	Traced to importation.
Michigan, Grand Rapids	Aug. 13–24	1	..
Missouri, St. Louis	Aug. 13–20	2	1
Pennsylvania, Philadelphia	Aug. 13–20	1	..
South Carolina, Charleston	Aug. 13–20	1	..
Tennessee, Nashville	Aug. 13–20	2	..

SMALLPOX—INSULAR

Philippine Islands, Manila	July 2–9	1	..

SMALLPOX—FOREIGN.

Africa, Cape Town	July 8–16	..	1
China, Shanghai	June 25–July 16	..	6
France, Paris	July 30–Aug. 6	12	1
Great Britain, Glasgow	Aug. 6–12	9	..
Leeds	Aug. 6–13	2	..
London	July 30–Aug. 6	2	1
Manchester	July 30–Aug. 6	..	1
New-Castle-on-Tyne	July 30–Aug. 6	5	..
Nottingham	July 23–30	1	..
India, Bombay	July 19–26	..	5
Calcutta	July 9–16	..	1
Italy, Palermo	July 23–Aug. 6	31	15
Mexico, City of Mexico	July 31–Aug. 7	3	1
Russia, Moscow	July 23–30	13	2
St. Petersburg	July 23–30	5	1
Warsaw	July 8–16	..	27
Spain, Barcelona	Aug. 1–10	..	9
Turkey, Constantinople	July 31–Aug. 7	..	2

YELLOW FEVER.

Ecuador, Guayaquil	July 20–27	..	7
Mexico, Coatzacoalcos	Aug. 6–13	2	1
Merida	July 31–Aug. 13	2	2
Tehuantepec	July 31–Aug. 13	5	4
Vera Cruz	Aug. 6–13	5	1

CHOLERA.

India, Bombay	July 19–26	..	1
Calcutta	July 9–16	..	7

PLAGUE—INSULAR.

Hawaii, Hilo	Aug. 19	..	1
Philippine Islands, Manila	July 2–9	1	1

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Original Articles.

THE CYCLE OF THE TUBERCLE BACILLUS.

A PRELIMINARY ANNOUNCEMENT.

By STEPHEN J. MAHER, M.D.
NEW HAVEN, CONN.

On the first day of last May, after several weeks of unsuccessful efforts to secure pure cultures of an acid-fast bacillus that I had found in a dark barn, my attention was attracted by an organism that grew, apparently in pure culture on media where only forty-eight hours before I had planted almost a pure culture of the elusive acid-fast. This new organism was at least ten times as large as the tubercle bacillus. It occurred in chains and single, and was the largest bacillus that I had ever seen. It contained much granular spore matter of varied shape, and, a thing that appealed to my fancy, some of this spore matter was consistently acid-fast.

During the next few weeks, I grew the organism in all sorts of media. I found that the contained spore matter, though it could not be readily made to develop into rods that looked like tubercle bacilli, could very easily be changed in forms very unlike that of its mother bacillus, and that the mother bacillus itself could be made to change its size and spore content, by the addition of various chemicals to the culture media in which it was growing.

I had observed that the original infusion of barn scrapings in which the acid-fasts still continued to thrive, was strongly alkaline. I therefore made several hundred alkaline experiments in which the medium was rendered alkaline by the addition of ammonia. I was frequently rewarded by finding acid-fasts, an occasional rod or small group of rods, or crescentic or ovoidal spores, but usually when on the next day I took smears from the same tubes not an acid-fast could I demonstrate. I thought at first that there was something wrong with the staining technique; but after much floundering, I finally reached the conclusion that the short exposure of the tubes to the bright sunlight of the laboratory was the cause of the disappearance of my acid-fasts. I observed that the mother bacillus found blood serum and thoroughly sterilized milk the most favorable media for the development of its acid-fast children. Still even in these media there was more of promise than performance—that is, in many tubes there were acid-fast rods of good and indifferent shapes but they were few as compared with the number that I could always get in a smear from the bottle of alkaline hay infusion in the incubator.

On June 21 I examined a tube of milk that had been planted with the mother bacillus on May 4, and made alkaline with three drops of ammonia on May 28, and later discarded as giving rather unsatisfactory results. It had been standing for two weeks in a dark corner of the thermostat room. To my great joy, I found that every field of every smear now gave masses of beautiful acid-fast rods, usually arranged in clumps, and that about these clumps were large blue rods and ovoids of my *Bacillus maternus* usually containing acid-fast spore matter, of rosette shape or amorphous. The next day, I made other smears from this tube, and found the acid-fasts still there. I then poured an equal amount of sterile bouillon into this tube, and injected ten minims of the mixture into each of ten guinea-pigs, intraperitoneally. The syringe and needles were new, and were boiled for half an hour before using. At the same time in the conduct of other experiments, I injected—of course, with other syringes—tubercle bacilli into twenty-seven other pigs. The first of the thirty-seven to die was one that had been injected with the progeny of *Bacillus maternus*. It died on the twenty-fourth day. On autopsy it was found to have four tubercles in the mesentery, sixty in the liver, an enlarged caseous spleen and enlarged and soft suprarenal capsules. Acid-fast rods and ovoids and crescents were demonstrated by the microscope in smears from tubercles in the liver and mesentery and from the pus from the suprarenal capsules.

Another pig of the series died on the fifty-second day and was also tuberculous. The other eight were killed, one on the twenty-seventh day; one on the forty-fourth day; two on the fifty-first day; two on the fifty-fourth day; and two on the fifty-ninth day. Of these none had so many tubercles as the one that died first, but all were tuberculous. In two the only evidence of the disease was in the spleen. A control pig, killed at the close of the experiment, showed no sign whatever of tuberculosis.

After the injections on June 22, I took the tube of mixed bouillon and infected milk and put it in the incubator at 37.5° C. The next day I found that smears taken from it showed a considerable change. There were still many large mother bacilli and acid-fast rods and small ovoids; but the rods seemed a little thicker than tubercle bacilli. And there were in every field many granular blue rods not more than a quarter as large as the mother bacilli. The following day the proportion of acid-fasts was much smaller, and they were generally crescentic or ovoidal in shape. I found now at the bottom of the tube a few blue biscuit diplococci and a few segmented large rods. The scum contained no long bacilli materni, but many of the granular blue rods found on the preceding day.

By July 5 the acid-fasts had entirely disappeared from the tube, which still contained a few mother bacilli large and small, and many biscuit diplococci in twos and fours, and some in lines of five and six.

On blood serum and milk, *Bacillus maternus* reproduces itself by fission, at the same time depositing acid-fast spore granules, large ovoids, rings, and rosettes. The rings and rosettes swell, and under favorable conditions are seen to contain small ovoids and crescents and blunt rods. The large ovoids reproduce large granular rods. The small ovoids and crescents, and blunt rods will, in suitable environments, become acid-fast rods, indistinguishable from tubercle bacilli.

Very often in a medium that is unsuitable for the full development of the large mother bacilli rods, a number of the segments roll together, and from this ball small non-acid-fast biscuit-shaped diplococci make their way. Often, again there will be seen segments of vigorous adult mother bacilli in which the contained

granules of spore matter have taken on the shape of these biscuit diplococci.

I have several times planted bacilli materni on blood serum the surface of which had been two days previously treated with ammonia. The resulting growth contained beside the adult bacillus maternus lancet-shaped diplococci and no biscuits. I have with the proper precautions taken bits of the fresh spleens of guinea-pigs infected with *Bacillus maternus* and dropped them into tubes of sterile milk. In glass-slide smears, taken from the same spleens, no organism, or only a few acid-fast rods and crescents, could be found; but in twenty-four hours the tubes of milk were filled with non-acid-fast cocci, which soon became diplococci, and then biscuits, and then gave place to non-acid-fast granular rods larger than tubercle bacilli, but resembling them in shape and in the disposition of their contained granules. After these milk tubes had been three days in the incubator at 30° C, I found in them beautiful clumps of large bacilli materni. I have said that smears direct from the spleens gave no bacteria, but I must add that they did give a very interesting something—masses of granular matter, amorphous or made up of poorly shaped ovoids, and which stained orange or orange and black with Gabbett's stain, which sometimes swelled out a blood cell like a malarial crescent, but was oftener found free in the spleen tissue. I am convinced that it was from this yellow spore matter that the blue cocci came, and that this yellow spore matter was the last retreat of the vital spark that had been conveyed to the spleen in the acid-fast rods which were there destroyed. I have found the material invariably in the spleen and occasionally in the liver of tuberculous guinea-pigs, in cultures of tubercle bacilli in bouillon, in various cultures from tuberculous sputum, in smegma, and in ear-wax that contained acid-fast rods.

On July 10 I planted a pure culture of tubercle bacilli in a tube of sterilized milk and placed it in an incubator in which the temperature ranged from 30° to 35° C. The culture had been secured from Dr. E. R. Baldwin in February and since sub-cultured on glycerin-agar. It was the comparatively non-virulent culture known as the "K Culture" at the Trudeau laboratory. Every day or two afterward I exposed that milk tube to the light of the laboratory window for perhaps thirty seconds, and gave it a gentle shaking. On July 22 I made a sub-culture from this tube into another milk tube. On July 23 I made smears from both of these tubes. I found that both tubes contained very long granular acid-fast tubercle bacilli and a very few bacilli morphologically the same but not acid-fast. There were a few blue biscuit diplococci, and one blue tetrad free in the field. The thing that caught my attention most strongly was the biscuit shape of the granules in the tubercle bacilli. I had not seen that phenomenon before. The blue rods, of course, might have been the result of too long a decolorizing. Perhaps this is as good a place as any to explain that in all the work described in this paper the staining was done by the Gabbett modification of the Ziehl-Neelsen fuchsin-and-methyl-blue method, and that I carefully refrained from sealing the cotton plugs of tubes and flasks with paraffin or wax. I was astonished to find that there had been such a rapid growth of tubercle bacilli in the second tube after only twenty-four hours' incubation. Every loopful of the milk seemed to contain as many bacteria as had been originally put in the tube.

That night I poured a tube of sterile milk into two thoroughly sterile ground-glass-stoppered bottles, and in one planted tubercle bacilli from the milk tube of July 10, and in the other tubercle bacilli from the tube of July 22. Twenty-four hours later, I found that the "July 10 sub-culture" contained only acid-fast but very granular and long tubercle bacilli, and that the granules were rod shaped or biscuits; and that the "July 22 sub-cultures" contained only a very few acid-fast tubercle bacilli but thousands of blue biscuits in all sorts of groupings, and beautiful large bacilli materni, and round clumps of blue spore matter. I realized that there was nothing conclusive about this experiment, but it was startlingly suggestive. In following up the suggestions that it offered, I have spent much time and effort since. I cannot here describe in detail my experiments, important though I think them to be.

Most of my work was done with milk, and I know milk as a culture medium is not beloved of bacteriologists, but the results that I shall narrate were all achieved with absolutely sterile milk, as proved by controls. One supply of milk, I found it very hard to sterilize. There were still germs in it after it had been steam sterilized for an hour on three successive days and had besides been given half an hour in the autoclave at 120° C. Much of the work was done with milk to which an equal amount of boiled filtered water had been added, and which had then been kept in the hot air sterilizer at 160° for an hour on two successive days. I found it impossible to prevent milk from burning if kept for an hour in the autoclave at 160°.

Pure, strongly virulent tubercle bacilli, taken July 30 from a blood-serum tube fresh from Saranac Lake and planted in browned-milk tubes, gave after twenty-four hours and after forty-eight hours nothing but acid-fast tubercle bacilli; but a sub-culture, made after twenty-four hours, in a flask of milk that had been browned in the autoclave, gave twenty-four hours later a pure culture of a large blue granular rod exactly like one form of *Bacillus maternus*.

A pure culture of the more vigorous but less virulent K-culture of Saranac Lake, after the same procedure, gave a few poorly acid-fast granular tubercle bacilli, and many blue rods containing distinct biscuit granules and many blue masses formed of clumped and disintegrating tubercle bacilli

This brings me to another interesting point. Under certain conditions of unfavorable environment which I do not pretend to understand, tubercle bacilli instead of continuing on the return half of the cycle to mother bacilli retrogress by one of several longer courses. In the first one, they clump and lose their acid-fast property. A deeply stained small ovoid appears in the center of the now homogeneous mass. This mass becomes more opaque and rounded and takes on the appearance of the nucleus of a pus cell. From this body may come, according to the demands of environment, one large *Bacillus maternus* or many non-acid-fast cocci or biscuit diplococci. If the latter should be the event, still another side road must be traversed before *Bacillus maternus* is reached. The diplococci must stretch out into small rods, the rods must become chains, and the links in the chains must grow to the size and content of bacilli materni. A second way in which tubercle bacilli complete their life cycle in this: the round granule or bead that has been so often observed at one end or in the middle of the supposedly dying bacillus swells enormously, detaches itself from the shred of the rod from which it came, and itself becomes non-acid-fast. As it enlarges, it evolves four deeply staining nuclei and either breaks up into tetrads or biscuit diplococci, or assumes the shape of a pus nucleus or of a large ovoidal spore. The third route is for the tubercle bacillus while still

acid-fast to enlarge until it contains three equal square-ended solidly staining bodies. These pull apart somewhat, and lose their acid-fast property, and by some strange attraction gather about them opaque masses of protoplasm, and, in a few hours they are the centers of the three poorly divided segments of what looks like the crescentic nucleus of a pus cell.

A fourth way is for the tubercle bacillus to enlarge quickly along its own lines, and even before it loses its acid-fast property, to display varied granular contents. I have seen in one enlarged acid-fast rod a well-defined crescent, a short rod, a biscuit diplococcus, a monococcus, and an ovoid.

I have found it possible, but not easy, to reduce tubercle bacilli to bacilli materni without the use of milk. I have succeeded best by quick transferances from bouillon to potato and back to bouillon. Even at the potato stage of this progress, I have discovered nests of tubercle bacilli, growing among the slightly larger non-acid-fast granular rods, characteristic of one stage of the first half of the cycle.

On plain bouillon, a culture of the less virulent tubercle bacillus, kept at 30° to 35° for two weeks, gave acid-fast tubercle bacilli, about a dozen, small and deeply stained, to a field, and occasional clumps of small blue rods with an ovoid spore shining through. These groups tended to rotundity of form and suggested pus nuclei or poorly shaped spores of *Bacillus maternus*.

Pure tubercle bacilli planted in milk tubes July 21, kept at 30° for twenty-four hours, and then subcultured in bouillon, showed after twenty-four hours a few tubercle bacilli of good shape, but most of the bacilli, though still acid-fast, were breaking in two, both halves becoming ovoids. There were also many very large rods becoming granular and suggesting medium-sized bacilli materni. Two days later there were still a few acid-fast rods, but the large rods had become deeply blue and attained the exact size and appearance of large bacilli materni.

I am unable yet to formulate rules for the certain conduction of tubercle bacilli back to their mother shapes The subject is very much involved, and has to do probably with the vitality of the culture, the degree of acidity and aëration of the medium, its density, and the amount of light it is capable of absorbing. There seems to be a constant struggle in a milk culture of tubercle bacilli between two tendencies of the germs, one simply to reproduce themselves, and the other to complete their larger cycle. Sometimes in media in which on one day it is possible to find with the Gabbett stain, a few blue biscuits or rods mixed with the acid-fast tubercle bacilli, on the next day there will be nothing in the smears but the tubercle bacillus.

This was rather dramatically shown in the following experiment: On the morning of August 19 I made smears from two flasks that had been six days in the thermostat at 30° to 35°. Flask No. 1 had been planted with pure tubercle bacilli from a glycerin-agar tube on August 13. No. 2 had been planted on the same day with tubercle bacilli that had been growing ten days on milk since leaving the same glycerin-agar tube. Both flasks were found to contain immense quantities of granular acid-fast tubercle bacilli and nothing else. Flask No. 1 seemed to have the greater number of bacilli. I placed both tubes on my desk between two western windows. Four and one-half hours later, I again made smears from both flasks to see whether the exposure to light, and room temperature, had yet effected any change. There was still nothing but tubercle bacilli in either flask, but on one smear from flask No. 2 a few fading clumps were forming. After twenty-four hours more, during which the flasks had still been on my desk, I took other smears and found that in flask No. 1 there were now as many large shapely bacilli materni as there were tubercle bacilli. In flask No. 2 there were only a few bacilli materni not more than a dozen in a smear, but not on any day since have I been able to find a single blue-stained organism in any of the smears I have made from flask No. 2. From flask No. 1 I have grown beautiful sub-cultures of *Bacillus maternus* on blood, potato agar, and bouillon. Why the process of evolution was stopped in one flask and not in the other, I cannot understand. In both these flasks only a thin layer of milk was used. The milk was from a different dairy from any that had heretofore supplied me. The flasks had been subjected to 160° dry heat, for more than an hour. The milk had been subjected to 160° for an hour on two successive days and then steam-sterilized for an hour. The controls showed no organisms of any kind. The college janitor, an entirely reliable man, and myself were the only persons who visited the laboratory during the twenty-four hours in which this transition from tubercle bacilli to bacilli materni, took place in those flasks. Nobody but myself knew what was in the flasks nor what was the purpose of exposing them to the light.

I have not yet been able to grow a pure colony of *Bacillus maternus* from tuberculous spit, but I am satisfied that I have several times recognized individuals and groups of this organism in the fields of blue biscuits and pus nuclei and acid-fast rods, that we are all familiar with. I have isolated a pure culture of what seems to be *Bacillus maternus* from smegna. I have grown it from the spleens of guinea-pigs dead with tuberculosis.

The constant association of biscuit diplococci with the acid-fast rods found in smegna, in hay, in manure, in butter, and in tuberculous lesions is an interesting point.

Before concluding I would like to return for a moment to the technique of deducing acid-fast rods from *Bacillus maternus*. I found last spring that in the shay and manure I gathered from the dark barns there were many active yeasts. It occurred to me that perhaps the alcohol or ether, the result of yeast growth, might be helpful if not essential to the development of the small acid-fasts. After some experimentation, I concluded that the best results were obtained by the following formula: Plant pure *Bacillus maternus* in milk tubes. Place these in the incubator for two weeks. Add two, or not more than three, minims of ether and the same amount of ammonia to every 6 c.c. of milk. Replace the tube in the incubator for two days, and then put them in the dark at room temperature for two days. This does not always succeed; but the results in the way of getting grouped acid-fasts are often very striking. Why does it not always succeed? I do not know, but it must be remembered that milk is a fluid of very variable chemical composition. Particularly true is this statement of skimmed milk. And it is skimmed milk that it is necessary to use as a medium. It is not greatly to be wondered at that a process so sensitive to light and air as I have found the formation of these acid-fasts to be, should also be interfered with by too much fat or too little, or too much sugar or too little, or too many or too few of the toxins or the antitoxins of dead bacteria in the tubes of skimmed milk in our incubators.

Some tubes of milk from which a few weeks ago I could get thousands of beautiful acid-fast rods with every loopful of milk, I find to-day contain not one satisfactorily acid-fast bacillus. They had been

exposed to much reflected light and no ammonia or ether had been added to the milk for weeks.

Bacillus maternus is unquestionably one of a large family. I have found several other bacilli that resemble it greatly; but at their largest they are somewhat smaller than it at its largest. One of these I have found in milk, another grew on agar plates exposed at Saranac Lake on the coldest day of last winter; another, I isolated from a common thistle picked up on the parade ground at Fort Stanton, New Mex., last February; another came from a climbing Japanese vine that shut out the light from the farm-house bedroom of a consumptive girl of healthy stock and association; another came from the skin of a Japanese variety of plum that arrived, carefully packed, from South Africa last winter. These organisms differed in many respects from *Bacillus maternus*, but they had in common with it, the property of voiding, besides the ordinary large more or less acid-fast spores, certain rosettes or asters or rings of acid-fast spore matter, which under favorable conditions had the faculty of becoming small rods or biscuit diplococci. They all contain at certain stages of their rod development granules of differing shapes, some of which are acid-fast. They form colonies of similar shape on agar and blood serum.

Bacillus maternus is a large bacillus, the individual rods from blood or milk measuring three to eight microns in length and three-fourths to two microns in width. One average rod would cover a dozen average tubercle bacilli. It is a non-motile, facultative anaerobe. It forms a sediment and scum on bouillon and renders it turbid. It forms an opaque non-spreading colony on the surface of agar or glycerin-agar in tubes or Petri dishes. Deep colonies in agar resemble those of anthrax. It grows at room temperature and its spores resist more than one hundred degrees of moist heat for an hour. It digests but does not curdle milk. It forms a sunken colony in blood serum and only slightly digests the serum. It quickly dissolves gelatin and shrinks to smaller rods. On ammoniated gelatin the rods are somewhat stouter with a growth of diplococci. After fifty hours on sugar gelatin the colony consists of many larger spores and an immense amount of acid-fast amorphous spore matter which fills to bursting many of the rods, and which is also found in various rounding shapes free in the microscopic fields. On potato a dry opaque gray or lemon-colored growth is formed.

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The Vomiting Sickness of Jamaica.—R. S. Turton gives a vivid picture of this affection. The disease occurs only in the cold months, being rarely seen before December or after March. It occurs in country districts, not in towns, among the poorer classes and unhealthy surroundings. The writer can recall few or no fatal cases occurring in properly ventilated houses. The disease may attack more than one member of the family either at the same time or at intervals of hours up to a day or two. It attacks children, usually irrespective of sex, presenting a longer or shorter period of malaise, followed by vomiting, convulsions, and death in a few hours. Post-mortem examination reveals signs of gastrointestinal irritation, and usually infection with ascarides in large numbers. The writer believes that the disease is caused by a toxin affecting the respiratory center. It kills by respiratory failure. There is a very small death rate in cases in which early treatment has been given. Early and free stimulation, warmth, followed by a dose of calomel and castor oil, will probably avert any ill effects; but to be of use, the remedies must be administered before the convulsive stage sets in.—*The Journal of Tropical Medicine.*

CLINICAL AND OTHER FEATURES OF THE RECENT EPIDEMIC OF CEREBROSPINAL MENINGITIS.*

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In April, 1894, I read a paper before the Pediatric Section of the New York Academy of Medicine, recounting the clinical features of an epidemic of cerebrospinal meningitis which had occurred in New York City during 1893, lasting from March to July, there having died in May, 1893, at the height of the epidemic, 107 cases. At all times the disease is endemic in New York, the average number of deaths being, for Manhattan and the Bronx, in late winter and spring 25 per month; sometimes as low as 10 during the fall and early winter.

The number of deaths from cerebrospinal meningitis in Manhattan and the Bronx from January 1, 1904, to June 4, 1904, was as follows:

Week	Jan.	2	5	Week	April	2	25
"	"	9	5	"	"	9	22
"	"	16	5	"	"	16	42
"	"	23	5	"	"	23	45
"	"	30	6	"	"	30	52
"	Feb.	6	5	"	May	7	53
"	"	13	2	"	"	14	73
"	"	20	3	"	"	21	69
"	"	27	4	"	"	28	54
"	March	5	5	"	June	4	52
"	"	12	4				
"	"	19	14				
"	"	26	19				

It will be seen that the number of deaths from this cause rose from 24 in January, and 14 in February, to 33 in March, and 306 in May; in the last month more than twelve times the average number of deaths from this disease during non-epidemic years. These figures prove that the present epidemic is much more severe than that of 1893, even allowing for the increase in the population of the city. From my study of the statistics of this disease, both in 1893, and the reported statistics of the epidemic in Lisbon in 1900, I found that when during the epidemics there was for three or more successive weeks a decided decrease in the number of deaths it was generally found that the high figures before the decrease represent the acme of the epidemic, and that a continuance of the gradual diminution in the number may be expected. I speak of this because it yields the one encouraging factor in the above figures which show that the largest number of deaths (73) occurred in the week ending May 14, and the four subsequent weeks represent a steady decline to 52, during the week ending June 4. If then, in this respect, this epidemic follows the course of former epidemics, we may hope that the disease is on the decline. This epidemic is far more general in its geographical distribution than that of 1893. The statistics of the State Board of Health show a large increase in the number of deaths from this disease throughout the State, while in New Jersey and Connecticut the number of cases is very much increased.

The present epidemic is no exception to the usual rule observed in all epidemics of this disease, that it has a predisposition for infants and young children. Four hundred and eighty-one out of 750, more than three-fifths of the deaths, occurring in the greater City of New York from January 1, 1902, to June 4, 1904, were of children under six years of age. Nevertheless, the proportion of older children and adults dying from this disease in this epidemic is *very much greater* than in any other epidemic the statistics of which I have seen.

*Read before the Medical Association of the Greater City of New York, June 13, 1904.

Indeed, in the epidemic of 1893, adults were almost entirely free from the disease. The following figures, furnished me by Dr. W. H. Guilfoy, Register of the Department of Health, and for which I desire to express my thanks, show that 125 out of 750 were over twenty years of age—an extremely unusual proportion of adults. Moreover, in my own experience in this epidemic, the cases affecting adults and older children were far more severe. One adult whom I saw with a colleague was brought home from his shop in convulsions, and died within thirty-six hours. He had complained, for only twenty-four hours before the first convulsion, of headache and pain in the back of the neck.

In this epidemic, as well as in the epidemic of 1893, a very large increase in the number of deaths from pneumonia has been observed, occurring synchronously with the existence of the epidemic of cerebrospinal meningitis. This has been true of all the recorded epidemics of the disease in this country. The largest number of cases occur during the cold and wet seasons of the year, although the disease, being chronic, the largest number of deaths takes place one or two months later. This fact is of extreme interest from an etiological standpoint.

It is known to all of you that the bacteriological cause of epidemic cerebrospinal meningitis is the diplococcus intracellularis meningitidis isolated and culturally and morphologically described by A. Weichselbaum and his pupils and followers. And yet, in a publication in 1887 even Weichselbaum conceded that a proportion of the cases of epidemic cerebrospinal meningitis were due bacteriologically to the diplococcus pneumoniæ, which also was the most frequent etiological factor in idiopathic cerebrospinal meningitis. At that time he conceived that it was possible for the diplococcus intracellularis meningitidis to produce epidemics of cerebrospinal meningitis. That this germ is the exclusive bacteriological cause of such epidemics was not claimed by bacteriologists or clinicians until the work of Jaeger (*Zeitschrift fur Hygiene*, Bd. 19, 1895). It is curious and interesting, however, that the culture behavior and morphological characteristics of the diplococcus intracellularis meningitidis, as found by Jaeger, differed in important respects from the description of Weichselbaum. Many authorities before this had considered the Weichselbaum meningococcus simply a specialized variety of the pneumococcus, and many had considered it identical with the diplococcus pneumoniæ of Frankel.

Netter in 1898 (*Bulletin et Mémoires de la Sociète de Medicin des Hôpitaux de Paris*, 1898, 13 and 20 May), in a small epidemic in Paris found diplococci which, after repeated passage through white rats took the typical form of diplococcus pneumoniæ. Such reports of large material as those of Councilman and Mallory and Wright in Boston (111 cases, 1897), Faber (60 cases in Copenhagen, 1898, and Bettencourt and Franca in Lisbon, 271 cases), in all of which the Weichselbaum meningococcus was found in the cerebrospinal fluid obtained by lumbar puncture, are conclusive of the individual identity of this organism and its etiological importance in this disease.

Whether it is the exclusive cause of all epidemics of cerebrospinal meningitis, appears to me still unproven.

This even Weichselbaum acknowledges, especially when it is remembered that there are different types of organisms which have been found in various cases of sporadic and even epidemic cerebrospinal meningitis; not only the two mentioned, but the streptococcus pyogenes, and also the staphylococcus pyogenes, while sporadic cases of tuberculous cerebrospinal meningitis are, perhaps, the most frequent form of that disease.

Meanwhile, I repeat, that the fact that epidemics of cerebrospinal meningitis in this city have been accompanied by a simultaneous increase in the number of pneumonia cases is an important and pregnant one. It is interesting to note that one of my earliest cases in the present epidemic of cerebrospinal meningitis, a girl of eighteen, had an attack of typical lobar pneumonia involving the upper lobe of the right lung. On the third day of the disease opisthotonos with cerebral symptoms (dilated pupils, delirium, convulsions) developed. The pneumonia went on to resolution after six days, but the cerebrospinal symptoms continued; a lumbar puncture yielding 15 c.c. of a turbid fluid showed the diplococcus intracellularis meningitidis. This case died after four weeks. It was clinically an undoubted case of lobar pneumonia complicated by or complicating epidemic cerebrospinal meningitis.

In the epidemic of 1893 I could not find any history of more than one case in one family; none occurred in my own practice. Councilman writes that in the Boston epidemic the same was true, the cases occurring in different and distant parts of the city among the poorer population. In the present epidemic my experience has been different; the cases I have seen in my private practice—about twenty in number—have been almost all in the lower and east end of the city, although the Health Board returns show that the epidemic has been quite general throughout the city among the tenement population in the thickly settled districts. Cases have been quite numerous in Brooklyn. Furthermore, among my own cases I have a family in which the three children were all taken with the disease; two of them have died, and one is still very ill. The first child died the first week in May. The second child was taken ill a week later, and died the first week in June. The third and oldest child, a boy of eight, is still sick. These were undoubted cases of epidemic cerebrospinal meningitis.

A mother died of epidemic cerebrospinal meningitis in the hospital. The daughter (adult) attended the funeral, was taken with severe headache the same evening, and brought to the hospital several days later suffering from cerebrospinal meningitis. I know of two other instances in which two members of the same family were taken with the same disease.

While these cases seem to point to the contagious character of the disease, we know nothing of the incubation period of the disease, and but little of the method of the spread of the contagion. It is generally conceded by most clinicians and bacteriologists that the germ probably enters through

DEATHS FROM CEREBROSPINAL MENINGITIS IN THE GREATER CITY OF NEW YORK FROM JANUARY 1, 1904, TO JUNE 4, 1904:

Total	Males	Females	Under 1 Year	1	2	3	4	Total under 5 Years	5	10	15	20	25	30	35	40	45	50	55	60	65	70
750	416	334	80	74	51	49	58	312	169	74	71	40	22	19	11	8	12	4	2	4	1	1

the nasal passages, and is spread by the lymphatics to the dura and subarachnoid spaces. It is possible, also, that the organism is carried by the capillaries to the site of the lesion in the brain and spinal cord, although a general infection of the blood, septicæmia, does not occur, nor has the organism been found in cultures taken from the blood (Councilman).

The germ can be frequently isolated from the nasal discharges from patients suffering from the disease, and it is very possible that it is spread in times of epidemics by the nasal and conjunctival discharges from the sick. These are carried either directly to the attendants who handle the soiled, wet handkerchiefs and towels from the sickroom. Or, the discharges drying in the sickroom, and on the clothing and bedding of the patient, are carried in the currents of air, and are inhaled into the nostrils of healthy subjects. Where a fitting nidus is found, contagion may thus take place. I do not think the danger of contagion is as great as in pneumonia, which I consider to be only slightly contagious, and then only through the sputum.

It is interesting to note here that most observers, among others Councilman, have found that the diplococcus is of feeble growth, and frequently large amounts of cerebrospinal fluid must be used to produce a positive culture, which may be one of the elements that would account for the rarity of contagion.

On the other hand the organism is one of the most resistant to drying agencies, retaining its life for a long while. Jaeger (*Deutsche medizinische Wochenschrift*, 1894, No. 18) was able to isolate the diploccocci from a handkerchief that had been used in a sickroom of a case of cerebrospinal fever six weeks before. Experiments made by Eduardo Germano (Die Uebertragung von infectiösen Krankheiten durch die Luft; *Zeitschrift für Hygiene*, 1897, Vol. 26, p. 29) showed that when the meningococcus is dried rapidly or slowly, it is one of the most resistant organisms, so that as a dust it can readily be carried in the air, and in this way produce infection. Cleanliness in the sickroom, the careful removal of the discharges from the patient's nose and eyes by cloths, and pieces of gauze which can be destroyed, the separate boiling of towels, clothing, and bedclothes, and the careful and frequent washings of the hands of the visitors and attendants, will be sufficient safeguards to prevent the immediate carrying of the contagion from the sick to the healthy, and will leave no nasal discharges to dry in the sick room, and thus cause an indirect contagion through the air. The infrequency of these epidemics, and the comparatively short duration of each (a few months) indicates that the instinctive precautions of the above nature, which we take to protect ourselves against all infectious diseases, even when their contagious character is doubtful, have been sufficient in all previous epidemics. Nor do I think that this disease is as contagious, directly or indirectly, as typhoid fever is through the stools, or even as pneumonia is through the sputum.

For the purpose of bacteriological diagnosis of the disease during life the meningococcus must be sought for in the cerebrospinal fluid obtained by lumbar puncture. It can be demonstrated by culture and microscopically. Cultures made from fluid obtained by lumbar puncture early in the disease will give positive results in a very large proportion of cases. Bettencourt and Franca found it in the Lisbon epidemic of 1900 in 271 cases out of 271 examined. It was never found by them in the blood during life. The blood serum of those sick and those who had recovered has agglutinating properties In six cases examined by Franca two responded in the proportion of 1 to 100, the remainder 1 to 10, 1 to 20, and 1 to 50. Whether the agglutinating reaction will be found to be sufficiently reliable and exclusive to use the method for diagnostic purposes, after the manner of the Widal reaction in typhoid fever, remains to be seen. The diplococcus can also be found in the nasal discharges of patients suffering from the disease, both microscopically and by culture. Weichselbaum, however, quoting Albrecht and Gohn (*Wiener klinische Wochenschrift*, 1901) states that there is some doubt as to the identity of the diplococci found in many of the cases. If lumbar puncture is done early in the disease, a cloudy fluid will be obtained containing pus cells in which the organisms are found; later in the disease, with a clearer cerebrospinal fluid the result may be negative. Diplococci are more apt to be found in fluid obtained during the acute stage or during an exacerbation.

For the purpose of studying the symptomatology of the cases in this epidemic, I will remind you that the locus of the lesion of this constitutional acute infectious and to some extent contagious disease is in the membranes of the brain and spinal cord. The lesion is primarily a leptomeningitis involving the pia mater and the arachnoid, although in the progress of the disease the inflammation extends into the substance of the brain and spinal cord, giving rise to purulent infiltration and even abscess of the brain and cord structure both in the gray and white matter. In some, fortunately rare cases, the ventricles of the brain and the central canal of the cord become filled acutely with a purulent or seropurulent effusion. In the brain and cord of severe cases there is a general purulent inflammation, resulting in changes of a destructive character in the nerve fibers and ganglion cells and proliferation of the neuroglia. The lesion, however, is primarily located in the membranes of the brain and cord, and the involvement of the spinal-cord membranes is much greater and more general than in any form of meningitis. The popular name of the disease, spinal meningitis, is not a misnomer. The lesion extends along the base of the skull to the cranial nerves, particularly the auditory and optic nerves, and the fifth nerve ganglia; no cranial nerves, however, are exempt.

The frequency of severe and permanent lesions of the eyes and ears is the result of the extension to and infection of the optic and auditory nerves. Wherever the infection extends there the diplococcus can be found. The infection also extends into the spinal nerve roots and spinal nerves, giving rise to symptoms depending upon inflammations and degenerative changes in these nerves. Inflammation of the lungs, bronchi, tonsils, and middle ear are met with due to the direct invasion of the organism by extension from the nasal cavity and meninges of the brain.

In this epidemic the cases I have seen can be divided into three classes:

Most frequent, the *chronic cases*, beginning with acute symptoms which gradually subside and become chronic in character. All of these cases have acute exacerbations, in any of which they may die, or the symptoms may again subside and resume their chronic character—after weeks and even months of illness these cases may die, or they may recover completely or they may recover with more or less complete and permanent disabilities of the eyes or ears, sensory and motor paralyses or more or less extensive psychical disturbances.

2. The cases next in frequency, which are

throughout their course of an *acute* character, much shorter in duration than the chronic cases, lasting from one to four weeks, and terminating either in death or absolute recovery. In these cases sequelæ are rare.

3. The *fulminating* cases, of which I have seen two in my practice in this epidemic, which last from a few hours to three or four days, are characterized by most foudroyant symptoms and terminate in death.

The abortive type of cases, lasting for a few hours or a day or two, with recovery, I have not seen in this epidemic, probably because I do not consider the diagnosis confirmed until the diplococcus has been found in the fluid obtained by lumbar puncture.

In all three classes of cases in this epidemic the onset has been acute and sudden, and that is true of all the cases of which I have heard from others. The disease in this epidemic has had no prodromal stage. The acute symptoms have been those of a febrile disease involving the brain and spinal cord; they have consisted of severe headache, pain and stiffness and even rigidity at the back of the neck and in most cases in adults, and in all cases in children, vomiting. With these symptoms there was in almost every case high temperature. In some exceptional cases the fever was low. In one case (adult) the temperature was normal, for two days after the beginning of the disease,then a sudden high temperature. This case is now in the sixth week and still has delirium with opisthotonos and Kernig's symptom, although there is lower temperature and general improvement. In one, a fulminating case, the man went to his work in the morning complaining of headache and general muscular pains. He was seized with eclampsia while at work. I saw him that evening with his family physician. He was then comatose, temperature 106°, opisthotonos and occasional convulsions. He regained semi-consciousness next morning but died during the next night. One of my cases was semi-comatose during the whole course of the disease, which lasted four weeks. During the last two days the coma became deeper, Cheyne-Stokes respiration and death. Pain in the muscles of the back and extremities was complained of by most of the cases. There is also hyperæsthesia in all except the foudroyant cases. The patients assume, early in the disease, a peculiar attitude as they lie in bed. The patient lies on either side, not on the back; the thighs are flexed on the abdomen; and the adductors spasmodically contractured; the legs are flexed upon the thighs; the arms, flexed at the elbows, are brought over the front of the chest. The head is extended backward. This position is maintained even during delirium and semi-coma. There is much trembling, as though the patient were chilly. In the cases of the first and second class the patient has a tendency to fall into stupor except when roused. There are in the chronic cases days of improvement when the patient seems much brighter, with a lower temperature, less headache, and in every way better. Such improvement is unreliable, it is a part of the clinical history of these chronic cases, and upon it alone a favorable prognosis should not be based.

The symptoms of this disease, considered individually, are as extensive as would be expected in an acute infectious disease with a local lesion consisting of an inflammation of the brain and spinal cord and their meninges, andneuritis of cranial and spinal nerves.

The constitutional symptoms are chills, fever, slow pulse, temperature high or low, respirations, slower than would be expected with the high temperature. The temperature curve has nothing distinctive, is characterized by variations of large amplitude, and sudden in character. Symptoms due to the inflammation of the spinal cord and its meninges are stiffness of the neck and opisthotonos, pain in the spinal column, pain in the extremities, hyperæsthesia of the surface, difficulty in urination, frequent urination, constipation (may be due to the inflammation of the gastrointestinal mucous membranes), diarrhœa, incontinence of urine and fæces (paralysis of the sphincters in the last stages of the disease and during semicoma), Kernig's symptom (the most valuable and reliable physical sign that we have in cerebrospinal meningitis), eruptions on the skin of a herpetic character, affections of the joints (the joints most affected were the knees); the degree of joint trouble varies from simple pain on motion to redness, swelling and pain, and all the manifestations present in acute articular rheumatism. That these joint lesions are not toxic but trophic in character has been taught me by the occurrence in one of my cases, a child eight months old, in whom a well-marked spinal arthropathy or Charcot joint of the right elbow developed. It began with the usual appearance; but the swelling increased rapidly, the pain diminished and disappeared, soon there was subluxation of the joint surfaces upon each other with total destruction of the joint ends of the bones. This joint behaved exactly like similar joints in cases of locomotor ataxia. Diminution, but rarely absence, of patellar reflex, diminution of the skin reflex. Plantar reflex is rarely absent; Babinski reflex, which I shall speak of further on, is frequently present. Absence of patellar reflex is due to increased intraspinal pressure in these cases and acts as an indication for a repetition of lumbar puncture

The symptoms due to inflammation of the brain and medulla and their meninges and neuritis of the cranial nerves are headache, slow pulse, hydrocephalic cry, tache cêrêbrale, vertigo, convulsions, delirium, coma, coma vigil, Cheyne-Stokes respiration, photophobia, inequality, dilation or contraction of the pupils, ptosis, strabismus, optic neuritis, choked disk, atrophy of the optic nerve, iritis, iridochoroiditis, keratitis, conjunctivitis, panophthalmitis, deafness due to neuritis of the auditory nerve, paralysis of the facial and other cranial nerves, hemiplegia, monoplegia, paraplegia, and diminished or absent conjunctival reflex.

The ears and eyes are frequently infected by the presence of the organism in the nasal cavity, giving rise in the ear to otitis media and interna, and mastoid disease.

Macewen's symptom in advanced cases of coma or semi-coma due to distension of the ventricles of the brain.

Symptoms due to changes in the blood are increased leucocyte count (18,000 to 30,000 whites), a very valuable symptom which serves to differentiate these cases from typhoid fever and tuberculous meningitis. The increased leucocytosis is chiefly in the polymorphonuclear leucocytes. Eruptions of a petechial character, also skin eruptions resembling different types of erythema multiforme. (These, while not of a trophic character, are probably due to blood changes.) Finally, the most important symptom, absolutely distinctive, is the withdrawal of the cerebrospinal fluid by lumbar puncture and finding therein, microscopically, by spreads, Gram negative, extra- and intracellular diplococci, and by culture, the diplococcus intracellularis meningitidis. The cytological examination of this fluid is also important; it generally shows polynuclear leucocytes about 90 per cent. and mononuclears about 10 per cent.

Of the symptoms due to the involvement of the spinal cord, the Kernig sign has been the most useful and distinctive, both in adults and children, in the

cases I have seen. It is a decided enhancement of our objective diagnostic symptomatology. It is obtained by placing the patient upon the back, flexing the thigh at right angles with the abdomen, then extending the leg upon the thigh thus flexed. If Kernig's symptom be present the complete extension of the leg upon the thigh cannot be accomplished. The patient complains and cries out even when semi-comatose, long before the leg is brought into a line with the thigh, and the spasmodic muscular resistance cannot be overcome even by forcible efforts. As the Kernig sign diminishes, the prognosis improves. This symptom is not limited to epidemic cerebrospinal meningitis, but is present in other forms of meningitis, primary or complicating, but, as I have said, I have never seen it absent in the cases of this disease which I have seen in this epidemic. It does not disappear sometimes for weeks after recovery is complete. Bettencourt and Franca found it a very constant symptom in their large experience, it being present in over 90 per cent. of the cases. Sometimes, however, the symptom is only unilateral. It is generally unequal on the two sides. It is more marked with each exacerbation. In some fatal cases, with rapidly developing stupor, coma, slow pulse, dilated pupils and convulsions, post-mortem generally shows an acute dilatation of the ventricles. This is a fatal condition and ordinarily will give rise to the Macewen symptom, especially in young children. This symptom is founded upon the fact that the percussion note obtained by percussing the skull one or two inches behind the point of junction of the frontal, parietal, and temporal bones (a point known as the pterion) gives rise to a clearer note than is obtained over other parts of the vault of the skull, in cases in which there is increased tension (as from abscess) of the cranial contents, beneath the point percussed. The ordinary percussion note in a healthy child is dull and nearly equally distributed over the vault of the cranium. For distension of the ventricles the note behind the pterion should be compared with the note over the rest of the vault of the skull.

It is necessary in the examination that the patient sit up in bed, the head and face being free, and the skull but slightly covered with hair. Another modern symptom to which very little importance should be attached is the Babinski reflex. As you know, when the skin of the plantar surface of the foot is tickled, in some cases of meningitis, the toes are flexed and the *great toe* extended. This symptom is extremely unreliable. It occurs in some healthy children, and children suffering from other diseases. It does not occur in some well-marked cases of cerebrospinal meningitis, and is of little practical utility as a diagnostic factor.

Treatment.—From what I have said, it will readily appear that our clinical facilities for the early recognition of even mild cases of this disease are exceptionally complete at the present time. This was not true to such an extent, even ten years ago. Our therapeutic resources in the treatment of this disease have not kept pace with the advance of our knowledge of its symptomatology and pathology. Even the prophylactic treatment is uncertain, owing to our incomplete knowledge as to sources of the contagion, and the methods by which the disease is transmitted. However, the prophylactic measures indicated in my remark on the bacteriological cause of the disease seem to be necessary and simple. As far as the active therapy is concerned, there is little hope of the production of an antimeningococcus serum. It is very difficult to produce immunity with cultures of this organism, even in the smallest animals (Bonhoff, *Munchener medizinische Wochenschrift*, 1902). They die of general cachexia before the immunity has attained anything like completeness.

Bettencourt and Franca, in the Lisbon epidemic, treated their cases by injections of lysol (1–10 per cent. solutions), their death rate was only 40 to 45 per cent. In Spain, however, the death rate should be lower than in colder and moister climates, for, the climate being warm and dry, the patients are treated in the open air, or rather in rooms exposed to the open air through open windows and doors. The injections are made into the spinal canal through the trocar which is used in the lumbar puncture. The puncture is made, the fluid withdrawn, then a syringe is attached to the trocar *in situ*, and the solution is injected into the spinal canal. Dr. Morris Manges of this city has also tried this method in a number of cases, with success.

My usual method of treatment consists of repeated lumbar punctures only when, after a period of improvement, the temperature again rises, and symptoms of increased intraspinal and intracranial tension occur. Such are, total abolition of the patellar reflex, slowing of the pulse, Macewen's symptom, increase in the Kernig phenomenon, increase in the delirium and stupor. If the cerebrospinal fluid flows from the cannula in a continuous stream under tension, the withdrawal of 15 to 30 c.cm. of fluid will do much good. If it escapes drop by drop, or if it be a "dry" tap, the puncture will have no effect, from a therapeutic standpoint, upon the case. I give the sodium iodide in considerable doses: 5 to 10 grains, every 3 hours in a child over a year old; 15 to 20 grains every 3 hours in adults. In addition, also, in adults, 15 grains of mercuric ointment (ung. hydrarg.) is given by inunction into the back and neck two times daily, until the gums are red, when the inunction is stopped. In children with open fontanelles, the oleate of mercury, in proper doses is rubbed into the anterior fontanelles. In older children the ointment of mercury is rubbed into the back of the neck and spine in pieces as large as a bean, several times a day. With these methods, together with the treatment of symptomatic indications, 40 per cent. of recoveries may be expected. Ice-bags should be applied to the head, neck, and spine. As far as the temperature is concerned, when it is below 102° no treatment is required, when above 103° I use a warm bath at 80° F., in which the patient remains five minutes. The temperature of this bath is then raised to 90° F., and the patient allowed to remain five minutes more. This is the same bath that I use in the acute eruptive diseases. These baths not only reduce the temperature, but quiet the patient, who has been restless and delirious. Frequently the bath is followed by a restful sleep. Great care must be taken in the nursing and handling of the patient. The paraplegia and hemiplegia, together with the trophic disturbances of the skin, favor the occurrence of decubitus sores upon the buttocks and sides of the hips and legs, upon which the patient lies. Care and cleanliness, so well understood in these days by the physician and nurses, will obviate the occurrence of such "bed-sores." Cleanliness of the nose will prevent deeper infection through the nasal cavities. Care of an incipient conjunctivitis will prevent frequently a subsequent panophthalmitis. A daily examination of the ears should be made, for a timely paracentesis of the drum membrane in suppuration of the middle ear, may prevent a subsequent mastoid disease. Finally, and perhaps most important in the handling of this disease, is a large light room, with plenty of air space, together with frequent change of air

through proper ventilation. If the eyes are affected they should be protected from the light by means of a screen or eyeshade, and not by darkening the room. For sunlight is one of the most powerful antidotes to the bacteriological cause of this disease.

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REPORT OF TWO CASES OF MASTOIDITIS WITH PARALYSIS OF FACIAL NERVE; RECOVERY OF PARALYSIS FOLLOWING OPERATION.*

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The coincidence of facial palsy during the course of chronic empyema of the tympanum and mastoid cells must of necessity be considered as a complication of serious importance, for while its value as a diagnostic feature of necrosis or caries may be diminished by other factors, yet it often foretells the development of either a serious cerebral affection or a sinus thrombosis. It should always be considered a grave sequelæ and recognized as a suspicious symptom of bone destruction, although ofttimes the nerve may offer considerable resistance to destructive inflammation in the vicinity of its course and may even resist inflammation after its bony covering has been destroyed. The presence of a facial palsy does not necessarily imply that there are extensive bone lesions, but it is very suggestive, and, as stated by von Troltsch, it does not of necessity imply much extension of the tympanic disease, for it may be only a slight extension in an unfortunate direction.

While paralysis of the nerve may be the result of a lesion at its origin, during its course through the temporal bone or peripherally, it is desired here to consider it only in relation to mastoiditis, and, under such circumstances as stated by Ballenger, the facial paralysis is presumptive evidence of either necrosis of the posterior-superior wall of the tympanum, whereby the nerve is exposed; or of a neuritis from inflammatory extension to the nerve through the osseous tissue surrounding it. This may be the result of caries, necrosis, cholesteatoma, the escape of pus into the facial canal or from pressure by excessive granulation tissue; the experience of Moure indicating that it is usually due to compression by fungous growths or a sequestrum, and at the same time there may also exist considerable involvement of the pneumatic spaces, especially when it occurs during the course of influenza, scarlet fever, or tuberculosis.

Anatomical peculiarities, as shown by Tomka, may favor the development of the paralysis, as dehiscences in the Fallopian canal usually located just above the oval window; variations in the course of the canal—in its width, in the thickness of its wall, or as the result of other malformations of the temporal bone. The defect in the canal, which allows of the purulent inflammation extending to the nerve, may produce a perineuritis by involving the perineurium, or it may affect the nerve itself, and thus the palsy will be the result of a definite neuritis. Even in severe palsies the mastoid operation may reveal an apparently normal canal, the affection resulting from the pressure of a small exudate as the result of inflammation in the nerve sheath, and in some cases in which the palsy has disappeared without radical treatment this exudation has subsided and been absorbed without permanent damage to the nerve. Voss, in this connection, records an instructive case in which the facial palsy had existed for some time and was cured by opening the mastoid and removing a mass of hyperæmic spongy tissue from the antrum. More frequently severe grades of facial paralysis result from the carious destruction of the facial canal, with or without complete destruction of the nerve, either as the result of cholesteatomatous formations or the extension of the destructive process to the inner ear. In such cases, besides the involvement of the mastoid, there is necrosis of the upper part of the vestibule and posterior part of the inner tympanum wall, such a case being described by Murphy with a history of ten years' standing; the wall of the canal was eroded, the facial nerve destroyed, while the horizontal semicircular canal was also involved; operation causing the disappearance of the vertigo but having no effect upon the facial paralysis, while in a case of Loubet-Barbob, the paralysis was due to necrosis of the inner tympanic wall; Stackes' operation was performed and was followed by the death of the patient, when a direct communication was found between the tympanum and cranial cavity.

Even with necrosis of the labyrinth, exfoliation of the cochlea and parts of the semicircular canals, the facial paralysis may be but temporary, but when the destruction involves the internal auditory meatus and the entire labyrinth, it is usually permanent. Although Gruber has reported two cases in which the sequestrum consisted of a complete annulus tympanicus, a part of the squamous portion and a small part of the posterior section of the pyramidal portion of the bone, with the complete disappearance in both cases of the facial paralysis which had existed during the course of the disease. Indirectly paralysis of the seventh nerve may also result from the mastoid infection extending to the cranial contents, with the involvement of the nerve in the internal auditory meatus from a meningitis or brain abscess, or again it may be affected at the further extremity of its course by the extension of the inflammation from the apex of the mastoid to the stylomastoid foramen.

The first case which I desire to report in this connection is one of chronic suppurative otitis with mastoiditis and paralysis of the left facial nerve, from apparent pressure of inflammatory exudation.

B. Y., male, age twenty-seven years, had measles at the age of six years with resulting nasopharyngeal catarrh and tendency to repeated attacks of coryza. At ten years of age he had scarlet fever, followed by suppuration of the left ear. The discharge from the ear was profuse for a year after this, but he received constant treatment, and, except for occasional discharge at infrequent intervals, it did not cause him any concern until four months ago, when following an attack of the grippe, it became unusually profuse, attended with a foul odor and with occasional shooting pains over the mastoid and temporal regions. He received treatment for this condition for three months, with marked diminution in the amount of the discharge, and with this exception suffered no annoyance. At the end of this time, on arising one morning, he saw that the lines of the left side of his face were obliterated and that his mouth was drawn toward the right. He was treated for the next two weeks in various ways for this facial palsy, without obtaining any relief, and I then saw him for the first time.

He stated that his general health was poor; he had lost weight during the last few months, and he easily tired, while his appetite amounted to very little. His pulse was 80, temperature 99.2°, bowels constipated. Eye grounds normal, no pain in head, no vertigo, and nothing presented itself in his symptoms

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indicating any intracranial involvement. The left side of his face was paralyzed; he could not close the eyelids on that side; he was unable to whistle, and food lodged between the cheek and gums, while he complained of the dribbling of saliva on the affected side. No paralysis of the soft palate was present, but, from the involvement of the chorda tympani nerve, taste was lost over the base of the tongue. Examination of the mastoid showed nothing abnormal, except that dull pain could be elicted on deep pressure over the antrum; the external canal was filled with offensive pus, and the membrane tympani was absent, except a rim around the annulus, while there were no evidences of the malleus, and probing indicated some necrosis of the incus. There was slight bulging of the posterior canal wall and, with the general features of the case, it seemed evident that there were considerable changes going on in the mastoid cells which had involved the facial nerve.

Previous to operation the external canal was cleansed with a 1:5000 bichloride solution, the usual preliminary antiseptic cleansing of the operative field performed, and under ether anæsthesia the mastoid was opened. Immediately under the cortex a mass of granulation tissue was encountered with a few drops of pus, while the osseus tissue presented but few necrotic areas; these were removed, the tissue appearing normal toward the tip, until the antrum was reached, when a drachm of offensive pus was encountered and the antrum and aditus were found filled with pus and poorly organized granulation tissue. This was removed with the portions of the pneumatic cells that were necrosed, and free communication established between the mastoid wound, antrum, and tympanic cavity. The remnants of the membrana tympani were then cut away, the partially necrosed incus removed, and careful search failed to reveal any further evidence of necrosis, special search being made in the region of the Fallopian canal. The parts were then irrigated with bichloride solution, the mastoid cavity was lightly packed with iodoform gauze and a large gauze dressing was applied. On the following day there was a marked alteration on the paralyzed side, the nasolabial fold was evident, and it was apparent that the condition was improving. This occurred quite rapidly, and by the end of the second week the paralysis had entirely disappeared, with the exception of the involvement of the chorda tympani nerve and slight difficulty in closing the eyelid. The mastoid wound pursued the usual course, and in four weeks the patient was discharged with the ear practically dry, the complete disappearance of the facial paralysis after six weeks.

The onset of the paralysis may be sudden and complete, as in this case, or the symptoms may develope gradually, only partial fibers of the nerve being affected as the branches supplying the nose, side of face, and angle of the mouth, or it may rarely occur only in the upper group, when the paralysis will involve the forehead and orbicularis palpebrarum muscle. When the nerve is destroyed the paralysis comes on suddenly, shows no change in its severity, and presents no facial premonitory symptoms, but when the development is more or less gradual, there usually occurs a group of prodromal manifestations that should lead one to immediately investigate the middle ear or mastoid symptoms that may be present. As the result of pressure on the nerve, which gradually develops and is attended with a diminution or increase in the amount of exudation, the paresis varies in degree from time to time, and there may be pain around the affected ear and of the corresponding side of the face, with varying degrees of tinnitus and abnormal sensations of taste. When the palsy is fully developed the saliva trickles out of the mouth, the mouth is drawn over to the unaffected side; the food collects between the cheeks and the gums; the patient is unable to whistle; liquids run from the mouth in drinking; the facial expression is lost, and there may be some disorder of taste with impaired olfaction, and the development of conjunctivitis from inability to close the eyelids.

The second case of mastoiditis with facial palsy which I desire to report here is as follows:

D. E., male, age thirty-three years. He was considered unusually robust until he was twenty-seven years of age, when he had typhoid fever, from which he did not recover for twelve weeks; and a year later he had an attack of influenza, which was followed by intense pain and suppuration of both ears. He received treatment at irregular intervals for the otorrhœa with the result that the right ear became apparently well, while the left would show a scanty discharge at times, but caused him no serious annoyance. This left-sided intermittent otorrhœa continued until one year ago, when, following exposure during a severe storm, the discharge entirely ceased, great pain was experienced over the mastoid and side of the head and continued for several days when the discharge again made its appearance, but was more profuse than before. This continued until four months previous to when I saw him, when he noticed that he had difficulty in whistling and often would have to remove particles of food which would remain between the gums and cheek on the left side. This persisted until one month later when he contracted a severe coryza and the pain in the ear increased in intensity.

I then saw him for the first time, and examination showed facial paralysis involving the lower half of the left side, the upper facial segment not being markedly involved. The upper respiratory tract was normal, except some nasal turgescence; the temperature was 100° and the pulse 90. His general condition appeared to be good and his hearing on the right ear was normal, while on the left it was but about one-half as acute. The left mastoid was slightly swollen, very painful to even moderate pressure, and the canal was filled with pus. The posterior wall was sagging inward and obstructed the view of the membrana tympani, but a large perforation could be observed filled with a mass of granulation tissue. As the facial nerve responded fairly well to electrical excitability, he was advised that radical evisceration of the mastoid was urgently demanded with a possibility of some improvement of the facial paralysis, but little hope was offered of this favorable result. He refused radical operation, as he believed with local treatment the condition would improve, but consented to any operative procedures that could be performed through the canal. During this period the tympanic cavity was cleansed daily with a formalin solution, a small piece of the necrosed malleus was removed, as was also the necrosed incus, and with snare and curette the granulation tissue was in great part removed from the tympanum. These procedures improved the drainage to some extent and greatly relieved the pain, but had no influence on the course of the disease.

Finally, as the result of persistent advice of the gravity of his condition and a marked increase of the mastoid tenderness and swelling, he consented to operation, which was performed under ether anæsthesia. After the usual aseptic preparations, a long incision was made over the mastoid curving well backward toward the tip of the process; the periosteum was detached anteriorally into the auditory

canal and the cartilaginous canal was cut across at its junction with the bony portion, while with the auricle it was reflected forward and out of the field of operation. The mastoid cortex was found to be extremely friable and at a point one-half inch anterior to the exit of the emissary vein, the bone was darkened and broke through on slight pressure. The interior of the mastoid was extensively disorganized, and great care had to be exercised in removing the necrosed bone and débris, on account of the danger of opening the sinus or perforating into the cranial cavity. The entire mastoid contents were removed with the exception of the tip, which was healthy, and then the posterior wall of the auditory canal was removed with chisel and rongeur forceps. The antrum and middle ear were cleansed of an unusual amount of granulation tissue, and on the posterior wall over the facial canal a sequestrum was dislodged and removed, which allowed the exposure of the facial nerve. The parts were then cleansed with bichloride solution, the canal wall was split into the lower aspect of the concha and held in position with iodoform gauze packing, so that full view of the large cavity could be obtained. The upper portion of the mastoid incision was then brought together with sutures and a large gauze dressing was applied over the entire ear.

On account of profuse seropurulent discharge it was necessary to change the dressings in twenty-four hours, when the facial palsy already showed some improvement. During the next two weeks the dressing had to be changed once daily on account of the profuse discharge, the temperature remaining almost constantly at 99°, and there was considerable annoyance from the excessive development of granulation tissue. During the next period of four weeks he very slowly improved in strength, the remains of the facial paralysis entirely disappeared, his temperature came to normal and the granulation tissue was controlled by tighter packing and the use of nitrate of silver. Following this there was a steady improvement in both the local and general conditions, but it was fully ten weeks before he again regained perfect health, and three months had elapsed before the mastoid wound had healed.

The technique of the operative treatment of facial paralysis the result of mastoiditis has been sufficiently outlined in the report of these two cases, but it is desired to point out a few further facts, and especially the prognosis in operation as derived from an electrical study of the nerve. When the paresis is not well developed, with the electric irritability normal, one can expect a favorable result within a short time after the pressure has been relieved, and in those cases in which partial reactions of degeneration are present, the mastoid operation should be performed with the expectation of relief some weeks after. But in the third class of cases with well-marked reactions of degeneration, the chances are against the restoration of nerve function, although the mastoid operation may be necessary, independent of the hope of removing the facial paralysis; it is always a matter of precaution therefore, to make such tests in order to obtain an intelligent opinion of the probable results of the operation as regards this distressing feature.

In extensive caries it may be necessary to curette part of the walls of the facial canal and bare the nerve, and as shown by Cozzolino, relief may be obtained by removing the inflammatory tissue from the tympanic and mastoid zones. He terms the operation radical mastoidotomy by which he frees the nerve from the diseased bone surrounding it, but in doing this one should carefully bear in mind the location of the facial canal, and while it is not in danger by removing the upper wall of the meatus, one can locate it if the field of operation be well exposed, by the bony protuberance on the inner wall of the antrum marking the site of the canal and also the external semicircular canal. It should be remembered that the upper margin of the oval window is formed by the protruding facial canal, and from this point and posterior it curves downward behind the middle of the posterior margin of the annulus, then descends in a vertical direction to its exit at the stylomastoid foramen. In some cases it is not possible to locate the nerve with any degree of accuracy, or again it may not be essential to seek it out; and then after opening the mastoid cells, the diseased bone or soft tissues should be thoroughly removed, especially in the region of the aqueductus Fallopii, with the expectation of obtaining a favorable result. Barnick reports an instructive case which he cured by cleansing the spaces of a mucopurulent fluid and leaving a permanent retro-auricular opening; Jack also cites a case in which the facial paralysis disappeared after opening the mastoid and finding a small pus cavity in the Fallopian region, while Politzer reports two cases entirely cured by surgical exposure and thorough curetting of the suppurating cavities. Finally, even in apparently unfavorable cases, the extraordinary regenerative power of the nerve should be borne in mind and an effort made to obtain relief by surgical measures as offering a possibility of success.

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REGARDING HAMLET'S SANITY.

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"As I, perchance, hereafter shall think meet
To put an antic disposition on." Act II, Scene I.

This utterance expressed the necessity for the exercise of a great moral struggle to put away all "trivial fond recollections"—all pleasant thoughts, to abandon all affections, under the pressure of that one absorbing commandment "remember me," which is to allow nothing in all the world to interfere with the execution of Hamlet's dread purpose. All "that youth and observation copied" is to be forgotten. The King, ever watchful, notes in Hamlet's attitude toward him, a change; the courtiers converse familiarly on his lunacy. This disguise is not accidentally chosen, but is the result of a sudden determination to guard himself while preparation is made for the execution of his revenge. As to whether he chose wisely, is a debatable point. "He," however, "casts himself like a feather upon the great wave of fate" and is in perfect harmony with his environment. His intellect revels in discoursing upon "This thing's to do." The issue will be shortly known:

"It will be short:—the interim is mine;
And a man's life's no more than to say 'One'."

Aside from the quotation at the beginning of this essay, we have throughout the play abundant evidence that his eccentric behavior was intended to obscure his plans for the execution of his revenge. No one would accuse him of madness previous to meeting his father's ghost. Note his reply to the Queen, his mother, in Act I, Scene 2:

Queen— "If it be,
Why seems it so particular with thee?"
Hamlet—"Seems, madam! nay, it is; I know not 'seems.'
'Tis not alone my inky cloak, good mother,
Nor customary suits of solemn black,
Nor windy suspiration of forc'd breath,
No, nor the fruitful river in the eye,
Nor the dejected haviour of the visage,
Together with all forms, moods, shows of grief,
That can denote me truly: These indeed seem,
For they are actions that a man might play:
But I have that within which passeth show;
These, but the trappings and the suits of woe."

One could not expect a saner speech from a philosopher, much less a young man not yet out of school.

Again, same act and scene, in reply to his mother:

Hamlet—"I shall in all my best obey you, madam."

Truly, a most courteous and affectionate reply. We now find him alone, giving way to his grief at the loss of his father and his mother's unnatural haste in marrying his father's brother within a month. This surely is sufficient cause for grief. Note that there is not a word uttered or suggested showing his disappointment in being cheated out of his rightful heritage—succeeding to the throne—cause sufficient to bring the most bitter disappointment. This hasty marriage was to forestall Hamlet's being crowned king, rightfully so. A coup must follow quickly the death of the King or the purpose of Claudius in poisoning him come to naught. This giving way to tears is for the loss of a father, for

"He was a man, take him for all in all,
I shall not look upon his like again,"

and the outrage of his father's memory by the untimely marriage of his mother.

Hamlet's amazement and profound interest at hearing that his father's ghost had been seen and his determination to "speak to it, though hell itself should gape and bid me hold my peace," clearly shows his filial love. Here is the first thought that something is wrong.

"My father's spirit in arms! all is not well;
I doubt some foul play:"

We now approach a crisis in Hamlet's life. The revelation of the ghost, its fearful accusation that murder, foul and damnable, is the cause of his father's untimely death, and that no less a person than the father's brother now the King, is the murderer and his mother an accomplice is calculated to unbalance the young man's mind. But not so with Hamlet, for immediately after the disappearance of the ghost, following the frightful detail of his father's death, the time, if at all, when we should expect to witness an evidence of the disturbance of Hamlet's intellect, we find instead the most direct and connected soliloquy spoken by Hamlet in the whole of the play:

"O all you host of heaven! O earth! what else?
And shall I couple hell?—O, fie!—Hold, my heart;—
And you, my sinews, grow not instant old,
But bear me stiffly up! Remember thee?
Ay, thou poor ghost, while memory holds a seat
In this distracted globe. Remember thee?
Yea, from the table of my memory
I'll wipe away all trivial fond records,
All saws of books, all forms, all pressures past,
That youth and observation copied there;
And thy commandment all alone shall live
Within the book and volume of my brain,
Unmix'd with baser matter:"

At this moment Horatio and his other friends call. A sudden resolution is formed not to let them know the purport of the interview with the ghost and to this end he mimics Marcellus, who calls,

"Illo, ho, ho, my lord!"

with the falconer's call to his bird

"Hillo, ho, ho, boy! come, bird, come."

For the purpose of making light of the matter and forestalling too close questioning. When pressed, Hamlet replies:

"There's ne'er a villain dwelling in all Denmark,
But he's an arrant knave."

Immediately Hamlet desires to part from his friends; to be alone with this most startling information.

"I hold it fit that we shake hands and part;
. . . . . —and, for my own part,
Look you, I'll go pray."
(To Horatio) . . . . "touching this vision here.
It is an honest ghost, that let me tell you:
For your desire to know what is between us,
O'ermaster it as you may."

Hamlet now exacts an oath that they

"Never make known what you have seen to-night.
"But come;—
Here, as before (on his sword) never, so help you mercy!
How strange or odd so'er I bear myself,
As I, perchance, hereafter shall think meet
To put an antic disposition on—
That you, at such times seeing me, never shall
With arms encumber'd thus, or thus head-shake,
Or by pronouncing of some doubtful phrase,
As 'well, we know';—or, 'We could, an if we would'
Or 'If we list to speak,'—or 'There be, an if they might';—
Or such ambiguous giving out, to note
That you know aught of me:—This not to do,
So grace and mercy at your most need help you.
Swear.
. . . . So, gentlemen,
With all my love I do commend me to you:
And what so poor a man as Hamlet is
May do, to express his love and friending to you,
God willing, shall not lack."

Again the revelation of the ghost crowds upon him and

"The time is out of joint;—O cursed spite!
That ever I was born to set it right!"

Was ever sanity more abundantly in evidence than is here manifest? This desire for secrecy and the method of securing it is not cunning or a madman's way of assuring it. It is a manly and perfectly sane procedure; showing evidence of the soundest and most profound reasoning, for if the story had been told to the friends and thus come to the knowledge of the people, there would have been a revolution with all its accompanying evils, perhaps assassination of the new king, possibly of the queen, Hamlet's mother. This must by all means be avoided for two reasons, first, to protect the mother from violence and possibly death—a most praiseworthy and dutiful thought, for aside from a filial love for her who had borne him which still possessed him, had not Hamlet's father's ghost warned him—

"But, howsoever thou pursu'st this act (revenge)
Taint not thy mind, nor let thy soul contrive
Against thy mother aught; leave her to heaven."

Then he must not be cheated of his revenge by some one other than himself executing vengeance upon the king, his father's murderer and usurper to his rightful throne. Is there not here evidence of the most profound thought, subtle and sane to a superlative degree?

Ophelia states in Act II, Scene I, in describing a visit received from Hamlet:

Ophelia—"My lord, as I was sewing in my chamber,
Lord Hamlet,—with his doublet all unbrac'd;
No hat upon his head; his stockings foul'd,
Ungarter'd, and down-gyved to his ancle;
Pale as his shirt; his knees knocking each other;
And with a look so piteous in purport,
As if he had been loosed out of hell,
To speak of horrors,—he comes before me.
Polonius— "Mad for thy love?"
Ophelia— "My lord, I do not know;
But, truly, I do fear it."
Polonius— "What said he?"
Ophelia— "He took me by the wrist, and held me hard;
Then goes he to the length of all his arm;
And, with his other hand thus, o'er his brow,
He falls to such perusal of my face,
As he would draw it. Long stay'd he so;
At last,—a little shaking of mine arm,
And thrice his head thus waving up and down,—
He rais'd a sigh so piteous and profound,
That it did seem to shatter all his bulk,
And end his being: That done, he lets me go:
And, with his head over his shoulder turn'd,
He seem'd to find his way without his eyes;
For out o' doors he went without their help,
And, to the last, bended their light on me."
Polonius—"This is the very ecstasy of love.
. . . . . .
What, have you given him any hard words of late?"
Ophelia—"No, my good lord; but, as you did command,
I did repel his letters, and denied
His access to me."
Polonius—"That hath made him mad."

Is this insanity? Can not Hamlet's dejection and melancholy be clearly attributed to disappointment at the manner of his reception by one whom he had every reason to believe reciprocated his affection? We have heard Ophelia relate to her father Polonius how:

"He hath, my lord, of late, made many tenders
Of his affection to me."

And again

"My lord, he hath importun'd me with love,
In honorable fashion."
"And hath given countenance to his speech, my lord,
With all the vows of heaven."

That Hamlet ardently and honorably loved Ophelia is without doubt. To be summarily dismissed without an explanation and at a time when he had such a heavy load to carry as revealed by the ghost, and by one whom he felt warranted in believing had cast her lot with his, had become his other self, were enough to make mad—not insanely mad but angry. He sees the whole world and everything which he counted dear slipping from beneath him. He does not demand, as is his right, an explanation from Ophelia, but humbles himself to visit her whether or no, and in her closet, whither she had at her father's command secreted herself. At sight of her, this one who has abandoned him, the only one left excepting Horatio to whom he feels a right of sympathy, he loses hope; all is for him lost, and he breaks down. Is it remarkable? Could anything else be expected of him under such trying conditions? Polonius calls him mad; he, the senile, time-serving, garrulous old fool. Follow the actions of this antiquated, meddlesome dotard and then declare him capable of passing upon Hamlet's sanity. Excepting the guilty king who has every reason to discredit Hamlet, who has with the connivance of this mischief-maker, Polonius, usurped the throne rightfully belonging to Hamlet, Polonius is the only one who pronounces our prince insane. To declare him mad would be within the limit of credulity, for that he was "distracted with trouble" we grant. It was, however, not in this sense that Polonius pronounced Hamlet mad. He makes at once to the king and exhibits his despicable nature by playing the spy upon his prince. Not content to himself spy upon Hamlet's solitude, he must command the assistance of his daughter, Hamlet's betrothed. Further, to add insult to injury, this mischief-making old dotard forces his daughter to give him Hamlet's love-letters and these he reads with contemptible comments to the king and queen.

Now follows the dialogue between Hamlet and Polonius, when the latter is treated according to his just deserts. Can anyone find aught of insanity in Hamlet's remarks during this dialogue, or in his interview with his schoolfellows Rosencrantz and Guildenstern, which quickly follows? Does he not sound the depths of these two conspirators with amazing foresight?

Again we follow him in the scene with the players; a most amazing evidence of sanity is here evident. During the recitation of the player an awful shadow is projected over him. He is again in the presence of the ghost and its frightful revelation. Quick as thought itself, he conceives a way to disclose the king. He determines to insert in the play a portion of the tragedy of his father's taking off, and to note its effect. When again alone remorse overwhelms him. He reproaches himself for his delay in wreaking his vengeance, but concludes that—

> "The spirit that I have seen
> May be the devil: and the devil hath power
> To assume a pleasing shape; yea, and, perhaps,
> Out of my weakness, and my melancholy
> (As he is very potent with such spirits),
> Abuses me to damn me: I'll have grounds
> More relative than this: The play's the thing,
> Wherein I'll catch the conscience of the king."

The king is much disturbed. He fears that Hamlet has discovered the secret of his father's death: he must discredit him, and begins at once. Of Rosencrantz, his spy, he seeks such information as may have been disclosed to him—the more the pity, as Rosencrantz is Hamlet's schoolfellow and guest.

> *King*—"And can you, by no drift of circumstance,
> Get from him, why he puts on this confusion;
> Grating so harshly all his days of quiet
> With turbulent and dangerous lunacy?"

Here we see the craft of the king. He seeks to learn of any damaging confidences with Hamlet, and at the same time casts opprobrium on him, by the assertion of lunacy. Unfortunately for the King, Hamlet has sounded the purposes of Rosencrantz and Guildenstern.

> *Queen*—"Did he receive you well?"
> *Rosencrantz*—"Most like a gentleman."

Through the meddlesome Polonius and the crafty king, Hamlet is now to be a target for their espials, and the loving and innocent Ophelia is to assist them. What baseness, what supreme cruelty. What a test for these two devoted souls. Of all the persons on earth Hamlet must find that his beloved is to be a party to his undoing; has of all the ones in whom he should trust turned false? My God, what a blow to his affections; what a test of his loyal heart; what misery to suspect his loved one of deception in the midst of such overwhelming sorrow. Here the master exhibits his marvelous skill in playing upon our weakness to emphasize and lay bare a seeming lack of devotion and fidelity to him of all others who should have been shielded and protected, even to the spilling of her heart's blood. I have always doubted that readers of Shakspere appreciated this event in shaping Hamlet's future actions, for there can be no doubt but that Hamlet realized Ophelia was a party to the conspiracy to unfold his secret.

The king would like to know that Hamlet's strange behavior is to be attributed to an excess of love for Ophelia. This would somewhat quiet his mind and lead him to abandon a fear that it was from other and more serious causes, wherein he himself might play the most important rôle.

> *Polonius*—"Ophelia, walk you here:—Gracious, so please you,
> We will bestow ourselves:—Read on this book;
> That show of such an exercise may colour
> Your loneliness. We are oft to blame in this,—
> 'Tis too much proved, that, with devotion's visage,
> And pious action, we do sugar o'er
> The devil himself.
> *King* (Aside)—"O, 'tis too true!
> How smart a lash that speech doth give my conscience!"

Here is bitter and unexpected accusation. The king's eyes are turned within. He is made to see himself as he is, not as he seems to others. Play on, thou foulest of villains, the game is young, but the bloodhounds of fate shall pull you from your ill-gotten throne, even at the sacrifice of noble and pure souls.

Now follow the noblest thoughts ever put in the minds of man, or uttered by human lips—Hamlet's Soliloquy, "To be or not to be," a speech of a few lines, couched in the purest of our beloved old Anglo-Saxon, containing not a word that cannot be properly defined by a modern ten-year-old school-boy, and yet, so fraught with awful grandeur, with philosophy so sublime, with energy so intense that we poor mortals in our pitiful limitations cannot analyze it aright, or two of us comprehend it alike for around this short speech have scholars and wise men met to fight the fiercest battles of criticism. Can any one believe that the master would put such sublime thoughts, such pregnant philosophy into the mouth of a madman? Could he have intended such an inconsistency? Never, when Hamlet is alone can there be the shadow of suspicion as to his sanity When, in the presence of those who have done him an irreparable wrong, those who are unquestionably spies, accomplices, or his enemies, he plays a part, which shall, to his mind, help him to his great revenge.

In this oliloquy we have a contradiction of what we have earlier been assured is true: Hamlet has

had ocular proof that his father s spirit revisits the earth, and converses with it, learns that—

Ghost— . . . "But that I am forbid
To tell the secrets of my prison house,
I could a tale unfold, whose lightest word
Would harrow up thy soul; freeze thy young blood;
Make thy two eyes, like stars, start from their spheres;
Thy knotted and combined locks to part,
And each particular hair to stand on end,
Like quills upon the fretful Propentine." (Porcupine.)

But here Hamlet notwithstanding this proof exclaims:

. . . "who would these fardels bear.
To grunt and sweat under a weary life;
But that the dread of something after death,
The *undiscovered country, from whose bourn*
No traveller returns, puzzles the will;
And makes us rather bear those ills we have,
Than fly to others we know not of?"

Now occurs the most despicable espionage. It is positively certain that Hamlet is secretly watched and that Ophelia is to aid the conspirators. To divert suspicion he lapses instantly from a melancholy philosophizing—albeit without a hint of madness—to that "antic disposition" which we have become acquainted with earlier in the play. The dialogue between Ophelia and himself clearly shows this. She is made to believe him mad and grieves as all true women similarly situated would. This contrived meeting is most unfortunate for her, for with this interview is the beginning of dire disaster to her, which is quick to follow.

We have a portrait of Hamlet, given by Ophelia, one eminently qualified to paint it: in painting which, however, the poor child is overwhelmed by grief in the belief that her hope for future happiness and joy is blasted. To her mind her lover, her one in all the world, is mad and therefore she is doomed.

Ophelia— . . . "O, what a noble mind is here o'erthrown!
The courtier's, soldier's, scholar's eye, tongue, sword:
The expectancy and rose of the fair state,
The glass of fashion and the mould of form,
The observ'd of all observers! quite, quite, down!
And I, of ladies most deject and wretched,
That suck'd the honey of his music vows,
Now see that noble and most sovereign reason,
Like sweet bells jangled, out of tune and harsh:
That unmatch'd form and feature of blown youth,
Blasted with ecstasy: O, woe is me!
To have seen what I have seen, see what I see!"

Poor sweetheart; the earth has slipped from under you; life for you henceforth is to be worthless. We pity, we weep for you, but our sympathy, our love, will not avail to save you; the awful shadow again approaches, which shall engulf you and put an end to your great sorrow. We forgive you as your dear one did later, for the untruth you told him:

Hamlet— . . . "Where's your father?"
Ophelia—"At home, my lord."

Oh, why did you say it? You knew it to be untrue and so did he. God forgive you. Your pure and innocent soul is not in tune with falsehood and deceit.

Hamlet—"Let the doors be shut upon him, that he may play the fool no way but in's own house."

King—"Love! his affections (affectation) do not that way tend;
Nor what he spake, though it lack'd form a little,
Was not like madness. There's something in his soul,
O'er which his melancholy sits on brood,
And, I do doubt, the hatch, and the disclose,
Will be some danger:"

The king realizes that there is some sublet method in this affectation of madness, and doubts not it will reach him if he cannot in some way dispose of Hamlet, so:

. . . "He shall with speed to England,"

Another conspiracy between the king and Polonius to betray Hamlet, this time using his own mother to aid them.

Now comes the second scene of this powerful act. (3). Read carefully Hamlet's instructions to the players and then say he is even touched with insanity. In this scene we have other evidence of Hamlet's perfect equilibrium. Here he meets with his one friend on earth whose love for, and confidence in him, gives him the only footstool upon earth; the only soul to whom he can go for sympathy and ease of mind.

Hamlet— . . . "Dost thou hear:
Since my dear soul was mistress of my choice
And could of men distinguish, her election
Hath seal'd thee for herself: for thou hast been
As one, in suffering all, that suffers nothing;
. . . . . .
Give me that man
That is not passion's slave, and I will wear him
In my heart's core, ay, in my heart of heart,
As I do thee."

What a world of affection is here disclosed. We are rejoiced to know that such confidence was not wrongfully placed; that Hamlet had this haven of rest to which he could return when storms were about to overwhelm him. We love Horatio next to Hamlet, because he was loyal, a friend "in suffering all." In the whole of Hamlet's experience, Horatio was his only confidant; the only one to whom he laid bare his bursting heart.

Hamlet (to Horatio)—"There is a play to-night before the King;
One scene of it comes near the circumstance
Which I have told thee of my father's death.
I prithee, when thou seest that act a-foot,
Even with the very comment of my soul
Observe my uncle: If his occulted guilt
Do not itself unkennel in one speech,
It is a damned ghost that we have seen;
And my imaginations are as foul
As Vulcan's stithe."

To no one but Horatio does Hamlet reveal the revelation of the ghost.

Woe to the king, for he will not escape these two observers. Hamlet, while he has the greater cause to uncover the king, will not be more acutely observant than his friend. Horatio is Hamlet's other self. The play proceeds and we find the king overwhelmed with guilt; Hamlet and Horatio exuberant. Is this cleverly laid plan the work of a madman?

Here we have the scene between Hamlet and Rosencrantz and Guildenstern, Hamlet's remarks conveying a knowledge of his companion's attempts to trap him into disclosing his thoughts.

Hamlet—"Why, look you now, how unworthy a thing you make of me. You would play upon me; you would seem to know my stops; you would pluck out the heart of my mystery; you would sound me from my lowest note to the top of my compass; and there is much music, excellent voice, in this little organ; (flute) yet cannot you make it speak. Why, do you think I am easier to be played on than a pipe? Call me what instrument you will, though you can fret me, yet you cannot play upon me."

Pretty clear evidence of a normally acting brain? This arraignment is followed by an amusing scene with Polonius wherein Hamlet plays with the old man as he will. We have something of the pathetic in this dialogue; a once virile mind trembles and totters in senile decay, his functions being dislimbed and unjointed; the plaything of a vigorous and a youthful manhood. Here, again, Hamlet feels his power and the conviction of the truth of the ghost's revelation, having but a moment before had proof of his uncle's guilt. He is elated at the success of his coup and ready for any emergency.

"'Tis now the very witching time of night (midnight)
When churchyards yawn, and hell itself breathes out
Contagion to this world: Now could I drink hot blood,
And do such bitter business as the day
Would quake to look on."

The son is, however, in evidence.

. . . "Soft; now to my mother—
O heart, lose not thy nature; let not ever
The soul of Nero enter this firm bosom:
Let me be cruel, not unnatural:
I will speak daggers to her, but use none;
My tongue and soul in this be hypocrites;
How in my words soever she be shent (put to shame or hurt),
To give them seals* never, my soul, consent!"

Rosencrantz and Guildenstern in an interview with the king show what despicable guests they are, going so far as to seek to add to the king's alarm by advising him to exile Hamlet.

Hamlet on his way to his mother's apartment whither she has summoned him at the connivance

*To make my sayings deeds.

of the king and Polonius, where the latter is secreted, hoping to learn his thoughts—O unnatural mother; will you persist in trying to confound your own flesh and blood, your only child; him whom you have cuddled to your breast; whom you have taught to speak and walk; the only soul that has deified you in calling you mother?—finds Claudius at his devotions seeking, on bended knees, forgiveness for his crime. His impulse is to then and there avenge his father's murder, but, to kill the king while in this attitude, thus praying to God, would be to send him straight to heaven. His purpose would not, therefore, be accomplished; he would not be his father's avenger, but would add to his punishment in purgatory. No, that will not do

"O, this is hire and salary, not revenge.
He took my father grossly, full of bread;
With all his crime broad blown, as flush as May;
And, how his audit stands, who knows, save heaven?
But, in our circumstance and course of thought,
'Tis heavy with him: And am I then reveng'd,
To take him in the purging of his soul,
When he is fit and season'd for his passage?
No.
Up, sword; and know thou a more horrid hent: (seizure or grasp)
When he is drunk, asleep, or in his rage;
Or in the incestuous pleasure of his bed;
At gaming, swearing; or about some act
That has no relish of salvation in't:
Then trip him, that his heels may kick at heaven;
And that his soul may be as damn'd, and black,
As hell, whereto it goes."

This might be regarded by some as a weakness but we must make allowance for the prejudice existing in those times. While we will not concede a belief that prayer, however sincere, can by any stretch of imagination waft a soul into paradise, we are not chronicling an event of the enlightened twentieth century but of the second B. C., Shakspere taking the story from Saxo Grammaticus, a Danish author who wrote in the twelfth century a story *Historia Danica*—of events occurring in the second century.

And of this interview of Hamlet with his mother—what pathos, what firmness. How he turns her eyes and thoughts to her own wickedness, and yet, withal, with such a sorrowful pleading to break from his uncle.

The "rash intruding fool" Polonius, pays the penalty for spying upon his betters. We leave him with scarcely a sigh of pity behind the arras. We have seen the last of him. If one needs must play the fool, why should we grieve that he meets with his just deserts. "Let the doors be shut upon him, that he may play the fool no way but in's own house" sounds like a prophecy. It cannot be said that he was the dupe of the king, for in all meddling in Hamlet's affairs he led. As for the necessity for such a character to round out with intense human interest a tragedy such as that of Hamlet, we will concede the point as well taken.

In this scene with his mother, critics have sought to find unanswerable proof of Hamlet's madness, but to my mind a careful reading does not bear out the opinion, for never was sanity more clearly evident. The likeness of the two brothers is most exquisitely and truthfully drawn, and with such a burst of eloquence carries conviction.

"O, Hamlet, speak no more:
Thou turn'st mine eyes into my very soul;
And there I see such black and grained spots,
As will not leave their tinct."

While in the heat of disclosing his mother's sins the ghost reappears. This to my mind comes as near to dethroning Hamlet's reason as did the ghost revelations. He appeals again to the protection of heaven. The queen who does not see the apparition is amazed that Hamlet should.

. . . "bend your eye on vacancy,
And with the incorporal air do hold discourse?"
Hamlet— "Do you see nothing there?
. . . . . .
Nor did you nothing hear?"

The appearance of the ghost has upset our Hamlet and is it any wonder? Stop for a moment and think what this second visit of his father's ghost must have meant to him.

"Do you not come your tardy son to chide,
That, lapsed in time and passion, lets go by
The important acting of your dread command?"

Loving that father as he did, vowing speedy vengeance upon his slayer, to be thus recalled—"To whet thy almost blunted purpose," is equivalent to a reproach. The spirit which impelled him to exclaim,

"Haste me to know it; that I, with wings as swift
As meditation, or the thoughts of love,
May sweep to my revenge,"

has become dulled. He is calculating upon what course to pursue while he has lost none of his desire to obey the dread command, but considers it more to his purpose for a fuller revenge to proceed with such caution as will the more surely overwhelm with deep damnation his villainous uncle.

The queen does not perceive the ghost and is "amazed at this bodiless creation ecstacy." Now note Hamlet's reply:

"Ecstasy!
My pulse, as yours, doth temperately keep time,
And makes as healthful music: It is not madness
That I have utter'd: bring me to the test,
And I the matter will re-word, which madness
Would gambol from. Mother, for the love of grace,
Lay not that flattering unction to your soul,
That not your trespass, but my madness, speaks:
It will but skin and film the ulcerous place;
Whiles rank corruption, mining all within,
Infects unseen. Confess yourself to heaven;
Repent what's past; *avoid what is to come;*
And do not spread the compost o'er the weeds,
To make them rank."
. . . . "So again, good-night!
I must be cruel, only to be kind:
Thus bad begins, and worse remains behind."

Hamlet must to England. All is arranged. His schoolfellows Rosencrantz and Guildenstern have received instructions to accompany him, to act in fact as his jailers. But, as subsequent events show, they are dealing with one who knows their purpose and who outwits them.

I am not quite sure of the queen's motive in describing Hamlet as mad when she informs the king that he had slain Polonius. Her interview with him, a most amazing and eventful one, first discloses to her, as it were, a mirror and compels her to see herself reflected therein; brings the blush of shame to her face and causes her to, for the first time at least, repent of the part she has played before and since the death of her first king. She is overwhelmed at his arraignment of her and his knowledge of events connected with the king's untimely death. His fierce outburst of indignation startles and frightens her. She knows not what will follow, but is apprehensive of some fearful tragedy. Then Hamlet's sudden violence in slaying, as he supposed, the king—"I took thee for thy better"—and his indifference at Polonius' death has quite overcome her with fear for what may at any moment occur when Hamlet meets with Claudius. Hamlet's perturbation when the ghost appears—invisible to her—and his conversation with space is so grewsome that taking all into account she might naturally conlude Hamlet insane and capable of visiting most severe and fatal punishment upon her present king, or even upon herself. Either from this kind of reasoning, or to protect him from the vengeance of the king she pronounces him mad. (Insane.)

As for the king, he is glad of some excuse to banish Hamlet, for "He's loved of the distracted multitude,"—to get him to England, whither secretly he sends a request or rather command to have him put to death. His subsequent action proves the king a hypocrite as well as a villain.

"We must, with all our majesty and skill,
Both countenance and excuse."

Again his fellow schoolmates are made by Hamlet to understand his estimate of their friendship.

Rosencrantz—"Take you me for a sponge, my lord?"
Hamlet—"Ay, sir: that soaks up the king's countenance, his rewards, his authorities."

Hamlet's replies to the king, who is desirous of knowing the whereabouts of Polonius' body, are purposely given to show his contempt of the questioner. After the interview with Fortinbras' Captain, Hamlet charges himself with cowardice:

. . . . "I do not know
Why yet I live to say *This thing's to do:*
Sith I have cause, and will, and strength, and means,
To do't."

Read this soliloquy and be convinced that he who uttered it was truly a profound thinker, reasoner, and philosopher. One must have absolute control of his reasoning to thus discourse. A new resolve possesses him; he will henceforth

. . . . "from this time forth,
My thoughts be bloody, or be nothing worth!"

We have reached the crisis in Ophelia's life. Through the loss of lover as well as of father her mind topples and she becomes an object of our most profound sympathy and pity. The shadow again throws its colossal figure over the doomed. The end approaches swiftly. Innocent and guilty alike must go down. Fate has sealed their end, and such an end. The supreme tragedy of the world, of all ages and of all time, is approaching its end. We shudder and hold our breath at the tremendous climax that is foreshadowed. But we can only sit fast and wait.

The fiery Laertes returns from France, finds his father slain, his sister mad. He seeks the guilty one upon whom he may wreak his vengeance, suspects the king.

Laertes—"Where is my father?"
King—"Dead."
Queen—"But not by him."

While quite prepared to hear the queen accuse her son, we are spared.

I do not assert that the queen has plotted the destruction of Hamlet, but she is surely aware of plots and counterplots against him. Here the master is considerate of our feelings to the extent that he will not degrade a mother and exhibit her as one with a disposition to openly plot her son's death. She is at times, however, perilously near mortally offending us. Shakspere deserves our gratitude in not making prominent her real feelings and desires. There is quite enough in this story to harrow our feelings; of disappointment in humanity and regret that such treachery could be, nay was, without adding the horrors of witnessing a mother's inhumanity to her own child. Herein we must admire him above all other dramatists, for while he never spares the male villain, he deals generously with women.

Now comes the dialogue between the king and Laertes to sate his vengeance on Hamlet. They hatch as foul and villainous a plot as could be conceived. Here is rank treachery and an inhuman scheme to take Hamlet's life by the foulest and most contemptible means. One is actuated by revenge, the other by fear. Fair and honorable means are not to be relied on. Hamlet is to be poisoned by one or the other.

We are surprised and disgusted with Laertes, for heretofore he has been an honorable and high-minded young man. But his cowardice is here quite apparent. He is not to trust to his skill as a renowned swordsman, said to be the best of many countries, but will anoint his rapier with a deadly poison. That a gentleman should possess such a powerful, death-dealing substance is to be marveled at, but that he proposes to and does use it in what Hamlet, his former friend, is led to believe a friendly bout, is most despicable. The king maintains his reputation as a murderous villain, and will make himself more secure on the throne by Hamlet's death through—all else failing—a poison to be given him in a goblet of wine which he himself will offer while apparently hospitably drinking to his health and success.

Ophelia is drowned; a sad ending to a troubled and sorrowful life. Hamlet unexpectedly discloses himself at the burial and here becomes for the third time—the first being at the interview with the ghost, the second in the interview with the queen—perilously near losing his reason. He violently assails Laertes and upbraids him with a too-evident desire to show the spectators the depth of his affection for his sister—

"But, sure, the bravery of his grief did put me
Into a towering passion."

But this dispute is for the time smoothed over and Hamlet recovers his self control and discourses with Horatio.

What marvelous learning is shown in the scene with the grave diggers and what mental resources in the description of his exchanging the letters given Rosencrantz and Guildenstern for those composed by himself? The plot of the king does not carry, for:

"There's a divinity that shapes our ends,
Rough-hew them how we will."

The time had not yet come; there is yet much for our Hamlet to do. If he has ever had a doubt of the king's purposes concerning himself, these doubts are surely removed in learning that the king had in his commission given command to have him beheaded immediately upon his arrival in England. Again his purpose to be avenged on Claudius is strengthened. He will about it at once, but the issue of the business:

Hamlet—"It will be short: the interim is mine;
And a man's life's no more than to say, one."

He regrets his quarrel with Laertes. His finely wrought nature grieves at having given offence to any one. He feels for and sorrows with Laertes in his loss of father and sister. Here is evidence of courtesy, princely dignity, and regrets that in a moment of great excitement and provocation—for did not his love for Ophelia "outweigh that of forty thousand brothers?"—he should have lost his control of self.

The hellish plot against our Hamlet grows. The meshes which are to encompass him are woven more securely and immediately about him. There is to be no failure. Hamlet is doomed. He is to become a victim, and perish in his own home and at the hands of his friends. But have a care, Claudius. Your star is declining. You have loosed the bonds of affection and friendship and girded yourself with those of treachery and villainy. But he who would betray his kith and kin must expect to be rewarded in kind.

The king's messenger comes to arrange a friendly (*sic*) bout between Hamlet and Laertes. Hamlet casts himself into the business all unconscious of treachery; accepts the conditions, time and place, but to Horatio he gives voice to a foreboding that all is not right: "But thou would'st not think, how ill all's here about my heart:"

Horatio—"If your mind dislike anything, obey: I will forestall their repair hither, and say, you are not fit."
Hamlet—"Not a whit, we defy augury; there's a special providence in the fall of a sparrow. If it be now, 'tis not to come; if it be not to come, it will be now; if it be not now, yet it will come: the readiness is all: Since no man has aught of what he leaves, what is't to leave betimes?"

The sincere and manly speech of Hamlet to Laertes again stamps his nobility of character and gentleness of disposition. In this speech Hamlet charges himself with distraction. What he had done was not Hamlet's doing, but is chargeable to

madness, *i.e.* anger, the victim of a powerful emotion, and not insanity.

The climax in this all-absorbing tragedy has arrived. The colossal shadow has engulfed our hero, our friend. The long sought and looked for event has unexpectedly arrived. Hamlet's father's death is at last to be avenged. Guilty and innocent are alike to suffer. The reckoning has come. The guilty conspirators are to suffer through their own treachery and villainy. The irrevocable law of compensation is to even up the accounts. In the taking off of the king and queen and Laertes we experience scarcely a regret. But in the loss of our Hamlet we sincerely grieve. What an untimely and horrible ending for our prince. With Horatio we exclaim:

"Now cracks a noble heart."

Hamlet—"You that look pale and tremble at this chance,
That are but mutes or audience to this act,
Had I but time (as this fell sergeant death,
Is strict in his arrest)—O, I could tell you—
But let it be: Horatio, I am dead;
Thou livest; report me and my cause aright
To the unsatisfied."

Horatio— "Never believe it
I am more an antique Roman than a Dane:
Here's yet some liquor left."

Hamlet—"O, good Horatio, what a wounded name,
Things standing thus unknown, shall live behind me!
If thou did'st ever hold me in thy heart,
Absent thee from felicity a while,
And in this harsh world draw thy breath in pain,
To tell my story."
"O, I die, Horatio;
. . . . . .
But I do prophecy the election lights
On Fortinbras; he has my dying voice;
So tell him, with the occurrents, more and less,
Which have solicited.—The rest is silence."

Horatio— . . . . . .
"You from the Polack wars, and you from England
Are here arrived, give order, that these bodies
High on a stage be placed to the view;
And let me speak, to the yet unknowing world
How these things came about: So shall you hear
Of carnal, bloody, and unnatural acts;
Of accidental judgments, casual slaughters;
Of deaths put on by cunning, and forc'd cause:
And, in this upshot, purposes mistook
Fall'n on the inventors' heads: all this can I
Truly deliver."

There is no time when Hamlet's reason is wholly shaken. In the interview with the ghost, as elsewhere stated, it almost forsakes him, but this is quickly followed by an intense and marvelous self-poise. If confirmation were wanted of his firm grasp of self, or that he had assumed madness, thinking that it would help him in his pursuit of revenge, that he himself fully realized that his purposes and conduct were wrongfully understood, it will be found in the last and most pitiful scene when mortally wounded through the treachery of those he trusted, he commands Horatio—as just quoted:

. . . . "report me and my cause aright
To the unsatisfied."

This only friend in all the world has known him as he was, others only as he seemed. To regard Hamlet as insane, is, to my mind, totally unwarranted from a careful reading of the play, and is mainly due to the fact that we do not understand his motives, his character, and his environments. To so regard him is to misinterpret the master's intent.

The above quotations are taken from the unexpurgated edition of Shakspere, edited by Charles Knight, and published by Virtue & Company, London. They will differ materially from the more modern editions and stage renditions, in that they are an exact reproduction of the first folio edition of Hamlet printed in 1603. The quarto edition, which is the one in more general use, gives numerous contrary readings.

For obvious reasons much of the original text is regarded as unsuited for the parlor or schoolroom.

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ILLUMINATING GAS POISONING; ITS RATIONAL TREATMENT.

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Through the courtesy of Dr. Charles A. Manson of this city, I was recently called to see a patient suffering with illuminating gas poisoning. She was seventy-five years old, and had enjoyed continuous good health up to the time of her accident. Retiring, as usual, she failed to appear for breakfast, and the door being broken in, the patient was found comatose. It is significant, that a canary bird lay dead near at hand from asphyxiation. On examination, some three hours later, I found the coma persisting. There were Cheyne-Stokes respiration, air hunger and cyanosis. Pulse rate 120, heart action irregular in force and frequency. Pupils mid-wide, equal, loss of reaction to light. Marked rigidity throughout. The median cephalic vein was hurriedly opened, and nearly a liter of blood removed, which was notably dark and viscid. Following this procedure, an attempt was made to introduce a normal saline solution into the same vein; this failed, however, as there was at hand only a sharp-pointed, hollow needle, therefore abdominal hypodermoclysis was substituted. The pulse, which had become thready, rapid, and barely perceptible, began to improve within a few minutes. The subcutaneous injection was continued until 1,200 c.c. had been given. After another hour the patient showed the first signs of returning consciousness; by nightfall she had quite recovered.

In a woman of the age of this patient (seventy-five), so gravely poisoned, we expected the subsequent advent of multiple neuritis, and very possibly, some of those obscure mental and nervous symptoms, that follow in the wake of such poisoning. Nothing of the kind, however, has occurred, several weeks having uneventfully passed, and the patient continues in good condition, regaining rapidly her strength.

It has seemed advisable to report the above case, in view of the strong prejudice existing among physicians against venesection and saline solution in coal-gas poisoning. When *laissez-faire* would have caused this woman's death, a prompt removal of the offending poison from the blood, and with it a certain proportion of the destroyed red blood cells, gave her brain centers an opportunity to recover.

The saline infusion acts simply to dilute the remaining poison, and furnish the heart with fluid to continue its work, until the blood-making organs can furnish a new supply. The secret of success lies first in early venesection, every hour passing, after such a patient is found, brings death so much closer. I have seen such patients recover when exposed to the gas for six or even eight hours, and then another twelve hours passing before operation. This, however, is the exception, not the rule.

The danger of peripheral neuritis and mental symptoms is enhanced directly in proportion to the length of time elapsing before operation. I am inclined to think that the prolongation of this period is relatively of graver import in prognosis than is the difference of an hour or two in the duration of the gas-inhalation.

During this second period before operation, the coma deepens, the pulse grows progressively more rapid, the rigidity increases, all symptoms grow worse. I recall several cases, in which, immediately after discovery, the patients could be more or less roused, later lapsing into profound coma, as the poisonous carbon monoxide progressed in its de-

struction of blood cells. Therefore, early operation is indicated.

The question is often asked as to how much blood should be allowed to escape. As to this, there is no definite rule, the amount must be determined by the condition of the pulse. I think we more often remove too little than too much. When the pulse becomes *feeble* it is time to stop. The change in rate is of no great value as an indicator, for in some instances the pulse is more rapid as the bleeding progresses, and in others less so (in the above case the pulse rate dropped to 105 in the first few minutes after the vein was opened). Again, the amount of saline infusion is to be employed dependent on the pulse-character. When the radial artery at the wrist gives a full, steady pulse beat, sufficient infusion has been used.

As to the advisability of a second blood-letting, some hours should be allowed to elapse before considering this. Often, for a time, following venesection, there is improvement only in the pulse and color, respiration remaining impaired, and the coma persisting. If there be any signs of returning consciousness, it is best to wait before beginning a second operation. If four or five hours have passed, with no evidences of awakening, a second venesection may be indicated, more caution being required in judging of the amount of blood to be drawn.

In conclusion, it may be said that the existing prejudice among physicians against this method of treatment is, I believe, unfounded. If the venesection is done with care, and good judgment used, following the above rules, as to the amount of blood removed (for here, as I have intimated, lies the secret of success), no harm can be done the patient, and probably lasting good. In a word, then, the cardinal points are early operation and the removal of a sufficient amount of blood. Textbook accounts of the treatment of this all-too-common accident are so meager and unsatisfactory, that I have given the above in considerable detail.

138 West Seventy-fourth Street.

Some Factors in the Etiology of Pneumonia.—J. M. French calls attention to the increasing mortality from pneumonia. This is greatest at the two extremes of life, and least between the ages of three and twenty years. It is doubtless true that the number of cases is less in females than in males, but that the mortality in proportion to the number of cases is greater. The Jews show a greater than average vitality and resistance to this disease. Statistics show a preponderance of mortality among the city residents over the inhabitants of rural districts. The two extremes of the social scale are each more favorable to the disease than the middle walks of life. Osler states that pneumonia is more prevalent in the Southern than in the Northern States. From December to May, it has been computed that many more die from pneumonia than from June to November. Persons insufficiently protected and without an abounding vitality and power of resistance are subject to an increased mortality from pneumonia. Debilitating causes of every kind predispose to the disease, alcoholism being the most common and potent of these. A previous attack of the disease is also an important factor. Some authorities believe that traumatism is a predisposing factor. Pneumonia is a specific infectious disease. But two or three elements are generally necessary before one succumbs to the disease—a weakened condition of the system, exposure to cold and damp and sudden temperature changes, and the presence of the specific germ. One theory of the recently increased prevalence of the disease is in accordance with the belief that all infectious diseases pass through periods of rise, increase, greatest virulence, and gradual decline.—*Medicine*

The Transmission of the Immune Hæmolysins from the Fœtus to the Mother.—Kreidl and Mandl present the results of their experiments carried out in goats, for the purpose of ascertaining the behavior of the blood serum in a pregnant individual, when the fœtus is injected with blood, for which the maternal blood serum does not normally contain any hæmolysin. In goats it was found that in the majority of instances in which bullock's blood was injected into the fœtus, a specific hæmolysin could be later demonstrated in the maternal blood. This specific hæmolytic property showed a distinct increase in power during further observations. The latter also seem to show that the organism during the later stages of intrauterine existence, possesses the ability of developing specific hæmolysins. Immune bodies, therefore, are transmitted from the fœtus to the mother.—*Wiener klinische Wochenschrift.*

A Symptom Complex Simulating a Perforation Peritonitis.—E. Rochard reports a case in which a patient was suddenly seized with severe abdominal pains, which became localized in the right side and were accompanied by continuous vomiting. The patient was convalescing from typhoid fever, and a diagnosis of intestinal perforation was made, as the other typical signs were also present. A laparotomy disclosed nothing abnormal in any of the abdominal organs except a vascular area of redness in the transverse colon. The latter was also filled with fecal material, which was pressed down into the rectum. The patient made an uninterrupted recovery. The author finds two similar cases reported in the literature. He believes that this train of symptoms may be ascribed to the localized congestion acting on an extremely sensitive peritoneum, and concludes that there is no way of distinguishing the two conditions. As perforation is so frequent, it is better to do an exploratory laparotomy in every doubtful case rather than to take any chances.—*Wiener medizinische Blätter.*

Status Lymphaticus, with Report of Cases.—Robert A. Biechele declares that of the morbid findings in this affection, none is more constant than that of the enlarged thymus gland, and in exceptional cases this may be the only manifestation of morbidity. In appearance, the pathological specimen is not unlike that of the normal gland, unless cystic degeneration, a very unusual condition, has occurred. Microscopically, the only observable feature is the degeneration occurring in the corpuscles of Hassal. The weight varies from little above normal to 140 or 150 grams. Associated with the enlarged thymus there is a general hyperplasia, involving part or all of the lymphatic structures and presenting various degrees of hypertrophy. The lymph nodes of the neck, axilla, groin, and popliteal space may be enlarged, as may also the tonsils. The mesenteric and retroperitoneal modes share in the hyperplasia and may become very large. Microscopically, there may be seen in them a vast increase in the number of germinal centers, the cells of which present a tendency to degeneration. The intestinal follicles are all prominent. The writer shows a cut of a specimen in which Peyer's patches are markedly elevated, and in the ileocæcal region distinctly aggregated. Under the microscope the lymphoid elements show extensive hyperplasia and a tendency to destruction of the mucosa by self-digestion. Generally the spleen is enlarged. The Malpighian bodies are seen on section to be remarkably prominent. The kidneys often show cloudy swelling. The liver may show evidence of fatty degeneration. The skin is peculiarly pallid, a very distinctive feature, as is also the usual underlying cushion of fat. Hypoplasia of the heart and blood-vessels is often seen, particularly is this true of the aorta and its branches. The cause of death has not yet been learned. The writer cites several cases, and speaks of the thymic asthma as being most important in a diagnostic point. Of equal importance he quotes the convulsive seizures. In all of the three cases reported, epileptiform convulsions were present.—*Archives of Pediatrics.*

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DIAGNOSIS OF APPENDICITIS.

Dr. W. BLAIR BELL, in the *Liverpool Medico-Chirurgical Journal*, June, 1904, considered certain points in the diagnosis of the various stages of appendicitis.

According to the writer, appendicular colic may be distinguished from renal or biliary colic—(*a*) by the history; (*b*) by the character of the pain, which, though sharp, is nothing like so severe as that produced by renal and biliary colic; (*c*) by the ability of the patient in appendicular colic to localize the seat of pain in the majority of instances.

From intestinal colic it may be distinguished by the continuous nature of the pain, by the fixed and recognizable position of it, and by the fact that pressure on the abdomen which relieves intestinal colic aggravates that of appendicular origin. Appendicular colic must, too, be distinguished from colic of uterine origin, which is sometimes seen in girls who have not menstruated regularly.

Dr. Bell points out that the following conditions are apt to lead to a wrong diagnosis: Intussusception; ulceration and stenosis at the site of Meckel's diverticulum; tuberculosis of the ileum with abscess; pyosalpiux; tubal pregnancy; perforated gastric ulcer; abscess of the liver, and cases in which no diagnosis is considered possible. Referring to the cutaneous hyperæsthesia said to be coincidental with the area of skin supplied by the eleventh dorsal nerve, and stated by many to be a constant symptom of acute appendicitis before the occurrence of perforation or gangrene, the writer is of the opinion, judging from his own observations, that this is not by any means a constant symptom nor confined to the area supplied by the eleventh dorsal nerve.

With regard to the localization of the lesion when acute perforation has taken place, Dr. Bell states that this may be determined by the fact that during the process of anæsthetization the muscle area over the affected region remains rigid after the rest of the abdominal wall has relaxed.

Respecting the indications pointing to infection of the appendix in chronic appendicitis, the writer gives the following: (1) Should the history of the case be that which generally manifests itself in chronic appendicitis, but accompanied by exacerbations of the pain at intervals, which may be attacks of true appendicular colic, or attacks of a more obscure nature, accompanied or not by a raised temperature or vomiting—the pain being in the appendix region or elsewhere, of a more fixed nature—then it is probable that the case will not recover until the appendix has been removed. (2) Any case of the type indicated which resists treatment by aperients; antiseptics, such as salol; restricted and selected diet; lavage, and above all, any case aggravated instead of improved by a course of daily abdominal massage, has some irritant cause as its basis, and that cause is an appendix in a state of chronic inflammation. (3) The following signs are also useful in determining appendix infection: (*a*) General hyperæsthesia of the abdomen. (*b*) What Dr. Bell calls the "reflex pain sign." If the patient complains of pain in the neighborhood of the umbilicus or hypogastrium, it may be found that pressure by palpation in these positions does not increase the pain, but that pressure over the appendix will do so, even though not producing pain in the region of that organ itself.

Dr. Bell believes that a primary so-called "typhlitis" can exist, although of a slow and chronic nature, but that it cannot exist long without infection of the appendix. With this belief Deaver entirely disagrees, and thinks that "the idea of a primary typhlitis is being dissipated." Dr. Bell, while allowing that all must agree with Deaver that appendicitis is the primary condition in practically all the primarily acute and acute-chronic cases, yet is of the opinion that in the swing of the pendulum we have passed over the intermediate condition—a condition of chronic typhlitis cum appendicitis.

The difficulties in the way of correctly diagnosing appendicitis are various and manifold, at times, of course, impossible. In the earlier stages when catarrhal irritation and colic are the leading symptoms, an accurate diagnosis in the majority of cases is out of the question.

The acute forms, manifesting themselves as peritonitis, can always receive appropriate treatment, although even in such cases it is not always possible to assert that the appendix is at fault until operation has been performed.

THE PROPHYLAXIS OF VENEREAL DISEASES.

UNDER this title Assistant Surgeon-General Valery Havard contributes an article to the *Journal of the Association of Military Surgeons* for July, embodying his conclusions from a special study in connection with several official services relating to the matter. On this subject statistics are notoriously unreliable, the least so being those of the various armies and navies. They are not perfect, but they are better than any other. As a measure of the unreliability of statistics from civil life, we recall the fact that the committee appointed by the Medical Society of the County of New York found that in a New York public hospital it was "ordained that these diseases appear not under their true names, but disguised under a variety of aliases which do not betray their venereal origin."

Beginning with the armies we find that in those of Germany, Belgium, and France, the rate of late years has been diminishing. The statistics of the English army and those of the Italian show conclusively the effects of sanitary regulation of prostitution. Taking the armies, in Great Britain, during the period 1870-82, prostitution in certain garrison towns was under sanitary control, while in others it was entirely unrestricted. The result was that in

the towns under control the ratio of admissions was only 50 per 1,000 men, while in the unrestricted it was 118. In 1883 the compulsory examination of prostitutes having ceased in all Great Britain, the rate in the towns previously under control rose to 110, and to 138 in 1884. The effect of reglementation was strikingly shown at Cape Town (South Africa) as well as in India. At Cape Town the yearly average for the period 1884-88, before prostitution was regulated, was 674 per 1,000, while after the enforcement of compulsory examination (in 1889) the ratio fell to 349 for the period 1889-97. In India, when all reglementation was abolished, in 1888, a frightful increase took place at once; in 1895, out of 36,681 admissions to hospitals, 22,702 were for syphilis. In 1897 certain protective measures, such as the removal of prostitutes beyond military boundaries and the examination of those voluntarily submitting, having been adopted, there was at once a reduction in the rate of admissions, the figures for 1899 being 313.5, . . . the lowest known since 1890." In the United States the rate of admissions during the normal peaceful decade 1889-1898 was 71.45 per 1,000. With the reorganization and increase of the army made necessary by the Spanish War, the rate rose steadily and, for the year ending June 30, 1900, was (for troops in the United States) 127.35. It has continued to increase: thus, for the year ending June 30, 1901, it was 155.39, and for the year 1902, according to the last report of the Surgeon-General, it was 160.94.

For civil life we are dependent on the educated guesses of specialists. These seem to indicate a greater prevalence than among soldiers. Thus, for Berlin Blaschke suggests a syphilis rate of 10 per cent. of the males, and Erbs one of 12.2 per cent., which would correspond to about 400-500 per 1,000 for all venereal diseases. The proportion of syphilitics in Paris is placed at 13-16 per cent. of the adult male population, but Fournier's estimate corresponded to 25 per cent. of this population. The Committee of the Medical Society of the County of New York believed, on fair data, that 225,000 cases of venereal diseases were treated in Greater New York in 1900, or 64 per 1,000. Sturgis had previously estimated the proportion at more than three times this figure. If we congratulate ourselves prematurely on an increase in our urban virtue, we are confronted by the fact that more than half the replies to the question whether venereal diseases are on the increase in New York, were affirmative, and by the further fact that our army stands highest in the world for these diseases. It is much more probable then that the statistics are at fault, and Havard sees reasons for believing that venereal diseases are at least as common in civil life as in military.

Turning now to prophylaxis, all attempts at suppression of prostitution have uniformly failed. The best results are obtained by police and sanitary control of it. That such control is useful has been demonstrated by experience. The fact that in some places and at times reglementation has not been efficient, is an argument for improving the character of the supervision, not for doing away with it. In Havana the existing Spanish system was reformed and perfected early in the American occupation. The result was that a city, proverbially addicted to pleasure, has probably a smaller rate of venereal diseases than any other city of its size. Thus, in 1900, the number of women registered and examined was 852, of whom less than one-tenth were found diseased. Of the 8,000 members (all males) of the Covadonga Mutual Association, only 213 came under treatment for venereal diseases, or 2.66 per cent., although such treatment was free to all members.

In America, however, public opinion, at least in its present state, will not tolerate compulsory official supervision. No such law could be passed, or if passed it would probably be impossible of enforcement. Under these circumstances the best that can be done is to require a report of venereal, the same as of other infectious diseases. Also there should be established free dispensaries and hospitals for their treatment. At present, accommodations for such cases are sadly lacking, especially in the first (most infective) stage.

Upon report, boards of health should be empowered to inspect and to compel any one found diseased to submit to treatment in hospital or by some licensed physician. Also they should have power to segregate for treatment any diseased prostitute.

Instruction as to the consequences of venereal diseases should be given in our colleges by competent physicians to youths over eighteen years of age, and a plain talk could be given by the regimental surgeon to the soldiers. Although it is a question not only of averting punishment from the guilty, but also in many cases of protecting an innocent third party, Col. Havard expresses himself as opposed to the teaching of methods of preventing infection after impure intercourse. This is comparable to the state of mind of the trustees of a certain dispensary in which the establishment of a genito-urinary clinic was not permitted because "the trustees will not foster vice by curing the diseases produced by ungodly conduct." Dr. Havard insists upon the importance of moral education, and in this all will be agreed with him. As practical physicians and sanitarians, however, we must recognize the existence of an age-long evil, and even if fostering the somewhat Utopian idea of eventually eradicating it, we must not let such a dream thwart our efforts to reduce to a minimum the direful consequences to the human race of the evil as it exists.

American Nurses in Japan.

It appears that American nurses are not too welcome in Japan. Although perhaps the polite Jap would hardly apply to them the term that Sir Frederick Treves used in referring to the lady nurses in South Africa when he said that the two plagues in that country were women and flies. Yet his thoughts in reference to lady nurses probably would run in a similar groove. Mr. Curtis, who is writing special letters from the Far East to *The Globe*, says that "of all the difficulties the Japanese government has been compelled to contend with since the beginning of the war the most perplexing were the newspaper men and the American nurses. Neither were wanted, and both have been inexpressible nuisances. The nurses have been splendidly treated, they have been almost killed by politeness and buried under gifts and have been sent to the other end of Japan, where they are supposed to be nursing sick soldiers and prisoners of war, but at the same time they have been a source of the greatest annoyance and anxiety to the Government. The medical officers of the army regard them as an incu-

bus. While grateful for the self-sacrifice shown in traveling so many thousand miles to nurse wounded and sick Japanese soldiers and sailors, the medical department has been frightfully embarrassed by these attentions. The nurses cannot speak or understand Japanese nor any other language but English. Consequently, few of the army surgeons or soldiers can converse with them. Obviously this ignorance of the language is an almost complete bar to the usefulness of the nurses, and nullifies their good intentions. But further than this, the American nurses cannot eat Japanese food or live in Japanese style. Therefore the medical department has had to spend a great deal of money and take a lot of trouble to remodel one of the houses at the Hiroshima Hospital in modern style and employ European cooks to make their unwelcome guests comfortable. In fact, they have been in the nature of a white elephant."

Finally, the nurses were not needed, as Japan possesses an army medical organization equaled by no nation, and thus, as Mr. Curtis puts it, "the services of the lovely American nurses were not needed, but as a social event, and as a manifestation of the sympathy and kindly sentiment of the American women for Japan, their visit has been an eminent success."

The above account gives rise to some somewhat sombre reflections. Why, for instance, did not the nurses and those responsible for their despatch, acquaint themselves with the conditions in Japan before embarking upon the enterprise. Doubtless most of them were mainly actuated by dictates of humanity and philanthropy, but although it may seem cruel to say it, these were not the sole motives which swayed them. Curiosity, a love of change, and the gaining of a certain amount of glory were also propelling influences. On one thing, however, we shall have reason to congratulate ourselves, we shall obtain a better knowledge of Japanese social life and habits and of Japanese medical methods, for among so many women it will be strange indeed, if there are none who are able and willing to wield a pen.

Social Causes of Alcoholism.

A great wave of sentiment against the abuse of alcohol is sweeping over the civilized countries of the world at the present time. The fact is freely recognized that intoxicating beverages are responsible for not only an immense amount of misery, poverty and vice, but for many of the diseases which affect body and mind. A determined effort is being put forth by philanthropists and by scientific men to check the curse of drink as far as is possible.

Dr. W. C. Sullivan, at the recent meeting of the Medico-Psychological Association of Great Britain and Ireland, pointed out that the bulk of the social evil wrought by intemperance was due to chronic alcoholic poisoning, not to simple drunkenness. Thus suicide, crime, insanity, and racial deterioration—in so far as they were caused by drink—depended on chronic alcoholism. But the sort of drinking which led to casual drunkenness might be entirely different from that which led to chronic intoxication. Drunkenness in its simple form was the result mainly of convivial drinking, of the drinking that went with conditions of relative luxury; it was generally intermittent and did not tend much toward chronic alcoholism. It was quite different with the sort of drinking which might be termed industrial drinking, the drinking that went with bad hygienic conditions, overcrowding, insufficient or unattractive food, overwork, and so on. It was characteristic of this form of drinking that it went on during working hours, and that it was more or less in substitution of food. It might not cause drunkenness except indirectly, but it inevitably led to chronic alcoholism. In the prosperous mining districts there was much drunkenness but little alcoholism, and the same might be said to a lesser extent of the agricultural districts. On the other hand, in the manufacturing towns, in which the industrial conditions were less favorable, there was much alcoholism; and in the seaports, in which these conditions were at their worst alcoholism, alcoholic suicide, and crime, reached their highest development. In these towns the alcoholism was accompanied by much drunkenness, though the drunkenness was not the cause of the alcoholism, but both were effects of a common cause in the industrial conditions. Statistics of drunkenness, therefore, were of no value as a measure of alcoholism. From a social point of view convivial drunkenness was at once much less important and much easier to check than was industrial alcoholism. The remedy for the latter form of drinking was to raise the standard of living, and something might also be done by restricting the facilities for obtaining alcohol during working hours by providing hygienic substitutes, and by sane and temperate teaching as to the proper use and limitations of alcoholic liquors.

There is certainly a dividing line between chronic alcoholism and convivial drunkenness, but the latter habit will perhaps in the majority of instances lead to the chronic state. Industrial alcoholism proceeds from misery, and the conditions of life which prevail in crowded manufacturing districts. At the same time some individuals are more predisposed to the use and more susceptible to the influence of alcohol than are others.

By rendering the conditions of life in large towns more hygienic and more pleasant the prevalence of alcoholism should be checked. As to whether prohibition laws are of much use is a moot point, and at any rate such legislation is contrary to the instincts of a free people. A great orator of the Church of England once said in the House of Lords that "he would rather see the people of England drunken and free than sober and slaves," and although the phrase was somewhat extravagant it aptly expressed the principles of free government.

Cholera in the Philippine Islands.

In the report of the Surgeon-General of the Public Health and Marine Hospital Service is an article on Cholera in the Philippines, by passed Assistant-Surgeon J. C. Perry. The article in question is of considerable length, so that but a part of it can be considered here. An interesting point in the account given by Dr. Perry is the likelihood of the disease being spread by the agency of flies. No other explanation of the dissemination of cholera in Bilibid Prison, Manila, than by means of food infected by flies will satisfactorily meet the circumstances. Surgeon Perry says, that after a careful consideration, I cannot believe that the history of the epidemic in Manila coincides with that due to an infection of the general water supply, and in my opinion the following factors were operative and causative in the order enumerated: (1) Infected food; (2) Contacts infecting their own food and possibly that of others; and (3) Infected water taken from shallow wells and from the Pasig River and the estuaries.

An attempt was made to compile statistics of

the number of cases and deaths in each province and island, but it was found impracticable on account of the inaccurate reports received from the provinces. Surgeon Perry, however, gives the statistics of Manila. From a study of these it is gathered that the Chinese did not suffer severely—in fact, not so much as the Americans in ratio of population. This may be ascribed to the habits of the Chinese. (1) The Chinese drink little water, using tea almost exclusively as a beverage, and (2) they do not eat with their fingers, as the Filipinos, always using chopsticks for conveying the food to the mouth; consequently there is less danger of infecting their food. Again, they rarely eat uncooked food.

The writer is of the opinion that the rather large number of Americans affected may be attributed to neglect of usual precautions, because for the first two months of the epidemic the number was small, but toward the end, even when the daily number of cases was few, the number of cases among Americans increased, tending to show that they had become lax in their precautions and were less careful as to their food and drink.

Surgeon Perry estimates that in the cholera epidemic in the Philippine Islands in 1902, there occurred in the provinces 173,619 cases and 109,703 deaths; adding to this the statistics for Manila would give a total of 179,689 cases and 114,274 deaths.

News of the Week.

The Canadian Medical Association.—The thirty-seventh annual meeting of the Canadian Medical Association was held at Vancouver, B. C., on August 22, 23, 24, and 25, under the presidency of Dr. Simon J. Tunstall of that city. As this was the first occasion on which the association had visited the western confines of the Dominion, it was feared that the great distance would interfere with the attendance of eastern members. Such fears, however, were groundless, as the convention was one of the most satisfactory ever held. The attendance was 270, about 150 coming from east of the Rockies, each province from the Atlantic to the Pacific oceans being well represented. As special guests of the association, there were present Drs. Dudley of Chicago, C. H. Mayo of Rochester, Minn., Mayo-Robson, McGillwray, and Sinclair of England. There were also present about fifty members of the profession from the Pacific States and others from the Eastern States, all of whom were made guests of the association, and invited to participate in the festivities as well as the discussions. A brief report of the scientific work of the meeting, from the special correspondent of the MEDICAL RECORD, will be published in a later issue. The concluding session, held in the morning of Friday, August 25, was purely of a business character. Halifax, Nova Scotia, was selected as the next place of meeting. The election of officers resulted in the choice of Dr. John Stewart of Halifax, president, Dr. George Elliott of Toronto, general secretary, and Dr. H. B. Small of Ottawa, treasurer. The visiting physicians were most hospitably entertained by their local brethren and by the residents of Victoria, which latter city was visited at the close of the meeting. A convention and reception, a drive to interesting points, an excursion to the salmon fisheries and the association dinner were among the many interesting gatherings. At Victoria, a drive around the city, a sail to the dock yard and quarantine station, and a reception at the Government House were tendered to the members.

International Congress of Arts and Science.—The organizers of this Congress, to be held at the Universal Exposition, St. Louis, September 19-25, 1904, desire to invite the special attention of the medical profession to the rare opportunity which it offers to meet and hear a great number of eminent men of learning. It is expected that more than three hundred well-known scholars of Europe and America will deliver discourses in the various departments and sections of the Congress, and that many hundred shorter communications will be made by those present. Among the foreign members of the profession who have accepted invitations to speak are Sirs Lauder Brunton and Felix Semon, and Professors Ross, Celli, Orth, Liebreich, Allbutt, Kitasato, and Escherich. Dr. William Osler is chairman of the department. It is the desire of the directors of the fair and of all concerned in the organization that professors and instructors in our colleges and universities, and members of the learned professions generally, shall, so far as possible, do honor to our distinguished visitors by attending the meetings of the Congress. For this no fee is charged, and no formality is necessary except enrolment on arrival. It is, however, desirable to apprise Mr. Howard J. Rogers, Director of Congresses, Universal Exposition, St. Louis, Mo., in advance, what departments of the Congress one desires to attend. A program of its proceedings, with such other instructions as may be necessary, will be sent by Mr. Rogers on application.

Missouri School for the Blind.—Work has begun on the new buildings for this institution, located at St. Louis, the old building having been sold to the School Board. There are to be eight buildings, so arranged as to be practically under one roof, and each building fireproof. The structures will have a frontage of 396 feet by 285 feet. The school will be divided into ten wards, fifteen schoolrooms and thirty piano rooms. Two enclosed gardens and playgrounds will face the front of the building. The total cost of the completed buildings will aggregate $300,000, appropriated by the State.

Health Officer Sued by a Dairyman.—The City Health Officer of New Orleans, Dr. Quitman Kohnke has been sued for $10,000 damages by a dairyman. The City Board of Health has also been temporarily enjoined from seizing the milk from the plaintiff's dairy. The Board had seized and thrown out some of the milk after ascertaining that there were two cases of typhoid fever on the premises, and very unsanitary arrangements for washing cans and watering the cows.

Druggists Charged with Contempt of Court.—Twenty-five hundred retail druggists in the United States were recently declared guilty of contempt of court by Judge Dunne of the Circuit Court of Illinois, and the National Association of Retail Druggists, of which they are members, was fined $2,000, while the secretary of the organization, was fined $500. The injunction for the ignoring of which the druggists' association was fined was secured by a retail druggist of Chicago, in November, 1902, and restrained the members of the association from interfering in any manner with the securing of supplies by the petitioner, who had incurred the association's displeasure.

Smallpox in Illinois.—There are nine cases of this disease quarantined at Belleville (Illinois), and three patients are at the County Isolation Hospital. East St. Louis (Illinois) is said to have from 300 to 400 cases; 35 of the 38 patients at the isolation hospitals are from East St. Louis. The disease exists in a number of houses at Centralia

near the Illinois Central Station. Peru has fifteen cases of the disease, and La Salle one case.

Dr. Vida A. Latham was recently elected secretary of the American Microscopical Society.

Case of Leprosy at Peru, Ill.—A case of this disease has been discovered at Peru. The patient is employed at the works of the Illinois Zinc Company. He is married, and is the father of seven children. The origin of the disease was not discovered.

The New Orleans Charity Hospital.—The Governor of Louisiana has reappointed as administrators of the Charity Hospital in New Orleans to succeed themselves, Mr. Louis Valloft and Dr. George S. Bel.

Result of Open-air Treatment.—Maj. Oliver B. Simmons, in charge of the South Mountain Camp sanatorium on the Pennsylvania State Forestry Reservation at Mont Alto, Franklin County, has reported that since the sanatorium for consumptives was opened in June, 1903, about sixty-five patients have been received, and at present there are thirty there, most of whom will spend the winter in the open. Of those who were received for treatment 50 per cent. have returned to their homes, apparently cured.

Radiumized or Emanated Wool.—According to a writer in a Russian newspaper, quoted in *The Lancet*, Dr. E. S. London has been studying the question of radium emanations, and his investigations lead to the conclusion that generally radium emanations do not differ in their physiologo-pathological action from the action of radium itself. Both inflame the skin and are destructive to various kinds of life. Dr. London carried out a series of tests with various substances which were subjected for some time to radium emanations and produced inflammatory effects on the skin, the most intense radio-activity being observed in the case of wool which, because of its sponginess, absorbs a large quantity of radium emanations. "Emanated" wool, according to Dr. London, offers, in the first place, the facility of easy distribution over the body, and it can be conveniently adjusted to any part, according to the needs of the case. In the second place, in the vehicle of wool radium becomes conveniently portable and radio-active energy, as in charged wool, can be sent great distances, since in hermetically closed vessels its radio-activity weakens very slowly. At the same time radio-active wool may become part of pharmaceutical stock, and at no great expense, for from five to ten milligrams of radium are sufficient to energize a large quantity of wool. However, as to this, Dr. London is careful to state that before making "emanated" wool an article of pharmaceutical commerce, we must know how and in what particular cases the commodity would be useful—and that is still a question for the future.

Business Committee of the Medical Society of the State of New York.—The president, Dr. H. D. Wey of Elmira, has appointed the following members of this committee: Dr. Henry Flood of Elmira, Dr. A. Edward Davis of New York, and Dr. Leo. H. Neuman of Albany. The committee has charge of the preparation of the program for the next annual meeting of the society, and may be communicated with by any one interested in it. The meeting will be held at Albany on January 31 and February 1 and 2, 1905.

Mount Carmel Hospital, Orange, N. J.—The hospital to be established on the grounds of the Jayne estate, the purchase of which for this purpose, by the Rev. Victor Romanelli, was recently announced here, will receive this name. The hospital will be equipped as quickly as possible, and will be opened about the first of November with thirty beds, besides a maternity ward and a children's ward. The institution will be non-sectarian. The sick poor will be admitted without regard to color, condition, or creed.

Dearborn Medical College.—On August 30 this college opened its new home at Michigan avenue and Twelfth street, Chicago, in the building formerly occupied by the Manual Training School. Addresses were delivered by Dr. Geo. F. Butler of Alma, Mich.; and Dr. Homer M. Thomas of Chicago. This medical night school begins with an enrollment of 200 students. The cost of remodelling and furnishing the building is approximately $10,000.

The Missouri State University School of Medicine.—This institution, located at Columbia, Mo., has a hospital with a capacity of fifty beds, a clinical amphitheater with a seating capacity of one hundred, and a large medical laboratory among the new features of the school. About twenty-five men, supported by salaries, who devote themselves to teaching, writing, and research, are in charge of the laboratories. The course of study is four years, and by a proper arrangement of courses a student may receive both an academic and a medical degree in six years.

Beth-Israel Hospital to Be Enlarged.—Plans have been filed with the Building Department for the enlargement of the new Beth-Israel Hospital, at Jefferson and Cherry streets, by the remodelling of a six-story tenement house at the southwest corner of Jefferson and Monroe streets. It will be connected by bridges with the hospital building and will be utilized as living quarters for the nurses.

Oak Park Hospital, Chicago.—It is planned by the committee on organization of the Oak Park Hospital movement to have a mass meeting early in September, at which the promoters of the hospital idea will present the proposition, and those present will be asked to subscribe toward the building fund. Officers will be elected, and the Oak Park Hospital Association incorporated under the State laws. It is said that the hospital, when completed, will not cost less than $125,000. There will be a separate building for infectious diseases, and a maternity building.

Englewood (Illinois) to Have a New Hospital.—A charter was recently granted to the Swedish-American Hospital Association of Englewood for a hospital. The capital stock is $100,000. The hospital will be in Englewood, but the site has not been chosen.

Carbonated Staining Fluids.—Food inspectors, who recently had an analysis made of the syrups served at soda-water fountains, in some of the Pennsylvania resorts, found a substance called "orangeade," compounded of a yellow anilin dye, benzoic acid, and saccharin. Handkerchiefs dipped in the syrup were dyed a brilliant yellow.

The Brooklyn Samaritan Hospital is soon to be established at Fifteenth Street and Fourth Avenue, that borough. The new hospital is the outgrowth of the dispensary work of the Fifteenth Street Baptist Church, in that neighborhood. It will, however, be non-sectarian.

Dr. P. A. Lovering, Surgeon U. S. N., has been ordered to the chair of tropical diseases at the Naval Medical School in Washington.

Medical Students and Graduates in the United States.—It is stated in the educational number of the *Journal of the American Medical Association* that the number of medical students in the United States for

the year ending June 30, 1904, was 26,138—1,477 less than in the year 1903. Of this number, 23,662 were in attendance at the regular schools; 1,105 at the homœopathic; 1,014 at the eclectic, and 357 at the physiomedical and nondescript schools. There was a decrease in the attendance of the regular schools of 1,268 below last year, and a decrease of 1,216 below the year previous—1902. In the homœopathic schools there was a decrease of 393 below that of 1903 and a decrease of 512 below 1902. The eclectic schools have been increasing steadily since 1900. In 1904, 1,014 students attended the eclectic schools, an increase of 166 over the attendance of the year previous—1903. The total number of graduates for the year ending June 30, 1904, was 5,747, an increase of 49 over the preceding year. The increase in 1903 over 1902 was 699, so that the increase during the present year was much less than that of the year previous.

A Shipload of Measles.—Forty-seven cases of measles were discovered among the children of a band of gypsies that arrived at this port recently on the steamship *Carpathia*, and the entire band, men, women, and children, has been detained at Ellis Island. Some of the patients have been sent to the hospital and the rest have been segregated.

Bequest to a Hospital.—By the will of the late John Lawlor Welsh of Philadelphia the sum of $50,000 is bequeated to the Hospital of the Protestant Episcopal Church in Philadelphia.

New Water System for Manila.—Major J. F. Case, city engineer of Manila, has laid before the Secretary of War and Chief of the Bureau of Insular Affairs at Washington plans for the proposed water supply and sewerage system of Manila. The plans have received the approval of the municipal board of Manila, and have been favorably reported upon to the Secretary of War by a consulting engineer sent to the Philippines some time since.

Obituary Notes.—Dr. Henry Tuck of this city died at his summer home in Seabright, N. J., on September 2, at the age of sixty-three years. He was born in Barnstable, Mass., in 1842, and was graduated in arts from Harvard University in the class of 1863. After studying medicine for two years he was appointed acting assistant surgeon in the army, and as such saw service during the closing months of the Civil War. He completed the regular course of medical studies and received his medical degree from Harvard in 1867, and after spending a year in the general hospital in Vienna, he began practice in Boston. After ten years' general practice, during which time he was one of the physicians of the Massachusetts General Hospital, and served as medical examiner and medical referee for several life insurance companies, he was elected medical director of the New York Life Insurance Company. He became a trustee of the company in 1878, senior medical director in 1883, second vice-president in the same year, and senior vice-president in 1885.

Dr. Elbridge G. Simons of Ripley, N. Y., was killed by a railway train near Cleveland, Ohio, on September 1. He was a graduate of the Bellevue Hospital Medical College in the class of 1875.

Dr. Millard Fillmore Cyphers died in Philadelphia on August 29, at the age of forty-five years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1887.

Dr. Julian Fajans died in Philadelphia on August 26. He was graduated from Jefferson Medical College in the class of 1886. He served during the Civil War in the One hundred and sixth Pennsylvania Volunteers, and the Nineteenth Pennsylvania Cavalry.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

OXFORD CEDES TO CAMBRIDGE—BRITISH ASSOCIATION—MR. BALFOUR PRESIDENT—CANCER DEMONSTRATION BY DRS. ROBERTSON AND WADE—NURSES AND REGISTRATION—PHARMACISTS AND DISPENSING—PERSONAL ITEMS—OBITUARY NOTES.

London, August 19, 1904.

Oxford this week gives place to Cambridge The one university seat has entertained medicine, the other science in all its branches. The British Association (we usually drop "for the advancement of science") is the mother of the numerous societies that have grown up among us on the same plan. This is the seventy-fourth meeting of the association, and the fourth time it has met at Cambridge. The first time was in 1833, under the presidency of Adam Sedgwick; the second in 1845, under Sir John Herschell; the third in 1862, under Professor Willis. This time no less a personage than the Prime Minister accepted the presidency, and he was naturally supported by many persons distinguished in other walks, as well as by the usual array of eminent men of science from all countries—a goodly proportion from your side of the Atlantic. There is something that seems appropriate in meeting at Cambridge at a time when physical theories figure largely in the scientific atmosphere, for her University has been called the birthplace of many of the most important of such theories from the time of Sir Isaac Newton to the present. The holders and promulgators of the latest notions on the constitution of matter assembled to discuss their views, and Mr. Balfour in his presidential address dealt with them from a philosophical aspect.

Cancer still holds the field as a subject of intense interest from many points of view. At Oxford there were two lantern demonstrations which your reporter briefly mentioned. One was by Mr. C. E. Walker, and illustrated the results obtained by him in conjunction with Professor Farmer and Mr. J. E. S. Moore as related last December to the Royal Society. I have already fully detailed their researches in your columns, and will therefore turn to the other demonstration which was by Drs. Ford Robertson and H. T. Wade, and which has led them to very different conclusions. Their investigations will especially interest you as they were begun with the view of testing the opinions held by Roswel Park, Gaylord, and other American observers, that carcinomatous tumors are the result of the invasion of an organism of the same nature as the plasmodiphora brassicæ. This has long been known to attack certain plants and produce in them tumors which are named club-root, finger and toe disease, and kohlhernie. Drs. Robertson and Wade think their investigation shows that minute organisms which only differ in size from the plasmodiphora brassicæ are present in cancer. The organisms are extremely difficult to stain, but by means of their reaction to platinum and to ammonio-silver, followed by gold toning, they can be demonstrated in the vegetable tumors above named and in carcinoma. But these organisms are only from $\frac{1}{20}$ to $\frac{1}{10}$ the size of the phasmodiphora brassicæ, though their morphology and reactions are identical. From three carcinomata Drs. Robertson and Wade have grown an organism which accurately represents the post-spore or pre-amœboid stage of a plasmodiphora. Thus the parasite theory is again put forward to oppose the cell theory, and we may wait for further investigations with an open mind.

Those nurses who are claiming state-registration are not likely to neglect any chance of posting their views At the late Congress of the Royal Institute of Public Health they put in an appearance, and three of them read papers repeating their well-worn opinions. They were lately met by a serious protest from hospital managers, but that makes no impression on them. They fancy that nursing is to be protected as a close profession, to be followed by those who enter it for life. But we know how many leave it for matrimony if they do not make it a step toward that object Their examinations, whether written or oral, can scarcely meet the requirements. The nurse may, like the midwife, pride herself on some certificate she calls a diploma, but the employer wants a "character." The word smacks of domestic service, but, after all, what is a nurse but a temporary servant to a sick person, and the doctor should control the attendant on his patient.

At the Pharmaceutical Conference of the 9th inst., the President, Mr. Idris, again raised the question of medical men dispensing their own prescriptions. He is a zealous advocate of the pharmacists' sole right to dispense, and with all the energy of trade instincts wants to confiscate by legislation the rights which medical practitioners have enjoyed from time immemorial. It is another instance of the insatiable greed produced by success. The chemists

and druggists of this Kingdom have succeeded in securing rights, in the struggle for which they were supported by doctors, and now show their gratitude by a scheme for despoiling their benefactors. It is true that one or two consultants are ready to aid and abet them in the name of the dignity of the profession. But, as I have shown you on other occasions, there are hundreds of practitioners who are compelled to give advice and medicine for a less price than Mr. Idris would charge for dispensing the remedy It is sad but a fact, and the professors will be mad if it suffers the counter-prescribers to rob it any more.

Dr. William Osler has been appointed Regius Professor of Medicine in the University of Oxford, in succession to Sir J. B. Sanderson.

Prof. Lorrain Smith of the Belfast College has been appointed to the Professorship of Pathology in the University of Manchester.

Sir Wm. Bennett has had the Cross of the Order of the Saviour conferred on him by the King of Greece.

Dr. A. S. Grünbaum will leave the Liverpool University to take the chair of Pathology in the Leeds University, *vice* Professor Trevelyan, who will retire at the end of next month.

Dr. Arthur Hughes, M.O H., for Barmouth, died suddenly on Sunday after running to catch a train.

Surgeon Major-General Tippetts has died at the age of seventy-two. He entered the army in 1854 and has a distinguished record He went to the Crimea, was in the battles of Alma and Inkerman and at the siege of the Sebastopol, for which he had the medal, three clasps, and the Turkish medal. He took part in the Afghan war, 1878-80, was mentioned in despatches and received another medal. He retired in 1892, having become Surgeon Major-General. He received the distinguished service reward in 1901.

Dr. Gowing of Swansea died, according to the verdict at an inquest, from an overdose of morphine while staying at a hotel at Maidenhead.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

GENERALIZED VACCINATION RASH MISTAKEN FOR SMALLPOX—THE WHITE BLOOD CELLS IN LEUKÆMIA—THE SICK-BENEFIT QUESTION IN BERLIN—DISCUSSION OF JACOB'S INFUSION TREATMENT OF TUBERCULOSIS—THE FIRST FOREST SCHOOL—DEATHS OF CARL WEIGERT AND ERNST BENNECKE.

BERLIN, August 13, 1904.

A GOOD deal of excitement was caused in Berlin early in July by the report, appearing in several newspapers, of a case of smallpox admitted to Baginsky's clinic. All persons who had come in contact with the case were strictly isolated and the patient, a boy of eleven, was transferred to the isolation ward of the Charité. Careful watching for a few days proved the case to be not true smallpox, but a generalized vaccination rash. Baginsky reported on the case at the meeting of the Medizinische Gesellschaft. The boy himself had not been vaccinated, as he was suffering from eczema, but had slept in the same bed with his brother who had been vaccinated and showed the ordinary vaccination pustule. A great number of very similar pustules were found scattered over all but the lower part of the body of the patient admitted to the hospital. His general health, however, was excellent, and Senator, as well as the other members of the medical staff, diagnosed the case as one of generalized vaccination rash.

At the same meeting, Litten read a paper on "The Behavior of Leucocytes in Leukæmia." By means of his differential stain, Ehrlich has shown that in inflammatory processes only the polymorphonuclear neutrophiles leave the blood-vessels. Later, Neisser demonstrated the emigration of eosinophile cells in a case of pemphigus; the same variety of leucocytes has since been found outside the blood-vessels in bronchial asthma and in Duhring's disease. We can explain this phenomenon only by assuming that the substances produced by different diseases attract different types of white cells. So far, only three observers have reported on the emigration of leucocytes in leukæmia. Polymorphonuclear cells only were found in the fluid from a blister, while ascitic fluid from the second case contained only mast cells, and all varieties of leucocytes were present in the pleural exudate in the third case. Litten himself, in a case of myelogenous leukæmia, found all the varieties of leucocytes in the serum from a blister. He is of the opinion that a careful examination of serous exudates in leukæmia would shed considerable light on the nature of the disease, and he urges that such examinations be made whenever possible.

I am sorry that the report on the question of sick-benefit lodges is quite unfavorable. The importance of this question is apparent to all who have read the statistics on invalid insurance which have appeared in the "Vierteljahrshefte für die Statistik des Deutschen Reiches." There are 23,214, sick benefit lodges with nearly ten million members and a combined capital of 200,000,000 marks ($40,000,000). Each member has on the average received sick benefits to the amount of 17.02 marks. While throughout Germany the physicians insist upon "freie Arztwahl," *i.e.* the right of a member to choose his own physician and the right of any physician to act as lodge doctor, this movement has not met with success in Berlin. We have in this city several associations of lodge doctors, the two most important being the Association of Lodge Physicians chosen by the members, to which belong almost all the physicians of Berlin, and the Association of Berlin Lodge Physicians, whose four hundred members are chosen by the directors of the lodges. Since July 1, two of the largest sick benefit lodges have annulled their contract with the first association and have installed members of the Association of Berlin Lodge Physicians as lodge doctors. In other words, the members of the sick benefit lodges are obliged to leave the physicians who for years have had their confidence and must consult the lodge doctor. According to the directors of the lodges, this system is more economical since it is easier for them to control a physician whom they have appointed and who is more dependent on the lodge than a physician chosen by a patient The whole fight is a purely political one, since the lodge directors are with few exceptions socialists with excellent organization, who endeavor to keep all other influences away from the lodges.

Naturally these occurences have aroused a lively interest in this city, which is, however, at the present somewhat overruled by the attention centered in the discussions of Jacob's paper, on which I reported in my last letter. Two sessions of the Verein für innere Medizin were taken up with these discussions, some of which found their way into the daily papers and caused a good deal of comment among the laity. Jacob and his method have been severely and adversely criticised. Oestreich doubts whether the encapsulations found in the lungs of the tuberculous cow were the result of the infusion only, and he furthermore thinks that the tuberculous process would probably invade the capsule, this being demonstrable only under the microscope. Westenhoeffer performed an autopsy in one case treated by Jacob's method, and found the condition of the lungs much resembling that demonstrated by Virchow in a case in the early days of tuberculin treatment, and he believes that in this case at least, Jacob's method aggravated the disease, causing "galloping consumption." Litten thinks that the liquid infused never reaches the apex and is absorbed too rapidly to be of any benefit. He has achieved results equal to those reported by Jacob with almost every other method of treating tuberculosis. F. Klemperer states that infusions have been made into the lungs of tuberculous deer by Botey, Heryng, and Mendel, and that Downie tried the treatment on man with a certain percentage of recoveries. But these methods have fallen into discredit, thus proving them to be of small value. M. Wolf, head of the Division for Pulmonary Diseases at the Charité, believes with Litten that he has obtained as good results from any one of the numerous methods of treating tuberculosis. He also gave a detailed account of his experience with Jacob's method in three cases. There was a more marked reaction in these cases than Jacob had observed, death following the infusion in from one-half to thirty hours, although Wolf used a smaller quantity of liquid. Upon section, the lungs were found to be atelectatic in places, while the infused liquid had not reached the apices. In these discussions Jacob was severely censured for experimenting on human subjects before the results of his tests on deer had justified such a course and for performing tracheotomy when this operation was not indicated.

Greater Berlin, that is, not the town itself but its sister city Charlottenburg, can boast of a new institution, the first of its kind in Germany, namely, a "forest school." The establishment covers about one hectare of ground and is surrounded by pine forests, which screen it from high winds. Green lawns and shrubbery delight the eye. The buildings include a school building, an open shed, a barrack for the management, and one used as a lavatory and bathroom. There are 120 pupils of both sexes, divided into six classes. The children are selected by the school physicians and consist of those who, while not ill enough to be sent to a hospital, are yet not sufficiently strong to get along in classes with robust, healthy children. The pupils spend the entire day at the school, where they are given three meals. The actual time for study is not to exceed two to two and a half hours, the rest of the day being spent in games, gymnastics, manual training, etc. After the midday dinner the children may rest or sleep in comfortable chairs. Dr. Bendix, Dr. Heubner's assistant, visits the school regularly to look after the health of the pupils. It is intended to keep the school open until October.

We have recently lost a member of the profession whose ingenious and careful labors, especially in the field of

pathology and bacteriology, have made his name known far beyond the boundaries of his native land—Carl Weigert. His methods of staining have proved of the greatest value in rendering elastic tissue, fibrin, and neuroglia apparent in microscopic preparations. He has also advanced our knowledge of the pathology of tuberculous affections.

Prof. Ernst Bennecke, one of the ablest of the younger teachers of surgery, has recently died in this city. He was for many years the assistant of Franz Koenig, and later became the chief of the surgical polyclinic at the Charité. He died, a martyr to his profession, of blood poisoning contracted during an operation. His most important work was a monograph on gonorrhœal arthritis

Progress of Medical Science.

Boston Medical and Surgical Reporter, September 1, 1904.

Surgery on Old Men.—Wm. H. Arthur, as a result of his experience at the Soldiers' Home, tells us that old men are much better surgical subjects than is usually supposed. He operated on twenty-two patients averaging seventy years of age, with recovery in all except one, a hopeless case of gangrene. We need not hesitate to operate on old men, he holds, for their chances of recovery are fairly good. The administration of anæsthetics to 586 old men, operated on in fourteen years, without any death, shows that the aged can take ether well.

Clinical Topography of Lymph Nodes.—F. J. Cotton tells us that most surgical affections of the lymph glands are of infective origin, secondary to some local focus of infection. The key to finding the source of infection is a knowledge of what regions are drained by a given chain of glands. The author considers the groups of glands regionally. Those of the head become swollen from furuncles, injuries of the scalp, pediculosis capitis, syphilis, nasal diseases, disease of the teeth and gums, etc. Many so-called "scrofulous" glands in the neck are tuberculous; many result from irritation of the scalp by pediculi. Superficial glands of the neck lie about the jugulars, and over or a little behind the mastoid; they drain the posterior scalp and the parotid region, and are often enlarged in pediculosis. The deep glands of the neck drain the tonsils, pharynx, mouth, etc. They are swollen in cases of disease of the tonsils and pharynx especially. The glands of the arm and axilla become enlarged from wounds and septic processes in the hand and arm. Those of the groin from the same causes in the leg and foot; if low in the groin they may be non-syphilitic, due to a septic focus in the foot or leg. Another important class includes true inguinal buboes, associated with gonorrhœa, but almost never due to it; they are generally due to a septic process under the prepuce.

Journal of the American Medical Association, Sept. 3, 1904.

Oral Infection and Sterilization.—M. L. Rhein refers to the lack of requisite training of medical undergraduates in dental principles, and believes that further endeavors should be made toward having proper instruction in dental principles in the medical curriculum. The most important thing in oral infection is proper diagnosis, which he briefly considers. Perhaps the most common form of oral infection is the simple alveolar abscess which is caused by the death of the pulp of the tooth, which becomes an easy pray to bacteria. The cure of this consists in the aseptic removal of every portion of the contents of the root canals, their thorough sterilization and subsequent hermetical sealing. He calls attention to the serious neglect by the general surgeon of the evil effects of mouth infection. Very few persons keep their mouths in an aseptic condition. As a rule a patient is carefully prepared for operation in every respect except that of the mouth, which frequently is filled with, septic, if not with purulent effluvia; yet the mouths of operator and assistants are covered with sterilized materials, etc. He leaves it to the imagination to picture the result of such conditions, especially in intestinal surgery

Further Studies of the Intracellular Bacterial Toxins.—Victor C. Vaughan states that the purpose of his paper is to briefly tell what he has accomplished along the line of study of intracellular toxins and to formulate the theoretical conceptions that have grown out of his investigation and he concludes that (1) the colon bacillus in its essential part is a chemical compound. His findings indicate that the germ substance has a definite chemical composition, and that cleavage occurs along a definite line under the influence of an acid. That the toxic, hæmolytic, hæmoglobin splitting, carbohydrate, and other groups are chemically combined in the cell, is indicated by the fact that they are not extracted by agents acting physically as solvents, but are separated only by those agents which split up molecules. (2) The colon bacillus is a chemical compound, in whose molecule has been demonstrated the existence of the following groups: Nuclein, amido, diamido, monoamido, carbohydrate, toxic, hæmolytic, and hæmoglobin splitting. There may be, and probably are, many other groups. (3) Every cell in the animal body contains complex molecules similar to those of the bacillus. (4) The reaction of the colon molecule and a body molecule or cell is chemical. (5) If this conception of the reaction between bacillus and cell be true, the formation of antitoxins is capable of an explanation, which seems simpler than any yet proposed.

Regenerative Changes in Cirrhosis of the Liver.—W. G MacCallum concludes that in the ordinary type of interlobular cirrhosis there is a primary destructive process leading to the disappearance of portions of the cell mantle surrounding the central vein of each lobule. The framework of the lobule persists but usually collapses and there is produced an irregular lobular mass in which the central vein is in places left more thinly covered by the radial strands of liver cells, or even completely exposed and surrounded only by the connective tissue framework. The remaining liver cells proliferate rapidly by mitosis and generally increase the size of the portion of the lobule which is left. In this process they sometimes assume temporarily almost the form of bile-duct cells. The connective tissue bands which run through the liver and separate these irregular hypertrophied remains of lobules consist of preëxisting connective tissue together with some which is newly formed. Numerous bile-duct-like canals course through these bands, and it is thought that these are produced by proliferation from the preëxisting bile ducts. That the canals are composed of proliferating cells is shown by reference to a fresh case in which mitoses were abundant in their walls and by the fact that they frequently sprout out to form isolated bulbous masses of new liver cells. The bile-duct epithelium and the liver cells are shown throughout these processes to be equivalent so far as the regeneration of the liver tissue is concerned

Medical News, September 3, 1904.

Hemorrhagic Paratyphoid Fever.—T. H. Evans reports a case of infection by the bacillus of Eberth, in which there was throughout a moderate daily rise of temperature, with many of the usual symptoms of typhoid fever, a Widal reaction being positive during the latter part of the disease The peculiar feature of the case was the presence of a hemorrhagic flow from the vagina, lasting five days, and occurring two weeks after the regular menstruation. The spleen was enlarged and tender. In the hemorrhagic form of typhoid the fever may be more moderate than usual, but during the late second or early third week hemorrhage occurs from one of the special mucous membranes or in the skin. The pathology is obscure. Some reaction probably occurs in the parenchyma of the mucous structures of the body. It has been suggested that the bacillus is more than ordinarily virulent, and attacks the walls of the smaller blood-vessels, predisposing to hemorrhage through the degenerated areas.

Intestinal Obstruction Following Appendicitis Operations.—Clarence A. McWilliams reports and classifies eighty-six cases of obstruction after appendicitis operations that he has collected from the work of various surgeons, and draws from them the following conclusions: (1) The rarity of intestinal obstruction is noteworthy. (2) Obstruction may follow an attack of appendicitis which has not undergone operation. In this series of eighty-six cases, 10 per cent. were such. (3) Obstruction may follow the "interval" operation: 9 per cent. belong to this category. (4) Obstruction is most apt to follow appendicitis with abscess formation. Eighty-one per cent. were of this class. Hence the necessity for early operation. (5) Mechanical obstruction may come on within a short time after the appendicitis operation. (6) Obstruction may occur years after the original attack, or operation, when it may come on suddenly in perfect health, or preceded by a period with symptoms denoting "partial" occlusion. (7) There may be several attacks of true, mechanical obstruction. Several attacks occurred in 8 per cent. of the fifty-seven patients who survived the first operation for obstruction. (8) 66.3 per cent. recovered after operations for obstructions; 33 7 per cent. died. (9) The small intestine was occluded in all of the fifty cases in which it was noted. (10) The cause of the obstruction was given in fifty-three cases as follows: Constrictions by bands in twenty-eight patients; volvuli in ten; kinkings, or angulations, in eleven; and internal hernias in four cases. (11) Gangrenous bowel was encountered in five cases, necessitating resection, resulting in three recoveries and two deaths. (12) We may expect a much smaller death rate in the future, due to the earlier recognition of the symptoms and their more prompt relief by operation. (13) Prophylaxis consists in operating upon appendicitis before the formation of pus, the use of as little drainage as possible, and the

least possible amount of handling of the intestines at the time of operation. (14) Vigorous abdominal massage with elevation of the hips may avert an impending obstruction. Frequent change in patient's position is likewise recommended. (15) Since the exciting cause is in many cases an attack of acute indigestion, patients should have their diet carefully regulated for from four to six weeks after an attack of appendicitis or after an operation.

New York Medical Journal, September 3, 1904.

Pruritus Ani.—A. B Cooke says that pruritus ani is met with chiefly in adult life, and men are more frequently the victims. Among the constitutional causes he mentions digestive derangements, diabetes, nephritis, gout, rheumatism, and diseases of the liver. One of the most frequent causes is fermentation in the intestinal tract. Among local causes he speaks of thread worms as well as any cause which produces catarrhal inflammation of the circumanal region. Pruritus ani may be a purely reflex condition, and here the generative and urinary organs are most often at fault. He summarizes the essential features of treatment as follows: Cleanliness, protection of the parts from friction and irritations of all kinds, with local applications according to the indications of the individual for the relief of the itching and the restoration of the altered skin to normal, and in exceptional cases, the destruction of the diseased skin, preferably with the chemical caustics.

A Study of the Vagus Reflex in Three Hundred and Eighty Individuals: a New Physical and Prognostic Sign in Pulmonary Disease.—Thomas J. Mays, from an analysis of the symptoms and conditions as they are developed by the vagus reflex in the 380 cases which form the groundwork of the study, draws the following among other conclusions: There is sufficient pathological evidence for believing that the integrity of the vagi is always impaired in pulmonary consumption. The vagus reflex is universally present in active pulmonary consumption, and is usually situated on the same side of the body as that on which the lung affection is found. It is present in about 80 per cent. of healthy people who have a family history of consumption. In healthy people without a family history of consumption it is universally absent, provided there does not exist a family or personal taint of alcoholism, insanity, or some other neurosis. There is an appreciable difference in the degree of vulnerability to consumption among healthy people below the age of thirty-five years, between those who have a family history of consumption and a vagus reflex and those who do not have the same, but after the above given age period this difference is eliminated. The vagus reflex is a valuable sign in the diagnosis and prognosis of pulmonary consumption, for it projects the family history of the potential consumptive into the present.

Chronic Splenic Anæmia—E. F Conyngham records the history of a patient, twelve years old, with a negative family history. The child was never well from birth. When five or six years old he had several attacks of epistaxis, none being very severe. When seven years old he was examined by several physicians because of severe pains in abdomen and an enlarged spleen was noticed. No blood examination was made. He was first seen by the doctor on September 27, 1902. He had had two bad attacks of hæmatemesis and melæna and was very anæmic in color. The spleen extends downward to within .06 c.m. of left pubic spine in supine posture and about .08 c.m. to right of median line; upward it has extended so far that the apex beat of heart is under fourth rib when sitting, the heart itself being almost horizontal, and its pulsations being very evident in the second and third interspaces; no murmurs, hæmic or otherwise. Pulse small, hard, and slightly irregular, 88 to the minute; respirations, 19; temperature 99.1° F. Red corpuscles, 3,648,000; whites, 3,300; hæmoglobin, 40 per cent. On March 31, red corpuscles, 2,875,000; whites, 2,800; hæmoglobin, 30 per cent. Circumference at the navel was 81 c.m. On April 28, the white count shows 2,400. On June 14 the hæmoglobin was 40 per cent. The spleen had diminished to about middle line and apparently adherent to anterior abdominal wall. The lower end was distant .085 c.m. from the pubic spine. Heart sounds were notably accentuated with apex beat in fourth interspace. This patient was treated with iron preparations, which seemed to predispose to gastric hæmorrhage, then with arsenic, under which there seemed a progressive loss of strength and vitality. This was changed later, and directions were given to administer three times in the week small doses of sodium phosphate, with bone marrow after each meal, that the child be not exposed to sudden changes of temperature, and that all sweet foods and articles of diet subject to fermentation be withdrawn. Since then there has been a slight but gradual improvement.

American Medicine, September 3, 1904.

Hypertrophy of the Lingual Tonsil.—J. J. Richardson describes the lingual tonsil as consisting of a number of lymphatic follicles embedded in the submucous tissue between the circumvallate papillæ and epiglottis. They are the seat of all the diseases which may attack the other tonsils, and of some peculiar to themselves. Hypertrophy accompanied by dilated veins is the commonest disease condition. The symptoms of most importance are cough and changes in the voice, with feelings of a foreign body in the throat. The cough is hard, ineffectual, and brings about no expectoration. There may be hemorrhage from the rupture of veins. Globus hystericus may come from the swelling. Fatigue in singing and speaking, with inability to reach the high notes is common. Asthmatic attacks and spasm of the glottis may be results. The best treatment has been found to be removal by the tonsillotome. Cauterization has not been found as satisfactory.

Meteorological Conditions in the Causation of Lobar Pneumonia.—J. M. Anders has tabulated the data recorded by the United States Weather Bureau for a period of ten years (1876 to 1885), as to their effect on the occurrence of pneumonia. From the statistics of Grimshaw, in Dublin and London, it appears that the fatality and prevalence of pneumonia do not correspond to that of bronchitis, which is more prevalent in spring and summer. The author draws the following inferences from his tabulated statistics: The seasons exert a marked effect upon the prevalence of lobar pneumonia, the maximal mortality being observed during the winter and spring months. Insular climates probably manifest the greatest rise in pneumonia mortality in winter, while that of continental climates coincides mainly with spring. The mortality of the epidemic form of the disease is influenced by the seasons, and may occur in the fourth, and even third quarter of the year. An apparently close relationship exists between periods of low temperature and the death rate from pneumonia. The mortality rises and falls with the barometric pressure, the maximal level being reached during periods of highest pressure and *vice versa*; that the barometric pressure, however, is governed by the temperature, being inversely as the latter, is to be recollected. The average velocity of the winds and the death rate from this disease would appear to stand to one another in the relation of cause and effect. The coincidence of existing low temperatures, high barometric pressure, the direction and velocity of the winds, and the maximum mortality from pneumonia, is so uniformly constant as to merit serious consideration. The major influence exerted by the seasons, is indirect, in consequence of closed doors and windows, and lack of free ventilation.

The Significance of a Heart Murmur.—James S. McLester divides all heart murmurs into those due to organic disease, and those occurring in a heart that is structurally normal, or accidental murmurs. These last occur in anæmic and nervous persons, or when the organism is in some way below par. They are systolic, best heard in the pulmonic interspace, and vary greatly in intensity at different times, and in different positions of the body, while exercise, respiration, and position have more effect than in organic murmurs. They are often loudest when the subject lies on the back, and at the end of inspiration. They are soft, blowing, and high in pitch. There are no other physical signs of heart disease present. They are probably cardiorespiratory in origin. Their prognostic significance is good, as they usually disappear with their accompanying condition. In the case of organic murmurs a careful physical examination is necessary for the formulation of a correct prognosis. The history of rheumatism is of great value, and the rhythm and point of maximum intensity of the murmur are of importance. A murmur that accompanies the normal heart sound is of less gravity than one that replaces it. Postsystolic murmurs indicate a mild lesion, late diastolic ones are most grave. The intensity of a murmur is of no value in prognosis. Aortic insufficiency is most grave, sudden death often occurring; if the lesion is a result of arteriosclerosis it will be progressive; mitral stenosis is the next in gravity; after this comes aortic stenosis. The presence of compensatory hypertrophy makes the prognosis better. The extent of the heart lesion is of the greatest prognostic value. If the heart beats forcibly and well the lesion is a small one; a weak intermittent pulse is a danger signal. Cardiac valvular disease is more serious in children and old people than in adults; habits, mode of life, occupation, and temperament are important factors in prognosis

The Lancet, August 27, 1904.

Meningeal Infection by the Diplococcus Pneumoniæ, Simulating Infective Cerebrospinal Meningitis.—W. G. Barras reports the clinical history of a case which pre-

sents several features of interest analogous to those met with in some cases of epidemic or infective cerebrospinal meningitis, but differing from the latter in that it was due to an accidental and somewhat unusual infection by the diplococcus pneumoniæ. From the clinical data, supplemented by the results of post-mortem and bacteriological examinations, the case was instructive in so far that it was reasonable to suppose that cases of a similar nature in which the diagnosis is that of ordinary meningitis might be due to a like infection. Meningitis the result of infection by the diplococcus pneumoniæ is generally secondary to an attack of acute lobar pneumonia, as the result of extension from disease of the nose and ear, or from the effects of an injury to the skull. In this case, however, no such conditions existed, and it can therefore only be regarded as a primary pneumococcic infection.

Note on the Serum Treatment of Exophthalmic Goiter.—George R. Murray says that the evidence which we at present possess tends to show that the symptoms of this malady are due to the morbid condition of the thyroid gland and are the result of an excessive formation and absorption of thyroidal secretion. The symptoms may be regarded as being due to a toxæmia the source of which is the diseased thyroid gland, just as much as the toxæmia of diphtheria or tetanus is due to the production of toxins in the locally infected area; and although we have no reason to regard Graves' disease as infective in origin he sees no good reason why an antitoxic serum should not be obtainable by suitable methods similar to those employed in the case of the infective diseases. A rational method of preparing an antitoxic serum appears to him to be by treating an animal with gradually increasing doses of thyroid extract so as, if possible, to induce the formation of antibodies in the blood and then to make use of the serum in the treatment of Graves' disease. Although no very definite results were obtained in the two cases he reports, he thinks it is quite possible that if larger animals than rabbits were employed and larger doses of the thyroid extract given a serum might be obtained which could be used for hypodermic injection in acute cases or for administration by the mouth in chronic cases in which prolonged treatment would be required.

A New Pathogenic Bacterium Causing Basal Meningitis in Infants.—W. D'Este Emery reports three cases in which an organism, quite unlike any known pathogenic bacterium, was isolated in cultures once during life from the cerebrospinal fluid and twice after death from the meningeal exudate and also from the pus from the middle ear. He reserves a fuller account for a future occasion. It was seen in films from the lumbar puncture fluid, from the meningeal lymph or pus, and from the tympanic pus in all cases. It seems fairly certain that it must be regarded as being the cause of the disease in the first two cases and as an important secondary infection in the third. The association of pus in the middle ear in all three cases, and the presence therein of the same organism as was found in the brain, is of some interest in connection with the etiology of the disease and of meningitis in general. It is, of course, impossible to say whether the brain was infected from the ear or *vice versa*. A point in favor of the view that the ear became effected secondarily is the fact that in the first case no pain in the ear was noted until the day before death, whilst in the second case there was a discharge from the nose, suggesting another possible source of infection. It is very unfortunate that this discharge was not examined bacteriologically. In this case, too, it is noteworthy that there was no notice of any symptoms pointing to pain in the ear, suggesting that the inflammation may have come on whilst the patient was semi-comatose; further, the ears were examined on admission and the tympanic membranes were found to be normal. On the other hand, in the few cases of septic meningitis following injury in which he has had an opportunity to examine the ears there has been no suppuration, suggesting that purulent inflammation does not easily travel in that direction.

British Medical Journal, August 27, 1904.

A Plea for Oral Hygiene.—Kenneth W. Goadby considers oral sepsis as an important factor in gastrointestinal disease. The affection is chronic and simulates acute diseases of all kinds, producing septic anæmias that appear to result from other causes. Dental caries is only a determining factor, the probable cause being microbic, and the constant swallowing of pus from the inflamed gums, with living organisms and toxic bodies, slowly develops the signs of secondary anæmia, of gastrointestinal disease, or of neurasthenia. Among children we find impaired nutrition, and impaired growth, resulting in badly developed maxillæ. The author gives the etiological factors as follows: crowding of the teeth, rachitic conditions associated with nasal obstruction, imperfect maxillar development, abnormality in size of tongue, irregular surface and deformity of teeth, soft foodstuffs, mainly carbohydrate, absence of mechanical effect of hard, fibrous material in food, alterations in oral secretions. Inflammatory sequelæ of acute fevers, diphtheria, etc., are frequent. Chronic lymphatic infections may result, anæmia from swallowing of staphylococci and impaired general condition. The remedy for these conditions the author sees in measures to secure the proper cleansing of the mouth and teeth from babyhood among the children and young adults of the working classes. This may be done through the dispensaries and the health officers of towns and cities.

Deutsche medizinische Wochenschrift, August 18, 1904.

Sweating as a Relief to the Kidneys.—H. Strauss has examined the sweat induced by dry heat in a large number of patients suffering from nephritis and other diseases in which the induction of perspiration was indicated as a therapeutic measure. Strauss believes that we must designate the sweat as a fluid which is as a rule hypotonic, and only in rare cases, such as uræmic conditions, either isotonic or hypertonic. In comparatively rare instances the sodium chloride content approaches that of the blood. It may occur in cases of nephritis, but is apparently no more frequent than in rheumatic and neuralgic conditions. The author's results seem to confirm the well known fact that sweating removes more fluid than solid constituents from the body tissues. There are exceptions, however, to this rule, and there are cases in which the sodium chloride content of the sweat equals that of the blood serum. The percentage of nitrogen in nephritis is often higher than that in the blood serum of non-nephritics.

Etiological Diagnosis of Typhoid Fever.—Jürgens comments on the uncertainty of known methods of bacteriological and serum methods in this disease. The numerous conceptions advanced are very confusing, and he believes that many cases diagnosed as paratyphoid, are etiologically not distinctive, but are merely instances which are noteworthy because of the peculiarities of their serum reaction, or are cases of ordinary typhoid fever, or finally may not be typhoid at all. A few cases have been observed which cannot be clinically differentiated from typhoid, but are found to have been caused by Schottmüller's bacillus, instead of by that of Eberth. Jürgens thinks that typhoid fever cannot be considered as a unit from the standpoint of etiology, and the distinction is merely one of terms, whether the cases in which the Eberth bacillus is not present shall be designated as paratyphoid, or whether they shall be included under the general term of typhoid, with a modified etiology. But the latter can only be spoken of when the symptoms of typhoid fever are present, and the bacillus of Eberth can be excluded with certainty as the cause of the disease.

Berliner klinische Wochenschrift, August, 15, 1904.

Scopolamin-morphine Narcosis.—B. Korff, who has devoted a great deal of time to investigations in this subject and has already published several papers on his experiences, contributes some further data. He reiterates his previous statement that absolute unconsciousness does not come on, and that when incision of the skin, peritoneum, or nerve trunks causes pain, it is well to wait a few moments before proceeding with the operation, as quiet again follows. Absolute quiet in the conduct of the operation is imperative, as the patient is really in a slumbering condition. If this precaution is observed, the addition of chloroform or ether will usually not be necessary. The author's principal conclusions as the result of over 200 cases of this method of narcosis are briefly as follows: The method is a suitable substitute for the inhalation methods in doses of scopolamin 0.001 and morphine 0.025. One third of this total should be given two and one half hours, the second third one and one-half, and the final third one-half hour before operation. In this dosage there is no danger of interfering with the action of either the heart or the lungs. Disturbances of other organs have not been observed. The method dispenses with the services of a special assistant for the anæsthetic. The reaction varies with the individual, and in some cases it may be necessary to strengthen the action by the addition of another dose of scopolamin 0.0002-3 and morphine 0.005-0.01, or a few drops of chloroform or ether. Larger doses than those indicated should not be employed. The only precaution necessary is to avoid the dropping back of the tongue, which is liable to occur in the deep sleep during and following the operation. Nausea and vomiting with their accompanying annoyances are absent and the patient may take fluids soon after operation.

Treatment of Biliary Calculi.—Konig presents a number of cases for the purpose of elucidating the methods employed for the simpler varieties of cholecystitis and cholelithiasis at the Charité in Berlin. The diagnosis is

usually based on the presence of a palpable sensitive tumor in the region of the gall-bladder, attacks of colic, and a mild icterus. In some patients the colic may be absent and there is merely a feeling of discomfort. The situation of the tumor may also be atypical. The presence of syphilis of the liver, with or without the formation of gummata, must also be considered. The so-called ideal cystotomy, by which the gall-bladder, after removal of the calculi, is closed, he does not recommend, and claims that better general results will follow the operation by which a biliary fistula is created. When the patient is fairly thin, he sutures the gall-bladder to the abdominal wall, passing the sutures through all the layers, one at the lower end one at the upper angles of the wound. When there is a great deal of fat in the abdominal wall and the bladder is small, the skin is not included in the sutures, only muscle and peritoneum. When the gall-bladder is large and freely movable, the patient is turned over on the right side after the abdomen is opened, the bladder delivered through the wound, incised, and emptied. The abdominal wound is then closed until merely sufficient room remains to include the incised section of the gall-bladder, and the latter sutured to the abdominal wall. The resulting fistula is apt to remain longer than in the other cases, but this the author does not consider a disadvantage. If necessary the line of junction between the skin and mucous membrane may be removed by a circular incision and the gall-bladder closed by a double row of sutures. The skin wound is not entirely closed, but left open for a time at the center. Ulcerative perforation of the gall-bladder, Konig declares is not necessarily accompanied by a bad prognosis, even when pus is emptied into the abdominal cavity. It is not nearly so dangerous as perforation of the gut.

Munchener medizinische Wochenschrijt, August 16, 1904.

Cardiac Weakness and the Injection of Morphine.—O. Rosenbach has repeatedly claimed that morphine, in both acute and chronic forms of so-called cardiac weakness, in attacks of stenocardia and pulmonary œdema, is of the greatest value, and his increasing experience has strengthened his views. The present communication is largely in the nature of a polemical discussion. In certain cases of cardiac disease, the fatal issue is often attributed to the morphine injection given during the attack. This he denies, and states that in any individual case the chances would have been very uncertain even without the administration of the drug, and that it is unfair to attribute to the latter the cause of the death.

Disinfection of the Biliary Passages.—F. Kuhn publishes the results of his observations on the application of the data already previously obtained by laboratory experiment, in the human subject. The summary of his results is as follows: Bile derived from a biliary fistula shows a constantly increasing fermentation, which is completed at the end of from twenty-four to sixty hours. The administration of salicylates, menthol, and similar drugs interferes with this process, and the effect appears within a day or two, and persists even after the administration has been stopped. This condition in the case of salicylic acid lasts about five or six days, and may also be demonstrated in the urine. The most suitable remedy for inflammatory processes in the biliary passages is salicylic acid and its salts.

Results of Serum Treatment in Acute and Chronic Articular Rheumatism.—Menzer reported about two years ago a number of cases which he had treated with antistreptoccus serum with good results. The present communication deals with the protective value of this treatment against future attacks and the production of cardiac complications. In forty-seven acute cases, twenty-five remained perfectly well after the elapse of a year or more, one had a recurrence, and the remaining twenty-one could not be reached for examination. In eleven chronic cases, a permanent cure extending over the same length of time could be ascertained as having resulted in nine—the other two could not be traced. The author acknowledges that the endocarditis cannot be prevented but it seems to be very favorably influenced, and better final results are noted than with other plans of treatment. The contraindications are based on the facts that chronic inflammatory foci may become acutely inflamed, and the reaction called forth makes certain demands on the strength of the patient. It should therefore not be given in the presence of a pericarditis, or a pleuritis with exudation, or a stenosis of any of the cardiac ostia. It is also contraindicated in very much emaciated individuals suffering from chronic rheumatism, unless the remedy is given in smaller doses at considerable intervals.

French and Italian Journals.

Contribution to the Semeiology of Acquired Endocarditis in Infancy.—Mario Vianello Cacchiole has collected sixty-seven cases of acquired endocarditis in infants, seen from 1894 to 1903 in the clinic for children at Florence. The most important symptom, and that first observed, is a systolic murmur, with greatest intensity at the the apex of the heart, due to growth of vegetations on the valves, usually the mitral valve. In the beginning of a mitral endocarditis the murmur is heard only at the apex; in acute cases, for a few days the murmur may be heard all over the chest; the action of the heart is tumultuous, the dyspnœa marked, and the pulse very rapid. As the disease subsides, the murmur is heard only to the left of the sternum and loudest at the apex Murmurs are better localized than in adults. The aortic murmurs are rare, as are also the pulmonary. The cardiac area is increased toward the left, there are an inconstant fremitus, a marked carotid pulsation, and a rapid, strong pulse, sometimes irregular. If the child recovers, compensation is good; the murmur is harsh, hypertrophy is seldom great, and dilatation is rare. The absorption of the inflammatory products is more rapid in the child than in the adult—*Rivista di Clinica Pediatrica*, August, 1904.

Primary Cylindrical Cell Carcinoma of the Lung.—Alfredo Bevacqua reports a case of cancer of the lung because of its rarity as a primary condition, and of its difficulty of diagnosis during life. The condition simulates entirely that of pulmonary tuberculosis. The patient was a man thirty-nine years of age, who came to the hospital to be treated for syphilis, having enlarged glands and tibial pains. He had at first no pulmonary symptoms; later a bronchial catarrh developed, then signs of consolidation in the lower lobe of the right lung. No tubercle bacilli were found in the sputum. A cavity formed and the patient died with all the symptoms of pulmonary tuberculosis. The autopsy showed characteristic lesions, apparently of tuberculosis in the lung and kidney, but when the microscopical examination was made it became evident that there was a new growth in the lung, a cylindrical celled carcinoma, which had originated from the epithelium of the bronchi. There was no other deposit except the small one in the kidneys, which was evidently secondary.—*Giornale Internazionale delle Scienze Mediche*, July 31, 1904.

Importance of Daily Weighing in the Case of Patients Suffering with General Dropsy.—Jules Courmont and Genet declare that the daily weighing of patients is most valuable as a source of information to the physician. It is very interesting to watch by this method the effect of various drugs in certain diseases, such as heart disease and Bright's disease. The writers have observed from their experience that digitalis and theobromine not only increase the aqueous part of urine, but also the salts voided in the same. In one case a patient voided a liter of urine containing about 4 to 1000 per cent. of salt. After the administration of digitalis, the same patient voided 3 liters of urine. But instead of 12 grams of chlorides eliminated in the twenty-four hours, there were 18. The same results are obtained by the use of theobromine. The amount of chlorides eliminated is even superior to the diuresis. In patients suffering with Bright's disease, theobromine has the most happy effect. Digitalis acts, but in a less degree. In patients suffering with heart disease, digitalis alone has good effects, theobromine being at times even harmful. The curve of weight of dropsical patients is in general in inverse ratio to that of the quantity of urine voided, but this relation is far from exact. But it indicates very accurately if the elimination of the chlorides is more, equal to, or less than the ingestion. If, for example, the weight decreases, elimination is greater than ingestion. In this way the treatment of these patients can be easily directed. It is an ingenious method of learning the permeability of the kidneys without preserving the urine.—*Lyon Médical*, July 31, 1904.

The Treatment of Tuberculosis by Marmorek's Serum.—A. Klein and D. Jacobsohn in reviewing their experiences in the treatment of tuberculous patients, state that nothing is more natural than accidents in the use of serum. Nevertheless, a number of their patients have undergone the treatment without any untoward results at all. These accidents, when they do occur, however, are only those which are commonly noted in the use of all serums. Aside from the fever which often accompanies the urticaria, a slight rise of temperature has been noted after the injection. The temperature in these cases sometimes rises several tenths of a degree, and persists as long as ten hours, after which it gradually falls. Sometimes there are articular pains following an injection. These are generally fleeting, and of short duration. In certain cases, however, they assume a more violent character, with spasmodic contractions of the muscles which surround the joint, even causing functional impotence, to a degree. This usually happens in cases in which the tolerated dose has been exceeded a number of times. The duration of the arthralgia never exceeds forty-eight hours. The urticaria from the use of this serum has the same characteristics as the same

eruption has after the use of other serums. It is most often localized at the inoculated region, but it sometimes becomes generalized and is accompanied by a considerable rise of temperature. Erythema also sometimes appears. In certain cases, the patient complains of weakness, loss of appetite, and general fatigue. These symptoms mean nothing in relation to prognosis, but their presence is an indication to diminish the dose now and then, but especially, to make the periods between doses longer.—*Bulletin Général de Thérapeutique*, July 30, 1904.

The American Journal of the Medical Sciences, August, 1904.

A Study of Circumscribed and Diffuse Pulsation of the Wall of the Thorax, with the Report of a Case of Pulsating Hæmothorax.—Joseph Sailer gives the following summary of his paper: Pulsation of the wall of the thorax may be due to disease of the heart or blood-vessels; may be idiopathic, that is, not the result of any definite cause, may be due to pleural or pericardial adhesions; to accumulation of fluid in the pleural cavity, or to abscess of the wall of the thorax. When the pulsation occurs as a result of accumulation of fluid in the pleura the left side is affected in the majority of cases. The patients are usually males and less than forty years of age. The mechanism depends in all probability upon the existence of a positive pressure in the pleural cavity with tension of the mediastinum.

A Study of the Tubercle Bacilli Isolated from Three Cases of Tuberculosis of the Mesenteric Lymph Nodes.—Theobald Smith states that the bacilli from these three cases of presumable food infection do not correspond to the bovine type of bacilli in any one particular. They were readily cultivated from nearly all the guinea-pigs inoculated, and they grew luxuriantly from the start on dog's serum. Morphologically the bacilli were either fairly long, *i.e.* they averaged about 2 μ in length, or else they were very variable, polymorphic. The uniformly short, straight forms of the bovine type were absent. In all cases the bacilli were of a very low order of virulence, lower even than that of many of the cultures of human origin studied before. None presented the reaction curve of true bovine bacilli. The writer concludes by saying that we have as yet no satisfactory evidence concerning the degree of change, if any, which tubercle bacilli of bovine type may undergo in the human body. He believes that it is at present quite inconceivable that changes could be as thoroughgoing as would be the case if we were inclined to attribute these cases of infection by way of the digestive tract to milk. He believes that we must refer them to infection with bacilli of strictly human origin.

The Leucocytosis of Pregnancy, of the Puerperium, and of Eclampsia.—Ralph Waldo Lobenstine concludes from the cases he has studied that: (1) The toxins of eclampsia cause, in most instances, a leucocytosis. The exact cause of this it is as yet impossible to explain. (2) All things being equal, the degree of the leucocytosis seems to depend very closely upon the degree of toxicity of the patient. (3) The greater the resistance of the patient, the higher the leucocytosis. (4) A sudden increase in the leucocytes generally indicates an aggravation of the disease in an individual with good resistance. (5) A low leucocyte count in a highly toxic patient is of bad omen. (6) A leucocytosis originally high that falls rapidly in a badly toxic patient is likewise a danger signal. (7) There is no direct return between the leucocyte curve and the temperature curve.

Orthostatic Albuminuria.—Charles Louis Mix is of the opinion that those cases which show the intermittent type of physical signs found in non-neurasthenic adults, with possibly a slight lowering of the specific gravity, even without the presence of casts, much more in their presence, should be regarded as cases of true organic renal disease. Those cases of continuous orthostatic albuminuria occurring in neurasthenic or hysteric adults, with unimpaired specific gravity and negative microscopic findings, should be regarded as functional in origin, with a relatively good prognosis. Cases occurring in children and associated with infectious diseases, should be regarded as cases of true nephritis, very likely glomerular. They may recover. Cases in children, associated with movable kidney, or with no apparent cause, especially familial cases, should be regarded as functional, with a good prognosis. The amount of albumin is of no prognostic value. The habits of life of the patient will influence the prognosis, however. The writer believes that in time there will be no disease of orthostatic albuminuria, *per se*, any more than there are at present diseases known as oxaluria, phosphaturia, or indicanuria, but it will be looked upon in various cases as a symptom, derangement, or defect.

Œsophageal Neuroses.—A. L. Benedict limits his discussion of this subject to motor neuroses. Absolute atony or paralysis of the œsophagus is very rare, if ever present. Hypotony, ordinarily called atony, is a very common condition. It is liable to develop into dilatation, whether of œsophagus, stomach, or intestine. Its diagnosis is somewhat difficult. Spasms of the œsophagus may theoretically, be divided into those of the circular, longitudinal, and both sets of muscles and classification not warranted clinically. Clonic spasm occurs mainly in connection with similar spasms elsewhere, especially of the sis is somewhat difficult. Spasms of the œsophagus may, theoretically, be divided into those of the circular, longitudinal, and both sets of muscles and classification not warranted clinically. Clonic spasm occurs mainly in connection with similar spasms elsewhere, especially of the stomach during vomiting. Tonic spasm of the œsophagus usually occurs in one of two forms: either a dysphagia analogous to that of organic stricture, or the spasm may assume the form of a moving globus (hystericus?) Occasionally tonic but more often clonic spasm is due to some well-defined reflex cause, at a greater or less distance. One form of globus, quite different from an hysterical manifestation in the ordinary sense, occurs after prolonged sobbing, laughing, etc. Air-swallowing always accompanies ordinary deglutition, thus there is often a belching of air during or after a meal. Aërophagia, as a neurosis, means almost any gradation between air-swallowing in the literal sense and a hiccough. In typical aërophagia, the condition is an hysterically magnified hiccough.

Pseudomelanosis of the Hæmolymph Glands.—Aldred Scott Warthin reviews three cases in which the striking common feature is the grayish or black discoloration of the retroperitoneal hæmolymph nodes in the absence of any similar discoloration of the spleen or other abdominal organs. The writer explains this phenomenon as due to the combination of hydrogen sulphide and the iron-containing blood pigment found in the phagocytes in the sinuses of the affected nodes. As to the source of the gas, it is evident that it was formed not in the intestinal canal, but in local infected foci or in the blood. In the first case there was a general colon bacillus infection arising from the infected seat of operation in the vagina and pelvis. In the second case there was a saprophytic infection of a bed-sore, with secondary involvement of the left psoas. In the third case there was a strong odor of the gas in the peritoneal cavity and abdominal abscess. From these regions was isolated a bacillus belonging to the colon group. It is probable that the formation of gas began before death, and that the appearances of the hæmolymph nodes were not entirely the result of post-mortem changes and conditions. This is certain in one case. The combination of H_2S with the iron-containing blood pigment of the nodes seems to be a satisfactory explanation for the pseudo-melanosis in these three cases. The writer concludes that it seems most probable that the pseudomelanosis of the hæmolymph nodes in all of these cases was due to an absorption of hydrogen sulphide from the blood or through the tissues rather than to a local formation of gas in the sinuses of these organs.

Two Thousand Operations for Appendicitis, with Deductions from Personal Experience.—John B. Murphy refers to his first operation in its modern sense, for appendicitis, as being performed in 1889. As to the etiology, the affection most commonly follows exposures such as would produce so-called "cold" of the respiratory tract. Foreign bodies were present in a little less than 2 per cent. of the cases. Fecal concretions were found in 38 per cent. Indiscretions in diet appear to have little if any effect as an etiological factor. The symptoms occur generally in the following order. Pain in the abdomen, sudden and severe followed by (second) nausea or vomiting, even within a few hours, general abdominal sensitiveness, most marked on the right side, or more particularly over the appendix, and elevation of temperature. When this order of the symptoms varies, the writer questions the diagnosis. He divides the time for operative intervention into four stages: First, early within the first forty-eight hours; second, in the active increasing inflammatory process, from the fifth or seventh day on; fourth, in the intermediate stage—between attacks. The most favorable time for operation is within the first forty-eight hours of the attack. The final results in appendicitis, as a whole are very gratifying. The writer declares that the obligation of the surgeon is to conduct a case of appendicitis to a favorable termination with the least hazard or risk to the patient, regardless of his personal feeling. The man who is having more than three or four deaths in a hundred operations is either receiving his patronage from incompetent and procrastinating physicians, or he is doing too much manipulating in the peritoneal cavity under unfavorable pathological conditions. As to transportation of the patient, the writer believes that if the patient is seen before the thirtieth hour, he can be transported to the hospital with safety. If it is after that time, the operation should be at home. If the patient is transported, he should be kept in the sitting position on the stretcher.

Book Reviews.

A Textbook of Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Professor of Laryngology and Rhinology, Jefferson Medical College; Consulting Laryngologist, Rhinologist, and Otologist St. Agnes' Hospital; Bacteriologist to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases; Fellow of the American Laryngological Association, etc. Third Edition, Revised and Enlarged. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

In the five years this book has been before the profession its position has become so well established that nothing remains to be said by way of introduction. Laryngology is not as rapid in its progress as some other branches of medical science, bacteriology for example, yet it keeps pace with the advance of medicine in general, and in the three years since the publication of a second edition of this work, sufficient material has accumulated to justify the issuance of a new and revised edition. Most of this new material is to be found in the chapters on keratosis, influenza, correction of deformities by paraffin injections, cancer, hay fever, and deformities of the septum. The pictures are very good, twenty-four of the 175 illustrations being in colors.

Die Fruchtabtreibung durch Gifte und andere Mittel. Von Prof. Dr. L. Lewin. Berlin: Aug. Hirschwald, 1904.

This work of 350 pages is intended by the author to serve as a manual for physicians and jurists, and seems to have met a long-felt want, for the favorable reception accorded to the first edition has now necessitated the appearance of a second. The book opens with a historical introduction, following which the author considers in a most complete manner the legal and sociological aspects of this subject. He believes that the question is of such importance to national existence, that the government should take official cognizance of these conditions. In many cases his recommendations would not apply, as the desire to terminate a pregnancy during the early months is often based on reasons which cannot be governed by outside influences, but a great majority of these cases are to be found among a class who desire a limitation on account of their economic situation, or in those who have conceived out of wedlock and are prompted to resort to abortion from feelings of shame and fear of exposure. The author claims that some effect, however small at first, may be gained by the erection of a sufficient number of maternity hospitals, where women may be accommodated without exposure and their children taken care of. No doubt such asylums would be constantly filled and the number of illegitimate births markedly increased. But this, the writer claims, need not be considered as a sign of increasing immorality—it would only evidence the fact that a larger number of children had been allowed to come into the world that would otherwise have been destroyed *in utero*. The other sections of this interesting work are concerned with the dynamics of abortion and the pathology of fetal death. The various forms of abortion are also studied, both historically and ethnographically, and their universal distribution, in both past and present times, in almost every quarter of the globe, is astounding. Even the lowest types of savages resort to such measures. Considerable space is given to the subject of organic and inorganic abortifacients, and the mechanical means are also considered. The work is supplemented by an excellent index. An immense amount of painstaking research must have been devoted to gathering and arranging the large quantity of material presented.

Principes Fondamentaux d'Obstétrique, Vérifiés, Rectifiés ou Etablis à l'Aide de l'Expérimentation sur le Mannequin Naturel et de l'Observation sur la Parturiente. Introduction à l'Etude Clinique et à la Pratique des Accouchments, Anatomie, Présentations et Positions, Mécanisme, Toucher, Manœuvres, Extraction du Siège, Version, Forceps. Par le Professeur L. H. Farabeuf et le Docteur Henri Varnier. Préface du Professeur A. Pinard. Dessins démonstratifs de L.-H. F., donnant avec les répétitions nécessaires 362 Figures. Nouvelle Edition Revue et Corrigée. Paris: Georges Steinheil, 1904.

In looking through this valuable book with its numerous graphic illustrations, one cannot but wish that it had been in his hands in student days. The authors of this treatise have fully realized the special preparation necessary for the practical study of obstetrics. Pinard, who has written the preface, declares that the student who pretends to be able to profit by the teachings of the clinic without being prepared by theoretical studies and manual exercises, would be even worse off than one who would become a surgeon without knowledge of anatomy or of operative technique. He is convinced that the great difficulty of to-day, in teaching obstetrics, results from the fact that students do not have sufficient preparation for this branch of medicine. The illustrations, of great accuracy, are a most valuable feature of this work, which has been thoroughly revised, corrected, and brought up to date in every respect. It is a perfect guide to the study of obstetrics. The first chapter describes in detail the pelvic-genital canal. The second chapter deals with the fœtus, its presentations and positions, all of the cuts being taken directly from nature. Forty pages, containing forty illustrations, are devoted to the exposition of the mechanism of labor in its various phases. The consideration of diagnosis by touch, manual intervention in breech presentation, version, and forceps, follow in order. The basis of this work was a series of five years' experiences and manœuvers made with the supple bodies of women and fœtuses embalmed in glycerin. These experiments were controlled by clinical observations. As Pinard says, this book, the first of its kind, is indispensable to every student and practitioner who desires to follow successfully the line of obstetrics.

Lehrbuch der Speciellen Chirurgie. Von Dr. Franz König, in Berlin. Achte Auflage. I and II Bande. Berlin: Aug. Hirschwald, 1904.

This well-known work, by one of the foremost surgeons of Germany, is now appearing in its eighth edition. The esteem in which the work is held may be gauged by the necessity for so many successive editions. Although a considerable period of time has elapsed since its first appearance, the book is by no means old-fashioned. The expansion which the subject of surgery has undergone has necessitated the addition of a third volume, and as the magnitude of such a work is too great to be properly accomplished by one man, the author has enlisted the services of his son, Prof. Fritz König, as collaborator. There are no special points of departure from the editions which this one succeeds, and the present one presents merely an effort to keep the subject matter of the book up to date. Two volumes are now at hand, and the third is soon to follow. The special surgery of the head, chest, abdomen, and male genitals is thus far treated, the sections on the head and abdomen being very elaborate. The arrangement of contents and the typography are excellent, but what impresses the American most is the lamentable lack of good illustrations.

Golden Rules of Anæsthesia. By R. J. Probyn-Williams, M.D., Senior Anæsthetist, Etc., at the London Hospital. Bristol, Eng.: John Wright & Co., 1904.

In this small book, which may be readily carried about in the vest pocket, the author presents some of the principal points to which the attention of the student must be directed during the practical part of his course of instruction in the administration of anæsthetics. It will also serve a useful purpose to those practitioners who may be occasionally called upon to give an anæsthetic. The author's language is concise and his words well chosen, and the subject of general anæsthesia is quite fully summarized within the brief limits of sixty-five pages. The subject matter is in the form usually of pointed paragraphs, the majority of which are governed by the words do, don't, and remember.

Wurmfortsatzentzündung und Frauenleiden. Von Dr. Theo. Landau. Berlin: August Hirschwald, 1904.

The subject of appendicitis is no less interesting to the internist and the surgeon than it is to the gynecologist, especially if we include in the term gynecology, the study of the affections of all the abdominal organs in the female. On these grounds the author of this little work finds a good reason for presenting it under the above title. Within the limits of its eighty-two pages he discusses briefly the relations between appendicitis and gynecological affections, and gives particular attention to the diagnosis and treatment of appendical inflammations when these are combined with the latter. In commenting on the etiology, he finds as the results of his personal studies, that appendicitis *per se*, whether in the severe acute or the more chronic forms, attacks men more frequently than it does women, but that in the latter the inflammatory process usually approaches from without, rather than from within, *i.e.* periappendicitis. Although there may be some difficulty in recognizing appendicitis in either sex even when uncomplicated, a much greater uncertainty exists when, in a woman, the disease is connected with some inflammatory process in the pelvis. A detailed description of the differential diagnosis contains many practical suggestions which cannot be here abstracted. Therapeutic measures must always be directed against both diseased processes. The author advises early operation, especially when the case is seen within forty-eight hours; after that it may be advisable to wait, although ready to proceed to more radical measures at any moment. He prefers the transverse incision through skin and fascia, followed by a longitudinal one through muscle and peritoneum, to the smaller lateral incisions.

Society Reports.

AMERICAN PEDIATRIC SOCIETY.

Sixteenth Annual Meeting at Detroit, Mich., May 30 and 31 and June 1.

AUGUSTUS CAILLÉ, M.D., PRESIDENT, IN THE CHAIR.

(Special Report to the MEDICAL RECORD.)

(Continued from page 394.)

Tuesday, May 31—Second Day.

Nervous Exhaustion in Infants.—Dr. WILLIAM P. NORTHRUP of New York reported some cases of nervous exhaustion occurring in young babies as the result of noisy surroundings and of too much petting at the hands of parents, grandparents, and friends to whom the wish was to "show off" the infant. He thought the society should interest itself in teaching the lesson of quiet surroundings and especially of allowing a certain quiet to initiate stomach digestion. He pointed to the necessity of close and constant watching and individual case studying. The coming generation should be protected from nervous exhaustion, nervous dyspepsia, sleepless nights, and choreic jerkings before they cut their first teeth.

Dr. AUGUSTUS CAILLÉ of New York said the hysterical doctor was, as a rule, a very popular man, and was to blame for many of the conditions Dr. Northrup criticised.

Dr. C. P. PUTNAM of Boston said he was always afraid of the so-called "good" nurses, who are so devoted to the children. By their devotion they kept the children awake

Dr. SAMUEL S. ADAMS of Washington, D. C., said that we should beware of the nurse who puts the child to sleep, and especially the very much over-rated Southern "mammies."

Dr. ROLAND G. FREEMAN of New York referred to the condition of nocturnal incontinence of urine which could be cured by taking the child away from the neurotic mother or nurse and placing the child under the care of a trained nurse. Many cases of constipation in infancy were due to the nervous environment. This could be easily remedied by placing the child in proper environment.

Address of the President.—Dr. AUGUSTUS CAILLÉ of New York delivered the presidential address, taking as his subject the influence of the American Pediatric Society in promoting the welfare of American children. After fifteen years of prosperous existence, he thought the time had come when this society should be ready to assume broader obligations and to grapple with larger problems, to promote and shape the public understanding regarding sanitation of the child's environment, and to supervise the education of the American child from a medical standpoint. He, therefore, asked permission to point out briefly some of the more important matters to which they, as a body, might direct their attention.

The Overheating of Homes and the Fear of Catching Cold.—This was a most fruitful source of ill health in children. The fear of breathing fresh air still held possession of the multitude, and the comparatively few physicians who dared to advocate the breathing of cool, fresh air were looked upon as little short of dangerous advisers by the wiseacre of the domestic hearth. The susceptibility to cold-catching could be markedly reduced by judicious bathing in connection with proper alimentation. In older children a hardening process by cold douching was undoubtedly beneficial and would strengthen the child's forces and permit it to overcome inclement influences of various kinds. This suceptibility to cold-catching could not, however, be reduced in homes in which overheating of the living apartments was tolerated. One of the most dangerous methods of heating a room he believed to be the portable gas stove not connected with a flue, because the products of combustion remained in the room and vitiated the air. Overheating and faulty heating should be condemned by the medical profession at every opportunity, and fresh air treatment of the healthy and sick children should be insisted upon. In Boston the wealthy and aristocratic families were putting their babies to sleep out of doors on roofs, balconies, and wide window-sills.

Disinfection and the Sanitary Code.—He said that the removal of the child to another apartment during the fumigation process theoretically and practically nullified all efforts to destroy the sources of infection and stamp out contagious diseases. The compulsory cleansing of an apartment with soap and water as practised in Germany had more real value than fumigation with sulphur. One of the principal means of the spread of infection could be found in the cloak-room of factories and schools. The same might be said of books in schools and libraries; they were frequently soiled with the nasal discharge of the sick. Compelling children who were convalescing from diphtheria to keep indoors until all bacilli had disappeared from the throat was unreasonable, because it deprived them of the tonic effects of fresh air which they required, and because the infectious nature of these bacilli found during and after convalescence had not been proved. He deprecated the taking away of children suffering from ordinary eruptive fevers and transferring them to suburban hospitals against the will of the parents. The fear that such a course would be pursued had prevented parents calling in a physician and had kept well-meaning and humane physicians from reporting cases. If the community demanded isolation of these cases the authorities should insist upon securing proper accommodations for mother as well as child.

School Hygiene and School Inspection.—Under the championship of Dr. Caillé, at a public meeting of the pediatric section of the New York Academy of Medicine, the daily medical inspection of the schools of the City of New York received its first practical agitation in 1890. It was successfully inaugurated in Boston in 1894, in New York in 1897, in Philadelphia in 1898. This inspection had primarily for its object the early detection of communicable diseases, but it should embrace the hygienic guardianship of school-children. Such inspection revealed unsanitary conditions in general existing in schools, day nurseries, and kindergartens; it was a powerful factor in promoting the cleanliness of the scholars, and insured proper attention to existing parasites, skin lesions, and obnoxious habits. Children with communicable diseases, mouth-breathers, backward and neurotic children, anæmic children, etc., were detected and put in the way of receiving the benefits of proper treatment. It was estimated that fully 90 per cent. of the curvatures not due to bone disease were developed during school life by faulty positions in sitting, while writing and studying, and in standing. The early detection of vaginal discharges of gonorrhœal origin was most important. When medical inspection was continued with rational elementary instruction in hygiene the best chances were offered for lessening sickness in school-children because teacher, parents, family physician, and inspectors coöperated.

School Fatigue and Backward Children.—In 1900, 16,000,000 children were enrolled in the common schools of this country. The opportunity for acquiring knowledge was the same for all school-children, but not all children had the same capacity. The relative endurance of the sexes varied; about one girl in twenty was obliged to give up her school life on account of ill health. The present-day native American girl of the middle class was the artificial product of advanced civilization; she was a bundle of nerves encased in a fragile frame. He believed the pediatrist should call a halt and demand for the children less brain gymnastics and more fresh air and exercise. Backward children should have separate class-rooms and special care. One of the duties of the physician, the statesman, and the teacher was to find out the weak spot, for these children had the same right to an education which would fit them for a sphere of usefulness that the blind had.

Bodily Training of Pupils and School Baths.—Inhibition to sit still was one of the first lessons of school life, but unnatural order should be dispensed with and the children should be allowed all the physical activity compatible with the best results. The time was coming when the playground would be as seriously considered as the school itself. The lesson of personal cleanliness was one of the fundamental principles of education. The shower-bath was the best and most sanitary for public schools and public bathing places, and probably was of more importance to the community than public libraries.

Infants' and Children's Hospitals.—He believed that medical opinion should discountenance the erection of large institutions in the city to be filled with chronic cases and minor ailments. They were adopted only for the acute cases. The country and seashore sanatoria and floating hospitals were not for the chronic cases. As soon as their condition permitted, the children should be sent home from the hospitals because, as the result of hospital life only, they lost color, appetite, and weight. For fighting house infection in the babies' ward of the Post-Graduate Hospital, the following regulations were drawn: (1) Strict cleanliness of premises and inmates; (2) thorough ventilation; (3) sufficient air space; (4) no overcrowding of wards; (5) infants are not to be fed by the same hand that attends to the toilet; (6) soiled linen is to be immediately removed and disinfected; (7) feeble children are toned up by a change of air, such as a trip to Staten Island or an omnibus ride through the park, and sojourn in the sunbeam play-room and roof garden.

Educational Features in Pediatrics.—Undergraduate teaching might be carried out by means of didactic lectures and bedside instruction; post-graduate teaching should be systematized on a strictly clinical basis; and physical diagnosis, laboratory work, and dietotherapy and hydrotherapy shall be made a prominent feature in the course of pediatrics. In giving clinical instruction in pediatrics, Dr. Caillé during the past fifteen years had adopted the following plan: The first forty minutes of the clinic were devoted to a more or less rapid demonstration of ten or fifteen sick children who were placed on tables accessible to the matriculates, the balance of the hour being taken up by a discussion of the principles of treatment of important groups of disease, or a demonstration was given of stomach washing, bowel irrigation, spinal puncture, intubation, tracheotomy, or other operation.

In conclusion Dr. Caillé suggested that the annual transactions should contain a running record of the world's progress in pediatrics by presenting at each meeting a critical review of it during the year under the following headings: (1) Home School and Hospital Hygiene and Prophylaxis. (2) Teaching Methods in Pediatrics. (3) Diagnosis: Bacteriological, Chemical, and Regional. (4) General Therapeutics, including Nutrition, Diet, Hydrotherapy, Phototherapy, Electrotherapy. (5) Surgical Therapeutics, Orthopedics, and Mechanotherapy. At each annual meeting the council should designate the members who would be expected to furnish a critical review of progress for the next annual meeting, thus giving them a year's time in which to collect material.

Analysis of One Hundred and Eighteen Cases of Lobar Pneumonia in Infancy.—Dr. John Lovett Morse of Boston read this paper and gave the following summary: Lobar pneumonia is more common and occurs relatively more frequently in comparison with bronchopneumonia in infancy than is generally supposed. The analysis of these cases shows the following points: The onset was less stormy than was generally supposed. It was often ushered in by vomiting, but rarely by a convulsion. It usually began with fever and cough, which were often accompanied by apathy or drowsiness. Movement of the alæ nasi was not a constant symptom. A whole lobe was more often involved than a part. The left lower lobe was the one most frequently involved. The right upper and right lower lobe came next in frequency. The portion of the lungs involved was relatively the same in the fatal cases as in those which recovered. As a rule, the area involved was larger in the fatal cases. The average duration of the fever in the cases that recovered was about eight days, being nearly the same in both years. The course was more often short in the first year, however, than in the second. The average duration of the fever in the uncomplicated cases that were fatal was 12.8 days; that is, the duration of the fever was longer in the fatal cases than in those that recovered. The highest temperature was usually between 103°F. and 106°F., the number of cases being nearly the same for each degree. The temperature fell by crisis in 68.8 per cent. Crisis was less common in the first than in the second year. Collapse during the crisis was very unusual. Pseudo-crisis were not very common, but irregularities and remissions in the temperature were not at all unusual. The mortality was lowest when the temperature did not rise above 103°F., and highest in those cases in which it went over 106°F. The degree of fever between 103°F. and 106°F. had no apparent effect on the mortality. A high temperature was no more fatal in the second year than in the first year. The usual pulse rate was between 150 and 170. No case died in which the pulse was not over 140. The rate of the pulse, when it was above 140, had little or no apparent effect on the mortality. The usual respiratory rate was between 55 and 80. No patient died whose respirations were below 55. The rate of the respiration, when above 55, had no apparent effect on the mortality. The mortality, excluding the cases in which death was due to empyema, was nearly 23 per cent. It was almost twice as great in the first as in the second years, being 32 per cent. and 18 per cent. respectively. Otitis media was the most common complication, occurring in 18 per cent. Empyema was the next most frequent, occurring in about 8 per cent.

The prognosis of lobar pneumonia in infancy varied decidedly with the age of the patient and to a certain extent with the amount of lung involved. The prognosis was good when the temperature was not over 103°F. It was serious when it was above 106°F. Variations between these points made little or no difference in the prognosis. The prognosis was good when the pulse was not over 140 or the respirations over 55. The amount of the increase above these limits was of little importance.

Dr. Charles G. Kerley of New York said he was surprised at the variations of pulse and respiration in healthy, normal children.

Dr. F. S. Churchill of Chicago said that he had no doubt that lobar pneumonia existed more often in children than was generally supposed, and he believed this was due to the fact of careless examinations. He related the instance of a baby two months old who contracted a pneumonia and the culture showed the pneumococcus and the smear the bacillus of influenza; the child recovered from this attack. Six weeks later another lobar pneumonia developed in exactly the same spot and, in the course of ten or twelve days, the child died. The culture here showed only the pneumococcus but no influenza bacillus was found. It was interesting that with the combined infection the attack was trivial. The combination of these two in an adult was usually fatal. Regarding the treatment the giving of the depressing antipyretics in infants was far more dangerous than in adults. Sponge baths were better borne than tubbing.

Dr. L. E. Holt of New York said that in a series of sixteen cases he had found the left lower lobe affected alone. With regard to prognosis it seemed to him that when but one lobe was involved it was rarely fatal, no matter where the temperature and pulse and respirations went, provided the child was in fairly good condition previous to the onset of the disease. He believed that

too much importance was attached to the rapidity of the pulse; it was the quality and not the rapidity of the pulse that was so important. He could recall a child with a temperature of 107.7°F. who recovered. The antipyretic treatment of pneumonia, he confessed, was a failure. The element of rest should not be forgotten.

Dr. Samuel S. Adams of Washington, D. C. believed that the mortality quoted was altogether too great, for it did not accord at all with his experience. Ten per cent. was about his mortality in private practice He had long since abandoned baths except in extreme cases. If a patient had a temperature of 108.6° he would advise clearing out the bowels and placing the child in the tub; in one such case he found that, two hours afterwards, the temperature had dropped to 104° but the lung was solid from base to apex and the child was moribund.

Dr. W. P. Northrup of New York prophesied that two years from now these cases of pneumonia would be treated by placing the patient near a window where he could get much cool, fresh, wholesome air, which would not only act as a stimulant but as an antipyretic.

Dr. Morse in closing the discussion said that the pulse and respirations were taken when the children were asleep or quiet and by rectum. The point he wished to bring out particularly in his paper was that there was no particular cause for alarm if the pulse and respirations were rapid. He also wished to bring out in his paper the fact that lobar pneumonia in infants was a more serious disease than generally supposed.

Acute Pyelitis of Infancy.—Dr. Rowland G. Freeman of New York read this paper. He said that any disease which could pass unrecognized while under intelligent observation for several weeks, on account of the absence of local symptoms pointing to the location of the disease, deserved to be called frequently to the attention of the profession in order that the characteristics of its manifestations might become familiar and subsequent cases not be overlooked. Acute pyelitis of infancy was a disease of this sort. Its rarity was sufficiently emphasized by the small number of cases reported. The etiology of most of the cases recorded was very indefinite. A very large proportion of them occurring in female children, and infection from the genitourinary tract seemed probable, while the organism associated with most of them, the bacilli coli communis, pointed to an infection from the alimentary tract, as did the fact that many of these cases followed intestinal disorders. The clinical manifestations gave no evidence that the pelvis of the kidney was the source of the trouble. These patients usually had abnormal movements from the bowels associated with a high temperature of irregular type with marked remissions and followed by a rapid elevation, which in some cases was accompanied by chills. The procuring of a specimen of urine from a baby involved some difficulty for those unaccustomed to work with these little ones, so that this method of diagnosis was apt to be neglected. On this account he believed that many of the recorded cases had been allowed to progress for long periods of time before curative treatment had been adopted. This was very unfortunate because curative treatment was simple and safe, consisting in neutralization of the urine. A case was then reported which seemed of interest since it occurred in a male child; questioning the mother revealed the fact that the infant showed some evidences of urethral irritation at the beginning of the attack, which attack was preceeded by two or three weeks of slight digestive disturbance as indicated by abnormal stools. The child continued sick for three weeks with an irregular temperature which towards the end of this period remained constantly very high and was associated with such nervous symptoms as twitchings and stiffness of the back of the neck. As soon as remedial treatment was instituted on the twenty-second day of the disease, the temperature steadily declined until it reached normal on the twenty-ninth day. The child had steadily gained in weight and became perfectly healthy. A detailed history of this case with the results of the blood examination here followed.

Dr. J. Lovett Morse of Boston thought that the frequency with which this condition was met depended upon how frequently we examined the urine. In Boston for several years an examination of the babies' urine had become a routine practice and he had never gone on service in the hospital without finding from two to four cases of acute pyelitis in the wards. Diagnosis was rather difficult, even though the urine was carefully examined; babies might have an acid urine and a great deal of pus but nothing else, and it was hard to tell whether the pus came from the kidney or the bladder. In cases in which he found squamous cells he supposed the trouble was in the bladder; when he found spindle and caudate cells then he believed the kidney to be the seat of the trouble, this leaving either a pyelitis or a pyelonephritis. Nearly all such cases he thought to be due to the colon bacillus, but this was a new subject and the field was open for further investigation. In two cases that he had seen the presence of tubercle bacilli in the urine opened up another new field for him. In these cases there was tuberculosis of the kidneys but no tuberculosis elsewhere. He had found no difficulty in obtaining urine from babies for examination.

Dr. Isaac A. Abt of Chicago said that some years ago he had speculated regarding the cause of this infection and in a large number of cases, twenty-six or more, the infection appeared to come from some part of the bowel, particularly a follicular enteritis. He then wondered if the colon bacillus could go through the lose cellular tissue of the pelvis. It seemed to him there must be some more direct mode of infection through the vascular system or the lymphatic system. He reported an instance of acute pyelitis in which the Shiga bacillus was found in the urine and this again opened up a new field for investigation, as to whether or not the Shiga bacillus could be found in the urine.

Dr. Thomas M. Rotch of Boston spoke of the great difficulty of discovering the tubercle bacilli. In the cases that he had seen he had found the disease to be exceedingly latent and the tubercle bacilli would not have been found if repeated examinations had not been made.

Dr. John Dorning of New York thought that the society could not too strongly emphasize the importance of urine examinations in children's diseases. Years ago Dr. Jacobi had exhibited a small catheter (No. 5) in two sections, the operator had carried one of these in his pocket for years and usually demonstrated its use at the clinic. An instrument maker in New York made four or five hundred of them and sold all, so that they must now be scattered all over the country. The diagnosis of acute pyelitis in children he had found to be rather difficult on account of the vague symptoms. When there was frequency in urination and distress at the neck of the bladder he then looked for this condition in children. He believed one should always suspect a tuberculous condition in cases of pyelitis. The condition was a very latent one and often even the microscopical examination did not aid in making the diagnosis and even the inoculation of guinea-pigs may not aid.

Dr. Floyd M. Crandall of New York asked regarding the possibility of increased susceptibility to kidney trouble in later years after children have suffered attacks of acute pyelitis.

Dr. L. E. Holt of New York said he had patients under observation, one for ten years, the other for nine years, and they were absolutely well and the attacks they had were very severe.

Dr. A. Jacobi said that a more lasting impression was made on medical men if certain things were hammered and hammered again into them, and one of the things

that should be frequently hammered was that when one had a doubtful case and a diagnosis had not been made, the urine should be examined and often one would be rewarded by finding evidences of acute pyelitis. If there were pus and bladder epithelia in the urine it was reasonable to suppose at least part of this came from the bladder; but if there were present in the urine renal epithelia and now and then small granular cast, and possibly later some blood and pus, that would indicate pyelitis. In cases of pyelonephritis there were more kidney elements than in cases of simple pyelitis. He had frequently been called to see cases of protracted fever that had been unfortunately diagnosed as malaria and found a case of nephritis or pyelitis. It was not sufficiently hammered into the heads of medical men that nephritis was a frequent disease in young infants; the urine should be more often examined. There was one remedy he was very fond of and that was gallic (not tannic) acid in large doses; it was an agent well tolerated. Regarding tuberculosis he had not seen many cases, and it was exceedingly difficult to find the tubercle bacilli in the urine. He believed that cases resulting from bacterial infection would get well; but if they were the result of calculus then the prognosis was graver.

Dr. Freeman said that at the Foundling Asylum in New York the urine of children was examined regularly, and no difficulty was experienced in obtaining samples of urine from babies.

Acute Myocardial Insufficiency in Some Infections in Children.—Dr. F. Forchheimer of Cincinnati read this paper. He said the importance of this subject lay in the fact that a large number of these acute myocardial insufficiencies developed in connection with the infections in childhood and, beyond the possibility of a fatal termination from this acute condition there remained another which was far reaching for the future of the individual who survived. In some of these cases the myocardial changes were so marked that permanent damage was done to the heart, which might only manifest itself when an extraordinary call was made upon the functional activity of the heart. As it was a fact now accepted by all that in every case of pericarditis and endocarditis the myocardium was more or less involved, it could be seen how great the number of cases became in which it was possible that acute myocardial insufficiency might develop. The development of symptoms of acute myocardial insufficiency depended upon the amount of damage done to the myocardium. At first there was noticed a diminution in heart force and arrhythmia; then followed dilatation of the left heart, then of the right heart, with relative insufficiencies of their valves; so soon as the right heart was seriously affected, then followed marked enlargement of the liver. The latter he had seen descend to the level of the umbilicus. The signs and symptoms varied in different diseases, but, upon the whole, there were weakness, irregularity of the pulse and heart impulse, tachycardia or bradycardia, a broadening of the heart dulness, and bruits heard most commonly over the apex, the mitral and the tricuspid areas, but frequently also over the base. To this class belonged the two cases referred to in his contribution to Jacobi's "Festschrift." Diphtheria, of all the acute infections, most frequently produced myocardial insufficiency, which most common during the second and third week. Too much stress could not be laid upon the fact that pure myocarditis was not the only cause that produced heart death in diphtheria, for there were at least two other processes that complicated it. The first was the effect of the diphtheria toxin upon the cerebral vasomotor centers, causing a dilatation of the blood-vessels, and therefore the blood was not properly propelled. The result was the heart simply "bled itself" into the splanchnic area, and, after a time, very little blood flowed into the right heart. The second method of complicating the clinical course was an affection of the vagus. It had been thoroughly established that, in diphtheria, the vagus was frequently affected, and it had been established that in a large number of infectious diseases there was arrhythmia. Diphtheria arrhythmia was due to disturbance of the vagus. Next to diphtheria, his experience with myocardial insufficiency had been with septicæmia of influenza. All the cases he had seen had been accompanied by more or less cardiac change, and the worst case in children that had come under his observation and which recovered he reported in detail.

In the treatment of uncomplicated myocardial insufficiency, the first principle was absolute rest. The digitalis group of drugs might be used, their efficacy depending upon the amount of myocardium affected. Predisposing causes should be controlled. According to the severity of the case stimulants will be demanded. Convalescence should be carefully guarded, and for the purpose of strengthening the myocardium mechanical means were invaluable. Laxatives that acted too violently should be avoided. Strychnine might be used for its general tonic effects; except in toxic doses it had no effect upon the heart nor upon the vasomotors. Nitroglycerin should never be used, unless there be angina attacks. His own method, which had been productive of good in two cases, was as follows: Hypodermic injections of adrenal extract repeated every two hours; saline transfusions in the beginning, in order to keep up the heart's contractions; ice-bags upon the abdomen, stimulating the splanchnic reflex. In one child he was able to bring down the pulse from 140 to 60 by the use of these alone. After the most violent symptoms had passed over, then caffeine and sodium salicylate were given every two hours, alternating with the adrenal extract, which was gradually dropped.

Dr. Thomas M. Rotch of Boston said that all had cases of acute dilatation of the heart which lasted but a short time, and these cases should be treated with absolute rest, as advocated. He thought the great importance of the paper just read was in drawing attention to certain points which the general practitioner did not, as a rule, recognize.

Dr. A. Jacobi of New York said that only during the last twenty or twenty-five years had much attention been paid to the myocardium, and only during the last ten or twelve years had the profession awakened to the necessity of studying the myocardium and its diseases more. Now we knew that we could have a pericarditis, an endocarditis, and a myocarditis at one and the same time. It was Engelman of Boston and others that had shown the importance of the heart muscle removed from the influence of the nervous system, and since then more or less attention had been paid to it and its changes. There were two forms of myocarditis, the simple parenchymatous degeneration and the real interstitial inflammation. Now and then one came in contact with an old cicatricial condition more or less extensive. The parenchymatous degeneration showed itself in different ways. In pneumonia the particular danger was not so much during the acute stage, but when the crisis came; then all at once the temperature fell, the pulse fell and became irregular, and sometimes collapse and death occurred. Toxins must have developed in the course of the disease which gave rise to the particular heart symptoms

With regard to treatment, there was nothing he avoided or disliked more in acute myocarditis than digitalis, which caused contractions, not only of the heart but also of the arteries. The labor placed upon the heart after fair doses of digitalis he considered to be too great, and the same remark applied to strychnine. He relied more upon cold applications to the heart, such as ice-bags for a short time, and opiates, especially codeine. He also liked the iodides. Absolute rest was to be enforced, especially rest in bed.

Dr. F. Forchheimer said the object of his paper was to attempt to establish some form of treatment in myocardial insufficiency, in both the acute and chronic cases. He

presented two clinical pictures, one a myocardial insufficiency due to a pure and simple myocarditis, the other as a complication. In treating myocarditis he said he never would think of using digitalis, but would insist upon rest, and particularly rest in bed.

Wednesday, June 1—Third Day.

Asthma in Infants and Children, with an Analysis of Forty-three Cases.—Dr. L. E. La Fetra read this paper. Eleven cases occurred during the first year of life (8 males and 3 females). Eight cases occurred during the second year of life (6 males and 2 females). Nine cases occurred from two to five years (8 males and 1 female). Fifteen cases occurred from five to twelve years (10 males and 5 females). The nationality of the patient was given as follows: United States, 16; German, 8; Swedish, 2; Dutch, 1; Irish, 6; United States (colored), 2; Hebrew, 9. It seemed to him remarkable that no Italians and only two negroes were in this list, because one would expect rickets to be an important predisposing factor, as it was in cases of spasmodic croup and bronchitis. At the time the patients came under treatment the disease had existed less than 3 months in 9 cases, from 3 to 6 months in 5 cases, from 6 to 12 months in 4 cases, from 1 to 3 years in 9 cases, from 3 to 6 years in 5 cases, and over 6 years in 3 cases. The family history was asthmatic, rheumatic, tuberculous, or neurotic in many cases, but the answers were not reliable enough to be suitable for statistical purposes.

Abnormalities of development were marked in several cases, especially when the symptoms began at birth or during the first year of life. There was pulmonary atelectasis in 2 cases, an enlarged thymus gland in 2 cases, pigeon-breast in 1 case. Two of the children were prematurely born, and one was of the Mongolian type of idiocy. Twenty had previously suffered from bronchitis; 7 had had bronchopneumonia. Altogether 27 out of 43 patients had had some pulmonary inflammation preceding the attack of asthma. Rickets were present in 8 cases. One patient had suffered from chorea. The cause of the attack was: In 14 bronchitis, in 1 bronchopneumonia, in 2 pneumonia, and in 1 each gastric indigestion, a drive against a cold wind, a fall, and an attack of malaria. In 8 cases the attacks occurred daily or with no stated intermissions; in the others the periods varied from two weeks to "every winter" or "every summer." The attacks were worse by day in only 2 cases. Three cases only were distinctly worse during the hot weather. Emphysema was associated with asthma in 6 boys and 4 girls; 5 of these had the square or barrel chest. Emphysema with bronchitis was present in 2 girls and 3 boys, and only one of these had a barrel chest. Abnormalities of the nasopharynx were associated as follows: Congenitally high arched palate (without adenoids) in 1 case; deflected septum in 2 cases; adenoids and enlarged tonsils in 20 cases. Nearly one-half these cases suffered from adenoid growths, and this was quite a significant fact. The usual symptoms of asthma were present. The leucocytes were usually increased. A differential count showed a constant and usually marked increase in the number of eosinophiles. The differential count of leucocytes he considered to be of diagnostic as well as prognostic value. If it was kept in mind that asthma did occur in infants and children there would be encountered few difficulties in making a diagnosis. The presence of an increased number of eosinophiles, together with speedy recovery and with recurrences, would confirm the diagnosis.

Speaking of pathogenesis, he said that the peculiar type of breathing was induced by a narrowing of the lumen of the bronchial tubes, but the cause of this had been productive of much discussion, two theories being favored, viz., spasm of the smooth muscle fibers of the smaller and medium-sized bronchial tubes, and vasomotor tumefaction or paresis, a sort of angioneurotic œdema or urticaria of the bronchial mucous membrane. This theory was supported not only by experimental evidence but by analogy and the results of certain forms of treatment.

A careful study of the patient's history and physical signs would suggest in almost all cases a rational and successful line of treatment. Predisposing and exciting causes should be removed. The attacks were to be treated on the basis of their pathogenesis. The general condition should be toned up by hygienic and dietetic measures. Bronchitis, adenoids, nasopharyngitis, etc., were all predisposing factors and should demand attention. The prevention of colds involved the whole hygiene of the child and should be attended to by daily sponge bathing, exercise in the open air, proper ventilation of the nursery day and night, etc. Adenoids and enlarged tonsils should be removed. Hypertrophic rhinitis, polypi, deflected septa, etc., should receive due attention. The toilet of the nose, as suggested by Jacobi, should be practised. In cases of long standing and for subacute cases he believed that nothing took the place of iodide of potassium. In infants, when the attack closely resembles capillary bronchitis, steam inhaled after being impregnated with creosote was very satisfactory in relaxing the spasm. In older children stramonium papers or nitrite papers, alone or in combination, were of value. So soon as the infant could swallow, tartar emetic and ipecac should be given along with some nitroglycerin; this he believed to be particularly efficacious when the attack resembled a bronchitis of the finer tubes. Another plan he had adopted with success had been the giving of atropine until the face flushed. If the attack was accompanied by gastric indigestion the stomach should be at once emptied, preferably by syrup of ipecac. In long-standing cases, and in older children, the old emphysema mixture gave good results in his hands, *i.e.* the mixture containing morphine sulphate, belladonna, and compound spirit of ether. On the theory that the attack was due to vasomotor paresis vasoconstrictors should be given. He had used suprarenal preparation with marked benefit in some cases.

Dyspnœa—Central, Peripheral, and Obstructive.—Dr. W. P. Northrup of New York read this paper. He said that every intubationist was interested in the different varieties of dyspnœa, and he wished to call attention to some unusual types. The first type was dyspnœa of peripheral origin, neuritis presumably diphtheritic, and paralysis of the diaphragm. The second type was dyspnœa of central origin, infectious transverse myelitis and paralysis of the thoracic muscles of respiration. The third type was obstructive and not of the nasopharynx, nor yet of the larynx, but due to accidental presence of air in the thorax, probably due to faulty exploration by needle.

Dr. Charles G. Jennings of Detroit said that he had reported a very interesting case at the Boston meeting of the society; the case was one of autointoxication with clinical manifestations appearing first at attacks of coma; the clinical picture soon changed, and instead of the condition manifesting itself as coma, asthma set in.

Dr. L. E. Holt of New York said that these attacks in children of six or eight years of age were very pitiable, and the only thing to be depended upon was a change of climate. He had always believed that if a child was not relieved of the asthmatic attacks before the age of ten or twelve he would become an habitual sufferer. He advocated improving the general nutrition of these patients by giving iron and cod-liver oil, particularly during the winter and spring, and keeping them as much in the open air as possible. These attacks were very likely to follow whooping-cough or measles.

Dr. Floyd M. Crandall of New York said that all knew how hopeless and how serious these cases were when they had gained any headway, and, therefore, if anything was to be done for them it should be done early, particularly after measles.

Dr. Isaac A. Abt of Chicago spoke of the dangers of

aspirating the chest by the unskilled. He had frequently noticed hospital internes poke the needle between the ribs, and they were taught that no harm could be done if only the needle was clean.

Dr. Augustus Caillé of New York has seen pneumothorax occur twice after puncture of the chest, and it was due to too expensive lateral excursions with the needle. With regard to asthma he recalled the time he was the guest of Dr. Dunbar of Hamburg, and he was shown an interesting experiment. The doctor was a hay-fever sufferer. He took the pollen poison in solution and instilled the eyes of both his own and Dr. Caillé's. It did not affect the latter, but, in a few minutes, Dr. Dunbar's became blood red. He then took the antitoxin (pollantin) and introduced it into the eye, and within half an hour all evidence of vasomotor disturbance had disappeared.

Dr. W. P. Northrup of New York said that the people should not be permitted to talk about "outgrowing" asthma.

Acute Leukæmia.—Dr. F. S. Churchill of Chicago read this paper. He said that nothing seemed to have a predisposing cause unless possibly tonsillitis, and the changes there might be the result rather than the cause. No age was exempt. The onset might be sudden, but often was insidious. The general course of the disease in children was practically the same as in adults. The spleen was enlarged in all cases, and it was not an infrequent phenomenon to see a diminution in the size of the spleen just prior to death. The duration of the disease was from four and a half days to five months. The chief interest centered in the blood examination. There was a diminution in the number of erythrocytes, and in the hæmoglobin. The number of leucocytes varied from 6,000 to 810,000. A falling white count showed approaching death. Age had no effect upon the total white count. The polymorphonuclears were reduced to a remarkable degree; myelocytes were extremely rare. The tendency was for the blood to turn to the fatal type. In twenty-nine cases there was but one in which hemorrhages occurred. Leukæmia presented a picture of a turning upside down of the blood count. The differential count was the only way in which to make an accurate diagnosis. The effect of intercurrent diseases seemed almost always to show a fall in the leucocytes. The results of autopsy threw but little light upon the problem. The bone marrow might be involved alone, but it was always involved. The authorities claimed that no case of leukæmia existed without involvement of the bone marrow, and therefore all cases were myelogenous in type. Bacterial examination was of no value; no specific organisms caused the affection. Any organisms that were found were simply invaders, and possibly entered by way of the tonsils. He referred to Nicoll's classification into three groups, viz., toxic, infectious and neoplastic, or cancerous. The true nature of leukæmia was unknown, and the treatment was of no avail. The spray had been tried without success in the belief that the disease might be malignant in nature. In such an obscure and fatal disease he believed that any treatment was justifiable, and serum injections seemed to offer the greatest hope of cure. The disease was probably more common than generally supposed. Prior to 1898, only seven cases had been recorded; since that date twenty-two had been recorded.

Primary Sarcoma of the Liver.—Dr. L. Emmett Holt of New York reported an instance of adenosarcoma of the liver occurring in an infant. Examination revealed a rather poorly nourished child, and on the right side of the abdomen a large tumor could be felt which extended beyond the umbilicus and down into the pelvis, filling the entire half of the abdomen. The surface of the tumor was smooth, and the outlines distinct. It was soft to the touch. Examination of other organs was negative. The temperature ran between 100° and 102°. The supposition that it might be an abscess of the liver led to a puncture of that organ, and the withdrawal of a bloody fluid, fatty droplets, and liver cells, but no pus The hæmoglobin was 55 per cent., and there were 17,000 leucocytes, but no differential count was made. The surgeon who was called thought that an incision was indicated, and, under cocaine anæsthesia, this was done. The finger passed into a mass of broken down material. A drainage tube was inserted, and the wound dressed. Two weeks later the patient died of exhaustion. At the autopsy the liver measured 19 cm. long, and 21 cm. wide, and weighed 735 grams. It was of light brown color, and projected 2 cm. above the liver surface. There was no peritonitis or thickening to be noted. There was a pericarditis, and also a bronchopneumonia, but no metastases were found. The microscopical examination showed adenoma with sarcomatous degeneration in the center. Only two other such cases had been reported in children The presence of a distinct capsule around the neoplasm seemed to argue in favor of the adenoma being the original process to which the sarcoma was added at a later date.

Radiograph of a Thoraco-Abdominopagus.—Dr. Samuel S. Adams of Washington, D. C., presented the radiograph of a monster of this nature which had come under the observation of Dr. H. B. Sheffield.

Officers.—The annual election resulted as follows: *President*, Dr. Charles G. Jennings, Detroit; *First Vice-President*, Dr. Charles G. Kerley, New York; *Second Vice-President*, Dr. J. Park West, Bellaire, Ohio; *Secretary*, Dr. Samuel S. Adams, Washington; *Treasurer*, Dr. J. Park West, Bellaire, Ohio; *Recorder and Auditor*, Dr L. E. La Fetra, New York.

Chicago Surgical Society.

At the May meeting Dr. Nicholas Senn reported a case of extensive carcinoma involving the left cheek, in the center of which was a perforation which communicated with the cavity of the mouth. Acting upon the supposition that it might be a case of abscess, he resorted, first, to curettage, hoping to improve the local condition as well as giving an opportunity to make an early diagnosis by the aid of the microscope. Sections under the microscope showed it to be a case of unusually malignant form of carcinoma that had its starting-point somewhere about the alveolar process on the left side, involved the entire cheek, and gave rise to extensive destruction. There was extensive regional dissemination, although the disease had lasted only three months. A radical operation was resorted to. The entire cheek was removed, leaving the angle of the mouth, and a small portion of the cutaneous covering of the cheek. He sacrificed the periosteal covering of the lower jaw on the corresponding side, and made regional dissection by removing the submaxillary gland with the chain of lymphatics as a preliminary to excision of the cheek, and covered the enormous defect which was produced by a plastic operation, using Thiersch's skin grafts. The wound healed by primary intention throughout. Dr. Senn reported a case of tuberculosis of the ribs, of a most pronounced type, in a man of forty years of age. Three large tuberculous abscesses involved the left side of the chest. One of these ruptured spontaneously, and a fistulous opening communicated near the nipple with a very large abscess cavity. Another abscess was found at the junction of the ribs with the cartilage near the sternum, and another to the left of the mammary line. The third, fourth, and fifth ribs were the seat of tuberculosis. The first abscess was the result of tuberculous perichondritis. The focus of tuberculosis of the fourth rib was almost directly over the pericardium close to the nipple. The third abscess was a little to the left, and involved the fifth rib. The ribs were resected in their entirety, necessitating an extensive operation. Dr. Senn had encountered three cases in two weeks of cysts of the ductus thyroglos-

sus. The patients were all young subjects, eighteen to twenty-five years of age, two females and one male. The cysts were comparatively small. The largest one was about the size of a small walnut. They were located in the median line between the thyroid cartilage and the base of the hyoid bone. The enlargement was slow, accompanied with pain and swelling. The skin was movable over the surface of the swelling in all of the cases. Fluctuation was distinct. Complete excision was resorted to. The cyst wall in one of the cases was as thin as tissue paper. In the last ten days Dr. Senn said he had encountered two cases of fibroma of the periosteum. In the first case the fibroma had its starting-point from the periosteum of the second rib close to the cartilage. The tumor extended over the surrounding bony framework in mushroom-like manner, and underneath the clavicle. The tumor was removed through a curved incision, with its convexity directed upward, and the flap reflected as far as the clavicle, thus laying bare freely the base of the tumor, which he found intimately attached to the periosteum of the second rib near the sternum. The tumor was very firm and smooth, and on making a section it cut almost like cartilage. He removed a second fibroma of the ribs last Friday from a woman thirty years of age, which was situated at the lower part of the scapula. The patient first noticed the tumor eighteen years ago. It became stationary, but later gave rise to serious functional disturbance by fixation of the arm. The tumor was removed. Dr. Senn exhibited two specimens from the face of a woman, seventy-one years of age, the subject of multiple senile warts. In both cases the disease involved the malar prominence on both sides. There were a number of these warts scattered all over the face, those over the malar eminence being the seat of repeated irritations, and had undergone transformation into epithelioma Valuable as the *x*-ray was as a diagnostic resource, Dr. Senn said, occasionally it leads physicians into difficulties. He related a case briefly in confirmation of the correctness of this assertion. The patient was a colleague upon whom he had operated twice before, once for a diffuse septic inflammation involving the right arm and forearm, and a second time for appendicitis. For a number of months he had complained of a vague pain in the right shoulder. The patient regarded it as a rheumatic affection. Local and general treatment failed to give relief. The pain increased in severity, and the shoulder-joint almost completely lost its function. Dr. Senn could find no indication of any swelling, but found at a point corresponding to about the middle of the base of the deltoid a limited area of tenderness. The *x*-ray picture showed in the center of the deltoid muscle a dark elongated spot. The shoulder-joint itself was normal. He thought he would make no mistake if he considered the case on the face of the photograph one of myositis ossificans. He thought the dark island represented bone tissue in the deltoid, as it appeared entirely separated from the greater tuberosity of the humerus. Upon this supposition he acted. He laid the deltoid muscle bare by a curved incision, reflected the flap upward, and found the deltoid absolutely normal. In palpating the deltoid he found at a point corresponding to the outer side of the bicipital groove of the greater tuberosity a hard swelling. He separated the deltoid vertically by the use of a director and came down to a hard mass, not bone, but underneath the periosteum it appeared to be encapsulated. He incised and exposed a large mass of inorganic salt-sodium bi-urate. Dr. Senn also reported two cases of lipoma arborescens. He also exhibited the new army splint devised by Howard W. Beale, and a combined stretcher and splint devised by Professor Stokes.

Dr. Leonard Freeman of Denver, Colo., read a paper by invitation, on "The Union of Ununited Fractures of the Neck of the Femur by Open Operation." He went at length into the literature of this subject, after which he reported a case of his own in a heavy, muscular man, thirty-two years of age, who had injured the right hip by falling on it in 1903. Operation was performed on October 10, 1903, about five months after the injury. Anterior longitudinal incision was made external to the sartorius, through which the neck of the femur was readily exposed, and a fracture located near the end of the bone. With difficulty a mass of tough fibrous tissue was snipped with scissors, between the ends of the fragments, which were freshened on each side of the gap with a chisel. A small incision was then made over the trochanter externally, and a hole for the reception of the screw drilled through the base of the trochanter, the external fragment of the neck, and into the head of the bone. The drilling proved to be a mere form, for the bones were so soft that the blunt screw could have been pushed directly through it without the boring of a preliminary hole. When the screw was in place, its outer end projected between the stitches used in closing the wound. Owing to the softness of the bone, the parts, although receiving considerable support, were far from being firmly held, so that it was possible to displace them with moderate force by rotating the limb or pushing it upward. On account of oozing, it was necessary to pack the wound with a strip of gauze, which was removed in a day or two, the opening closed, and primary union obtained. Extension, a long side splint, and a pad beneath the trochanter were employed. For several days the suffering was great, necessitating the constant use of morphine. In a week or so a little infection appeared about the opening, through which projected the screw, which at the end of about two weeks caused a rise in temperature to nearly 100°, accompanied by chills and much general disturbance. On removal of the screw these unfavorable symptoms promptly subsided, showing that they were probably due to infection of the cancellous structure rather than the joint. The subsequent recovery was rapid and uninterrupted. There was about one inch shortening. In the face of various tests, the union seemed to be sound and bony. He examined the patient again, a little over six months after the operation, and found the following condition: Union apparently firm, considerable callus, flexion to nearly a right angle, rotation almost normal, and about one and a half inch shortening. There was still enough pain in the joint anteriorly to prevent the patient discarding his crutches, although it was much less than before the operation, and was decreasing constantly. When not attempting to walk, the weight could be borne upon the limb with but little, if any, discomfort. Up to the present time the case had not been a complete success, the result being marked improvement only. What the ultimate outcome would be was yet to be ascertained. Dr. Senn questioned whether Dr. Freeman had reached an ideal result in his case. In the years 1882 and 1883 the speaker studied this question scientifically. Up to that time it was doubted whether union by bone under any circumstances could be obtained in cases of intracapsular fracture of the neck or femur. He produced this fracture on the lower animals by drilling the neck of the femur in different directions and fracturing it, satisfying himself in each instance that he had produced a fracture inside the capsule. He treated twenty-three of the animals thus experimented upon by the methods then in vogue, but in all of these twenty-three cases he failed. He then resorted to direct methods of fixation. Breaking the bone in a similar manner, he made use of ivory bone pegs and metallic nails. In ten experiments following the twenty-three failures he demonstrated that he had obtained bony union in nearly all of them. He found afterward that the same results in the human subject were obtainable by indirect methods of fixation by bringing the fractured surfaces in contact and holding them in apposition by lateral pressure by a splint of his own device. He had treated since that time fifteen or twenty cases, and in the majority of them could not only demonstrate excellent functional results, but union by bony consolidation. Dr. Arthur Dean Bevan spoke of fracture of the neck of the humerus, and

reported three cases upon which he had operated. In these he had made the open operation, wired the fragments or had resected the head of the bone. He had one case of infection, which resulted in the loss of function of the shoulder-joint temporarily, and endangered the life of the patient for weeks. In the other two cases he obtained union by primary intention, and the results were satisfactory. Dr. A. J. Ochsner had followed the method of treatment described by Dr. Ruth, in a paper read before the American Medical Association, in sixteen cases, two of which died. There was union in all of them. The amount of shortening in all of them was less than three centimeters. He had made the open operation in one case only of ununited fracture with painful hip. He used two Parkhill screws through the neck and the head, but the result was not satisfactory, as it was necessary subsequently to remove the head. Dr. Alexander Hugh Ferguson had treated three cases of ununited fractures of the head of the femur by the open operation with very good results. Dr. Freeman, in closing, agreed with the speakers that in recent fractures of the neck of the femur the open operation should be avoided. He did not think there was as much danger attending the open operation from infection as Dr. Senn had intimated. Parkhill had used his clamp in fifteen or twenty cases without bad results. Infection, when it occurred, was along the tract of the screw into the cancellous tissue, and in his own case as soon as the screw was removed the infection subsided.

Cincinnati Academy of Medicine.

At a regular meeting held April 25 Dr. John H. Landis reported two cases of extensive carbuncle: Case I. Mrs. R., seen November 30, 1903, had a large indurated area on back of neck, which in ten days had spread from ear to ear and from occipital protuberance to seventh cervicle vertebra and showed hundreds of discharging sinuses. Albumin was found in urine during the first ten days. The temperature remained near 102° and the pulse at 100. Treatment consisted of sulphide of calcium internally with codeine for pain, and locally an ointment of icthyol, opium, and lanolin. The wound closed February 20, 1904. Case II. Mrs. O., seen January 23, 1903, was similar to above except that even a greater area was involved. After sloughing had ceased, the skin was found destroyed over an area as large as a large saucer. Treatment was the same as above, except that castor oil and turpentine were used locally.

Dr. R. C. Jones reported a case of chancre of the tonsil. Mr. S. had a sore throat; he had had a chill and general aching. On examination temperature was 102°, the left gave the appearance of acute follicular tonsillitis. After a few days swelling decreased but submaxillary glands became swollen and indurated. On pulling the tonsil forward a small but typical chancre was seen on the posterior surface. Later roseola appeared, followed by iritis.

Dr. Frank H. Lamb reported the following obstetrical cases. Case I was seen in April, 1902, while assisting Dr. James F. Heady of Glendale. L. S., thirty-two, mother of two children, the first having been delivered by podalic version and the second by high forceps. The pelvis was flat, with contracted brim and prominent sacrum; labor had commenced some time before and the os was dilated to the size of a silver dollar, the head was still above the pelvic brim. Under chloroform, high forceps were applied, and after forty minutes a dead child was delivered. The cause of death was that the cord, which was wrapped twice around the neck, was compressed between the forceps and the cranium. On December 5, 1903, Dr. Lamb delivered this patient of a living child with the high forceps. Case II. October 1, 1902, Mrs. B., a large german woman, mother of six children; labor had always been normal and easy. Examination showed the external os patulous and cervix long and cylindrical. The internal os admitted the finger tip. The vaginal fornix was boggy and the presenting part was indistinct. The woman refused chloroform, and digital dilatation was completed in one hour without. Chloroform was then given and fingers introduced into the uterus; they would not pass to the right, and to the left membranes were thick and tense cords could be felt; at this point several gushes of blood occurred. The membranes were quickly ruptured and delivery accomplished by podalic version. The placenta was discharged immediately after the child, and was found to be a battledore placenta with the cords inserted into the membranes at some little distance. The placental attachment was the lower right segment of the uterus, while the attachment of the cord was in the lower left segment, the veins from placenta to cord passing over the os. The hemorrhage had been caused by rupture of one of these veins. The child and mother both recovered. Case III. October 20, 1903, Mrs. W. P., twenty-three. Primipara, with a left femoral hernia, this was protruded and made tense by each labor pain and could not be reduced; it became very tender. Under chloroform delivery was accomplished with high forceps. After delivery the hernia was reduced without difficulty. Case IV. Mrs. W., six children, all labors easy. When six months pregnant she had a fall, striking her abdomen; she had pain and had to stay in bed for a day. Two weeks later she had an acute dysentery with bloody mucous stools and tenesmus. At seven and a half months the dysentery was repeated; two weeks later—March 13, 1904—she started to clean house, climbing on chairs, etc. That night she had irregular uterine pain, and the next morning at ten discharged liquor amnii and a small amount of blood. When seen at 2 P.M. she was waxy pale, restless, thirsty, and very weak; her pupils were dilated. The amount of blood found in the bed was not enough to account for the symptoms, and the placenta could not be found low down. The diagnosis of concealed hemorrhage was made. The patient refused chloroform, so digital dilatation was begun without. At 3 P.M. she had agonizing pain in the fundus uteri, contractions ceased and she began to vomit, the pulse became weak and irregular (130) and she became blind. Chloroform was given, os dilated, and an eight months' fœtus delivered with the high forceps. With the fœtus came clotted blood and large amount of black liquid blood. Pressure on fundus, to deliver placenta, expelled more clots, and with the placenta came others. The foot of the bed was raised, stimulants and ergot administered and heat applied. She reacted nicely; in an hour pulse 120, temperature 97.8°. The amaurosis continued for four days, when recovery took place. The placenta showed a patch as large as the palm of the hand, which had been detached.

Laryngocele.—Garel reported to the recent Congress of the Laryngological Society of France a case of this rare condition. He makes three varieties. In the first there is an external projection resembling goiter; in the second the projection is partly external and partly internal, while in the third it is entirely internal. Garel's case was of the third variety. His patient, a man of thirty-seven years, had complained for fifteen years of vocal disability. At first his voice rapidly became fatigued on slight exercise and finally extinguished. There was no respiratory difficulty. Examination revealed a polyp of the right cord, which, during phonation, placed itself between the ventricular bands. The right band and aryepiglottic ligament were inflamed and appeared as a bilobed projection from dilatation of the right ventricle. This was regarded as due to excessive air pressure below the polyp which dilated the little-resisting mucosa of the ventricle. After the removal of the polyp the laryngocele gradually disappeared. Garel has found recorded only four cases of internal laryngocele —*Archives Internationales de Laryngologie.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgement will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

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ZUR PATHOLOGIE DES OFFENEN PNEUMOTHORAX UND DIE GRUNDLAGEN MEINES VERFAHRENS ZU SEINER AUSSCHALTUNG. Von Dr. SAUERBRUCH. Band 13. Heft 3. 8vo, pp. 399–482. Illustrated. Gustav Fischer, Jena.

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TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. XVI. Sixteenth session held at Atlanta, Ga., December 15, 16, and 17, 1903. Edited by W. B. HAGGARD, M.D. 8vo, 486 pages. Illustrated. Muslin.

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Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 3, 1904:

	Cases.	Deaths.
Measles	57	3
Diphtheria and croup	200	28
Scarlet fever	70	5
Smallpox	...	...
Varicella	...	...
Tuberculosis	334	162
Typhoid fever	118	13
Cerebrospinal meningitis	...	10

Infant Mortality in Norway—*Janus* contains an article by Dr. Alex Johannessen on infant mortality in Norway, in which it is shown that this country has the lowest of any civilized land, the proportion for the whole country being 95 per 1,000. In the towns it is higher (130) than in the country (86), and it is higher for boys (106) than for girls (89). As is the case everywhere, it is higher for illegitimate children (150) than for legitimate (93). It rises in the extreme north beyond the polar circle to 150. A peculiarity of the Norwegian infant mortality, and the chief cause of its low rate is the absence of the usual summer rise due to infantile diarrhœa. From investigation of the records of several parishes during the past two centuries, Dr. Johannessen finds a great improvement in the nineteenth as compared with the eighteenth century, the respective mortalities being 101 and 195. The bad record of the eighteenth century being mainly due to deaths during the month of January.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended September 3, 1904.

			CASES	DEATHS
SMALLPOX UNITED STATES.				
District of Columbia, Washington	Aug. 20–27		1	..
Illinois, Chicago	Aug. 20–27		6	
Louisiana, New Orleans	Aug. 20–27		12	.
Massachusetts, North Adams	Aug 20–27		10	..
Missouri, St. Louis	Aug. 20–27		3	..
Ohio, Cincinnati	Aug. 19–26		1	..
SMALLPOX—INSULAR.				
Philippine Islands, Manila	July 9–16		1	1
SMALLPOX—FOREIGN.				
Brazil, Rio de Janeiro	July 17–24		196	100
France, Paris	Aug. 6–13		7	1
Great Britain, Dublin	Aug. 11–18		3	..
Glasgow	Aug. 12–19		6	..
Liverpool	Aug. 6–13		1	..
London	Aug. 6–13		..	1
Nottingham	July 31–Aug. 6		2	..
India, Bombay	July 25–Aug. 2		..	8
Italy, Palermo	Aug. 6–13		8	3
Japan, Nagasaki	July 21–31		1	..
Mexico, City of Mexico	Aug. 7–14		..	1
Russia, Moscow	July 31–Aug. 6		18	6
Odessa	Aug. 6–13		2	1
St. Petersburg	July 31–Aug. 6		12	4
Turkey, Alexandretta	July 31–Aug. 6		..	0
YELLOW FEVER.				
Brazil, Rio de Janeiro	July 17–24		3	1
Ecuador, Guayaquil	July 13–20		.	2
Mexico, Merida	Aug. 14–20		2	.
Tehuantepec	Aug. 14–20		1	.
CHOLERA.				
China, Hongkong	July 16–23		2	2
India, Bombay	July 25–Aug. 2		.	23
Calcutta	July 16–30		..	15
Persia, Teheran	July 16–23		600 deaths d'y.	
Turkey, Bagdad and vicinity	July 7		320 deaths	
Muttra	July 12		Present	
Oman	July 12		Present	
PLAGUE—INSULAR.				
Hawaii, Honolulu	Aug. 22		1 death on S. *Coptic*.	
Honolulu	Aug. 23		..	1
PLAGUE—FOREIGN.				
Brazil, Bahia	June 16–Aug. 5		30	11
Rio de Janeiro	July 7–24		1	1
China, Amoy	June 25–July 16		45 dea's esti.	
Hongkong	July 16–23		25	25
Egypt	July 23–30		17	8
India, Bombay	July 25–Aug. 2		..	55
Calcutta	July 16–30		..	12
Japan, Formosa	July 16–30		..	55
Peru, Lima	July 9–16		17	2

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Original Articles.

MALIGNANT DISEASE OF THE LARYNX.*

BY D. BRYSON DELAVAN, M.D.,
NEW YORK.

THE object of this paper will be to indicate the progress recently made in the study and care of malignant disease of the larynx, to call attention to certain especial points of treatment which seem of sufficient value to demand investigation and discussion, and to offer some personal suggestions, general and special, bearing upon the subject.

The laws governing the nature and development of cancer in man are, of course, general, applying to the disease wherever located. This being true we are able to record an advance of great importance in the study of this affection.

Within the past two or three years a widespread movement has been made in the direction of the general scientific investigation of the causes and the specific nature of cancer. Funds have been appropriated and laboratories established for the purpose in this and several other countries. The work is in its infancy, and sufficient time has not yet elapsed to bring forth important practical results. Certainly it appears that the intelligent and earnest effort which is likely to be put forth in the investigation of the subject at the new centers of special research gives hope that much good may be accomplished. Already the English commission has established the fact that new growths of many of the typical kinds may be found in an almost infinite variety of the vertebrates, including quadrupeds, birds, and fishes. Its investigations have also seemed to place upon a positive scientific basis the time-honored proposition that, in the present state of our knowledge, *early radical operation offers the only reliable prospect of cure.* In the department of the physiology of the larynx, Crile of Cleveland, Ohio, has reported the results of his investigations as to the effect of certain irritations of the larynx upon the pneumogastric and the recurrent laryngeal nerves and upon various other organs, notably the heart, which the pneumogastric supplies. His observations are of vital importance in their relation to the surgery of the larynx, and mark an epoch in the progress of our knowledge of this subject, especially with reference to the proper management of patients under surgical care.

Lacking new suggestions of value as to the etiology and pathology of cancer, we may proceed to the consideration of the treatment. Before doing so, however, one point must be clearly understood. As long ago taught by Krishaber, carcinoma may originate outside of the cavity of the larynx or within it. Extrinsic laryngeal carcinoma is practically incurable by operation. Attempts at extirpation are dangerous and recurrence is almost certain. The best hope for temporary relief seems to be in the external application of the *x*-ray, and possibly in ligation of the carotids.

*Read before the American Laryngological Association at its twenty-sixth annual meeting, held in Atlantic City, June 2-4, 1904.

With intrinsic carcinoma the outlook is far more promising, and it is with the consideration of this form of the disease that this paper will exclusively deal.

The methods proposed for the treatment of laryngeal cancer which may properly be discussed are: (1) Internal medication; (2) Antitoxins; (3) Liquid air; (4) Ligation of the carotids; (5) The *x*-ray; (6) The ultraviolet and the high-frequency rays; (7) Radium; (8) Surgical methods: (*a*) endolaryngeal, (*b*) extralaryngeal.

Rapidly considering these in order as above:

1. There is no known drug, from arsenic to Chian turpentine, which will cure laryngeal carcinoma.

2. Its treatment by the antitoxins thus far proposed has been a failure, neither the serum of Coley nor that of Adamkiewicz having given any valuable results.

3. Liquid air, recently recommended in the treatment of superficial growths of various kinds, does not seem applicable in cancer of the larynx or even in external superficial epithelioma, and the method is not likely to prove of practical use in this department.

4. Ligation of both carotids by Dawbarn's method has never, to my knowledge, been followed by actual cure. In several cases, on the other hand, it has seemed distinctly to retard the progress of the growth and has resulted in such general improvement of the case as to have fully warranted its performance. In sarcoma its value is apparently beyond question. In inoperable cases, especially of the extrinsic variety, this method is well worthy of consideration.

5. The expectations which were aroused by the discovery of the *x*-ray have not been realized. With one exception not a single success by this means has been recorded. In the case reported from New Orleans the patient died of laryngeal cancer within a few months of the extensive advertising of its alleged cure. Dr. George F. Cott of Buffalo reports a case of partial extirpation of the larynx with recurrence in four months. Following sixteen exposures to the *x*-ray, the growth entirely disappeared, and at present, seventeen months later, the patient is apparently well.*

But while the *x*-ray is not proved actually curative, its value in alleviating some of the worst symptoms of advanced laryngeal cancer is becoming more and more evident. Pain is relieved by it and sometimes completely controlled. Excessive secretion and fetid conditions of the growth are done away with, and the progress of the disease has been, in many cases, materially checked. Sufficient testimony is now available to warrant the assertion that, on the whole, the *x*-ray has up to the present time proved the best means at our command for the relief of some of the chief symptoms of advanced carcinoma of the larynx. In the earlier periods of the disease the recognized necessity for prompt operative measures has made it impossible

**Journal of the American Medical Association*, December 5, 1902.

for the *x*-ray treatment to have received fair and extended trial.

6. The suggestion of the use of the ultraviolet and the high-frequency rays in the treatment of laryngeal cancer and the perfecting of instruments for their application to the interior of the organ are of so recent date that no results have been reported. With increasing skill and experience in the use of this method excellent possibilities are in store for it, and it is to be hoped that it will not be abandoned until it has been given an exhaustive trial. Ingenious instruments have been devised for its application.

7. The past year has marked the discovery of a new and very interesting agent, namely, radium, the therapeutic uses of which are of the same order as those of the Finsen and Röntgen rays.* Lupus and superficial epitheliomas have been cured by it, and a number of cases of inoperable carcinoma have been treated with it with considerable success. Exner treated a group of twenty cases in Gussenbauer's clinic with evident improvement in all; while some of the results obtained by Robert Abbe of New York have been remarkable.

Unfortunately, the radium rays, like the *x*-rays, are not without harmful effects. The rays which inhibit the growth of bacteria inflict considerable damage upon the surrounding tissues. The burns resemble those of the *x*-ray. No report of the successful application of radium to the larynx has been made.

The physiological difficulties in the way of the direct application of the radiants to the interior of the larynx and their liability to cause dangerous irritation to that organ have seemed sufficient practically to eliminate them in the treatment of intralaryngeal cancer. Already, however, an excellent applicator for the violet ray has been devised, and it is only a question of time when some happy inspiration may give us practical methods for the direct use of the others.

Thus far the various agents of radiant energy have not been successfully applied to the cure of deep-seated malignant growths.

It cannot be too emphatically stated nor too clearly understood, however, that most epitheliomas of the interior of the larynx are, in the early part of their history, absolutely and distinctly superficial epitheliomas. Now, the agents of radiant energy, without question, can cure and have cured superficial epithelioma; therefore, theoretically, they should cure early epithelioma of the larynx. Just whether they will or not remains to be practically demonstrated. By all means, therefore, let those who are enthusiastic in this direction continue in their meritorious and not unpromising course of inquiry. Success may be nearer than now appears.

Few cases of early epithelioma are operated upon before a week or two has elapsed after the arrival at a positive diagnosis. The application of the *x*-ray during this time could hardly do harm and might give results sufficiently good to warrant its continuance. This suggestion would be especially practical in cases in which operation is refused.

8. Reviewing the above, it appears that but a single resource, namely, the radiants, offers even the possibility of temporary help in laryngeal cancer, and we are reluctantly forced to accept the unwelcome proposition so long familiar to us, that, at the present moment, surgery is the only field which presents any certainty of success in the treatment of these cases. The specific for cancer has not yet been discovered, and until it is found the actual mechanical removal of the disease seems all that we can command.

The endolaryngeal removal of malignant growths has had some strong advocates, among them notably B. Fränkel of Berlin, whose statistics on this subject are interesting. Notwithstanding what has been written in favor of this procedure, the sentiment against it to-day is practically unanimous. Case after case of epithelioma has come to our notice in which attempts at removal of the growth have been surely and rapidly fatal. It may be fairly stated that endolaryngeal methods in this disease have been absolutely abandoned and the attention of the profession has been turned exclusively toward extralaryngeal means. As with many other new things, the beginnings of extralaryngeal surgery were not encouraging. During the first ten years of its history the average of life was undoubtedly shortened by it. In the last fifteen years, however, steady advance has been made toward a better understanding of the operative work, and a fairer appreciation has been gained of its possibilities and its limitations. This is proved by a comparison of the statistics of the past ten years with the older records.

Thus, before 1881, the mortality for forty-one total laryngectomies was 60 per cent.; that for ten partial laryngectomies was 40 per cent.; the average for both operations being 50 per cent.

Glück, who, up to the present time, seems to have had the most successful record, in 1900 reported thirty-four cases of total laryngectomy for malignant disease, with thirty-one recoveries from the operation, a mortality from operation of only 8½ per cent. Kocher, in twelve operations of various kinds for laryngeal cancer, had a mortality of 8.3 per cent.; those cured for over three years, 16.6 per cent.; those free from recurrence less than three years, 33.3 per cent.

The diminution in the death rate for the operation of laryngectomy from 1889 to 1900 was from 44 per cent. to 8.5 per cent. The increase in those remaining cured over three years has been from 7 per cent. to 15 or 16 per cent. during the same period of time; while the increase in those remaining free from recurrences for less than three years has increased from 13 or 14 per cent. to 33 per cent.

In thyrotomy, with removal of diseased soft parts, the permanent cures are as high as 44 per cent., while the death rate can be placed at about 11 per cent. Of the patients operated upon by Mr. Butlin 66.6 per cent. lived for more than three years after operation, while his death rate from operation was 9.5 per cent.

The expression "permanent cure" should be used in this connection with due consideration and fairness. Since recurrence may take place years after the removal of a growth, it is plain that no arbitrary limit of time can be fixed beyond which there will be an absolute certainty of permanent immunity from relapse. One-half, and in some instances two-thirds, of the patients reported alive and well at the end of the first year have died within three years. Three years is considered the minimum allowance of time in which to record a case as one of actual cure. Statistics based upon alleged cures of less than three years' duration are therefore worthless.

As has been ably suggested by Hartley, "The reason for the steady improvement in the results is to be found in the measures adopted to avoid the former frequent causes of death, namely, the aspiration pneumonia and the infection of the cellular planes inclosing the trachea and its extension to the mediastina." Of these measures, the avoidance of general anæsthesia, especially by means of ether, and the more frequent employment of cocaine may

*Abbe, *Washington Medical Annals*, 1904, Vol. II, p. 363.

be mentioned. Kocher has probably used the latter more extensively than anyone else for the purpose of preventing cough, controlling hemorrhage, and allaying pain. As has long been known, ether diminishes the reflex irritability of the trachea and bronchi and greatly increases the tracheal and bronchial secretions. Chloroform is better than ether in that it does not induce the same amount of secretion. In other respects it is open to the same objections as ether. Both, however, induce general anæsthesia, a distinct advantage with regard to pain and shock.

To a conscious patient the operation is far from agreeable, and even with all that cocaine can accomplish in the way of local anæsthesia, the pain of operation under it is very severe. On the other hand, under cocaine anæsthesia of the larynx, tracheal and bronchial irritability is not impaired, secretion is diminished instead of excited, and, as has been shown by Crile,* the tendency to a sudden reflex inhibition of the heart and respiration through irritation of the superior laryngeal branch of the pneumogastric nerve is avoided. Butlin also recommends the application of cocaine to the interior of the larynx to define more clearly the limits of the growth.

In addition to greater skill and discretion in the administration of the anæsthetics, it has been suggested that much good has been accomplished by the employment of the posture of Maas, later advocated by Trendelenburg and Rose, in which the head and shoulders of the patient are placed lower than the level of the body, to the extent that all fluids gravitate away from the larynx and trachea, and thus the necessity for a preliminary tracheotomy in many of the simpler operations and for the various tampon cannulæ has been done away with. With this proposition not all surgeons agree.

Glück's method, in complete laryngectomy, of dividing the trachea at the level of the upper rings and attaching its lumen forward to the skin, as successfully practised by Solis-Cohen in the case of Hickey, has given, according to Hartley, a better proportion of cures than any other device.

The closure of the pharynx from the wound and from the open end of the trachea has been attempted by several surgeons for the purpose of preventing infection of the peritracheal connective tissue in complete laryngectomy, and has given good results.

Such are the reasons advanced by leading surgeons for the improvement in the statistics of the past ten years. In the judgment of the writer, however, certain other factors as well as these have been at work, and it is his earnest desire that these factors should be recognized and appreciated.

1. Recent operators have learned from experience to exercise care in the selection of cases for operation.

2. Through the influence, mainly, of Mr. Henry T. Butlin, great advances have been made in the management of the less advanced cases. This authority has vigorously insisted upon the vital necessity for the early recognition of laryngeal cancer and for its immediate removal as soon as the small intralaryngeal growth, apparently malignant, has made its presence manifest. Mr. Butlin has, therefore, been the earnest advocate of thyrotomy in cases in which the soft parts have been to a limited extent attacked. In cases of more extensive involvement he performs partial extirpation. His aim, however, is to secure command of the patient before the progress of the disease has included important parts, and thus to rescue him from the peril of a complete laryngectomy. With masterly ingenuity and skill he has improved the details of his operative work and of the after care of the patient until his methods are unquestionably the best in use at the present time, as is proved by the successful statistics obtained by his followers and himself. Every point of his technique has been worked out with elaborate care and proved with exhaustive experience. His work entitles him to the highest credit, while his opinions as to the necessity for early radical interference, lately substantiated by the English Cancer Commission, are in harmony with common sense and with the convictions of all good surgeons with regard to cancer in other regions. In what he has done he has been ably seconded by Sir Felix Semon. The writings of these authorities form a brilliant addition to the literature of the subject of thyrotomy and represent the most advanced and reliable knowledge of the day.

3. In studying the statistics of the subject it is found that by far the best records have been made by such men as Butlin, Glück, Kocher, and von Bergmann. Every one of these is an accomplished surgeon who has had wide experience in this particular line of work, whose operations are performed in a hospital, and whose patients are cared for by assistants thoroughly accustomed to the handling of such cases.

Nearly ten years ago the writer urged before the laryngological section of the British Medical Association, the following proposition: "The time has long passed in which an unsuccessful attempt at laryngectomy by one not fitted for the work can bring anything but reproach to the operator and discredit to the operation. I am strongly of the opinion that, for a time at least, both the welfare of patients operated upon and the interests of science demand that the indiscriminate performance of capital operations upon the larynx should cease. In most great centers there are individual surgeons or groups of operators who are especially well-fitted, as to both personal qualifications and hospital facilities, for the successful performance of this work, as has been proved in many cases by the records which they have already made. Let such men surround themselves with the proper assistants, let them systematize their efforts, and use all diligence in the perfection of appliances and methods and in the study of the cases under them, and keep careful and accurate record of everything pertaining to the history of their work. Then resign to them the care of as many cases of laryngeal cancer as possible. When a sufficient amount of material has thus been collected, we shall learn whether the radical extirpation of laryngeal epithelioma is unjustifiable, or whether, as we have the best reasons for hoping, it is likely to establish for us a reliable means of cure."

The proposition was received with outspoken disfavor by many of those present, and it is rare that one meets a surgeon who will admit the justice of it. Ten years of extensive observation, however, have abundantly confirmed the views which it expresses, and its acceptance is urged to-day with more earnest emphasis than ever. Heretofore, the results of indiscriminate operation have been so bad that their records are unobtainable because suppressed. General confidence in the value of the operation has therefore been seriously impaired, which means that the statistics of the best operators are no criterion whatever of the results of the whole general mass of operative work. It may be set down as an axiom that an inferior operator *never* reports an unfavorable case. Among such operators failure

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is common and its sources can easily be traced to distinct violation of well-established rules. Many a patient has died from preventable accident whose life would have been spared if he had had the constant care of a highly skilled watcher. As has been eloquently insisted by Solis-Cohen, such a case should never be entrusted to the *interne* nor to the assistant without experience in such matters, but should have within reach an attendant only less competent than the surgeon himself, qualified to appreciate the special necessities of the patient, and to meet promptly any emergency that might arise. Mistakes hardly short of criminal have occurred in laryngeal operations done by inexperienced men working with absolutely no trained helpers. Small wonder that the reputation of laryngectomy makes slow progress under such possibilities of danger.

My proposition, fair in itself, has been strengthened by the experience of every succeeding year. It is wrong to tell the patient that his chances are 80 per cent. good, according to Butlin or Kocher, and then to operate upon him in such a way as to reduce those chances fourfold.

Special skill, special experience, and special equipment are sure to give the best results. Time and the necessity for keeping to the subject in hand forbid any discussion of the question of special hospitals. I have long believed, however, that in the care of laryngeal cases our present hospital system was defective in the arrangement of the medical staff, and that the highest perfection could only be obtained by the surgeon who had under him a resident surgeon-in-charge with a permanent specially trained assistant and nursing staff. Some of our foreign associates have already set the example in this direction. In it, or something approaching it, will be found one of the main secrets of their success. The brilliant scientific results obtained at the Mayo Sanatorium, in Rochester, Minn., furnish an apt illustration of the idea in mind. Nowhere, however, is it likely that it is so well exemplified as in the hospital of Kocher, the great Swiss surgeon, whose operations upon the neck, including over 1500 cases of goiter, have given him and his attendants unrivaled experience in the surgery of this region.

There are several other considerations which tend to the safety of the patient, and therefore to the success of operative work, especially in complete removal of the larynx. An important factor will be the personal characteristics of the patient himself. Account must be taken of his age, vitality, and general physical condition; of his temperament, his intelligence, and finally of his station and surroundings in life.

Age, absolute or relative, will shorten the natural expectation of life, and thus detract from the value of even a successful operation. It is less desirable to inflict such an ordeal as laryngectomy upon one whose days are already numbered than upon one to whom a fortunate operation may bring years of usefulness.

Again, upon the assured vitality of the patient will depend not only his immediate recovery, but the success with which he will ultimately rise above the physical depression incident to such a severe surgical measure. It would be instructive to know in how many of the cases of the disease in which death has occurred without recurrence within a few years after laryngectomy, the fatal issue had been largely due to the general effect of the operation.

Perfection of the physical condition in general and of certain organs in particular will add greatly to the prospect of success. Thus, on the contrary, certain impaired conditions of the heart or lungs will increase the liability to pneumonia, and other almost necessarily fatal complications; bronchial irritation of any kind, accompanied by cough and expectoration, will seriously affect the patient's comfort, and dangerously interfere with the successful progress of the cervical wound; gastric disturbance is an unfavorable condition, as will readily be believed by anyone who has seen the effect upon a recently operated case of a single attack of emesis, or of continued indigestion.

There are a number of cases on record in which the subject of a so-called successful laryngectomy has committed suicide; nor can we wonder that the ordeal of the operation and of the period of convalescence, the physical deformity incident to it, the impairment of the power of speech, the social ostracism of the higher order of man, and the physical incapacity of the lower, should call for rare equanimity and almost superhuman moral courage. The temperament of the patient therefore may easily become the determining factor in the success or failure of the result, while upon this, and upon his surroundings, and the intellectual ability to adapt himself in the most satisfactory manner to the latter, will depend the toleration with which he will meet his life. Unquestionably, laryngectomy should not be performed without a full understanding on the part of the patient and his friends of the nature of the operation and of its results. The ultimate results of partial laryngectomy are, of course, far happier than those of the complete operation, and the physical condition of the patient is infinitely better in every respect.

There are certain practical points to which I wish to call attention. Excessive secretion in the mouth and pharynx has often been a source of annoyance and even of grave danger during the first few days following laryngeal operation, and it may become important to use effective means for its control. While some surgeons doubt the value of drugs in this connection, the writer has several times during the past ten years seen excellent results follow the administration of belladonna. Under small physiological doses of this remedy the secretions will in some cases cease. The method is simple, little harm can come from it, and the end to be gained quite justifies the expedient.

Another matter which demands attention is the early diagnosis of malignant disease, and especially its differentiation from syphilis. The two conditions are constantly mistaken for each other. It must be remembered that laryngeal cancer may not only simulate tuberculosis or syphilis but that it may actually co-exist with either of them. Most frequently syphilis is mistaken for cancer. Time and again cases are sent for advice as to operation for the removal of a supposed cancer, when the administration of a course of the iodide of potassium would result in a speedy cure. So often does this occur and so easy is it to fall into this error, that the writer believes it imperatively necessary in every doubtful case to exclude the possibility of syphilis by a trial course of the iodide. When this simple measure has been neglected more than one easily curable case of syphilis has come to the knife. With regard to prognosis it seems impossible, in many cases, to judge from the appearance of the growth whether its progress is likely to be rapid or slow.

The question of the best means for supplying vocal power to the subject of a laryngectomy has been much discussed. The various forms of artificial larynx, so-called, have been failures. Their whistling tone is always of such quality as to render the wearer an object of remark, if not of derision. The

apparatus is uncomfortable and annoying to the patient, and its presence exercises an irritating effect upon the adjacent parts at a time when such irritation may easily excite a return of the original disease. Far better, when all semblance of the natural voice has been lost, are the results gained in Solis-Cohen's celebrated case (Hickey). The splendid work lately accomplished by Hartley of New York in this direction marks a genuine advance, and, as such, deserves to be recorded. As soon as possible, after the patient has recovered from the operation, he is placed under the instruction of an experienced teacher, through whom he acquires the art of communication by audible sounds, the latter generated entirely above the region of the larynx.

Questions relating to preliminary tracheotomy in operations upon the larynx have never been satisfactorily discussed. While certain of the best surgeons hold pronounced views upon the subject, it would seem that their opinions are sometimes more radical than the facts warrant.

1. Is preliminary tracheotomy a necessary measure in the treatment of laryngeal cancer?

2. If required, at what time with relation to the major operation should it be performed?

The necessity for a preliminary tracheotomy is now not universally conceded, many operators dispensing with it in certain cases. Murray* and Butlin maintain that it prevents the entrance of blood and septic matter into the trachea during the operation, and at the same time admits of the continuous and convenient administration of the anæsthetic, thus permitting a complete and satisfactory operation. In the more restricted operations, the employment of posture has largely done away with the necessity for tracheotomy.

More important than the above, because less understood and appreciated, is the vital question as to when, with relation to the major operation, the preliminary tracheotomy should be performed. Many surgeons, including Mr. Watson Cheyne, advocate the insertion of the cannula immediately prior to the main operation, on the ground that the patient is thus saved the anxiety and shock of two separate procedures, and because, as it is claimed, no special advantage is likely to be derived from its earlier application. It is also asserted that early tracheotomy subjects the patient to the danger of septic infection from the tracheal wound, and the tracheal wound itself to the danger of infection from the malignant growth.

In case of operations upon the tongue, jaws, or pharynx, this may possibly be true. In operations upon the larynx requiring tracheotomy, however, there is no doubt that many of the symptoms are essentially different from those present in the procedures mentioned above, and that for special and important reasons the plan of operating must be so conducted as best to meet them. The conditions referred to affect not alone the convenience of the operator and the mere comfort of the patient; they are based upon important physiological, pathological, and surgical facts. Upon the intelligent treatment of them will often depend the success of the case and even the life of the patient.

Of the physiological conditions which distinguish extensive operations upon the larynx from those performed higher up in the air passages the most important is the close proximity of the pneumogastric and the recurrent laryngeal nerves to the side of the wound. Just how much influence upon the successful progress of the case may be exerted by injury to these important trunks during operation or through irritation to them afterward from some of the various accidents of inflammation which may follow it is difficult to say. Doubtless, if the history of past cases of laryngectomy could be fully understood, much interesting and valuable information on these points would be developed. As a field for study, it is now an open one. There are many cases, however, in which the symptoms of phrenic irritation seem to have been distinct, and not a few others in which obscure symptoms would probably have found their explanation in it.

With regard to the actual insertion into the trachea of the cannula itself, it goes without saying that the irritation of this and other neighboring parts will be more severe immediately after operation, and that with the lapse of time the tolerance of the patient to the tube will be greatly increased.

More important even than the above are the changes which the wearing of a tracheal tube necessitates in the physiology of respiration. The sudden elimination from the process of breathing of almost the whole of the upper air tract with all which that implies, the exposure of the trachea and bronchi to air thus deprived of suitable preparation for its reception to the lungs, and, finally, the sudden increase in the amount of oxygen in cases in which preëxisting stenosis has been severe—all tend to disturb the general equilibrium of the patient and to cause, locally, a greater or lesser amount of annoying or even dangerous irritation.

It is highly desirable that at the time of the major operation the patient be relieved of as many as possible of these complicating factors.

Another consideration of interest in this connection is that, in performing an early tracheotomy, the changes of respiration are assumed at a time when the patient is in a quiescent state and when, being mentally and physically less disturbed than it is likely he could be after the major operation, he can with the least physiological irritation and the maximum convenience to himself, acquire a sufficient knowledge of the mechanism of the tube, the peculiar arrangement which it requires, and the effect of its use upon himself. The value of this preliminary experience has often been underestimated.

The performance of an early tracheotomy is thought by some to subject the patient to the danger of septic infection from the tracheal wound. While this might be possible when the cannula is inserted within a few days before the laryngectomy, it does not follow that it will take place if the tracheotomy be performed at a time sufficiently long before the former to allow the tracheal wound to be tolerably well healed. Septic infection or pneumonia, if either were to develop, could hardly be due to the influence of the tracheal wound if the latter had passed the stage in which infection is likely to occur.

Again, the general condition of the patient suffering from progressive laryngeal stenosis is invariably less favorable than when normal respiration is possible. The restoration of a sufficient supply of oxygen to the system is sure to be followed by improvement, especially in the anæmia, malnutrition, and depression which are generally present. In this respect, therefore, the preliminary operation is of great value as preparatory to the successful issue of the later one.

The effect of laryngeal stenosis upon the bronchial mucous membrane is, of course, irritating, and, especially in cases in which the dyspnœa has existed for some time, bronchitis is often present. This will be materially benefited by the free admission of air to the lungs and by the generally improved tone of the system which follows tracheotomy.

Finally, in all cases of inflammatory disease of

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the larynx the severity of the symptoms is increased by the physiological use of the organ. The state of quietude which follows tracheotomy, from the consequent abolition of the respiratory movement of the larynx, is almost always accompanied by improvement in the local condition which may advance for several weeks. The advantages of this at the time of the main operation are obvious and, in cases in which the congestion has been such as to make it difficult to distinguish between diseased and healthy parts, are sufficient in themselves to warrant the loss of a few days' time.

Several of the surgical advantages of early tracheotomy have been generally recognized. Thus, much valuable time is saved at the performance of the later operation; the patient is saved a certain amount of shock, and possibly hemorrhage; and the undivided attention of the operator can be concentrated upon the difficult task which confronts him in the removal of the larynx.

Lastly, in that method of complete laryngectomy practised by J. Solis-Cohen and Glück, in which the severed end of the trachea is turned forward and fastened to the edges of the external incision in the neck, the adhesion which has already taken place after tracheotomy between the trachea and the wall of the neck becomes of greatest assistance in holding the trachea firmly in place.

When there has been no early preliminary tracheotomy and when, in consequence, the edges of the trachea must be stitched to the cervical wound, the free movement of the trachea in respiration makes it practically impossible to keep the parts properly together. In many such cases union has not taken place, the operation has been a failure, and the patient has died.

Early preliminary tracheotomy certainly possesses advantages which should claim for it our careful attention in spite of the number of those who hold it in disrepute. On the whole, in properly selected cases it is without doubt a valuable measure.

In conclusion, while the necessities in this matter are distressingly great and the progress of knowledge is very slow, every year brings some little advance. Improved technique, special skill, and the oft-repeated plea of Mr. Butlin for the early recognition of laryngeal cancer by the general practitioner and its prompt treatment by the specialist will steadily continue to improve results until the arrival of the day when there shall have been discovered for cancer a specific cure.

1 East Thirty-third Street.

Sarcoma of the Nasal Septum.—R. H. Johnston has collected records of seventy-one cases of this nature and analyzes them as follows: Round-cell tumors lead with 10. Fibrosarcoma and myxosarcomata follow with 8 each. Angiosarcoma is fourth with 7. Fifth on the list comes the spindle cell tumor with 4, followed by myeloid sarcoma, 3, melanosarcoma 2, angiomyxosarcoma 2, sarcomatous polyp 2, cavernous angiosarcoma 2, and melanoalveolar-sarcoma, endothelial angiosarcoma, myxosarcomatous polyp, osteosarcoma, adenosarcoma, and fascicular sarcoma 1 each. The unclassified tumors number 17. The youngest recorded patient in the list is 11 years—the oldest 70 years. In the second decade there are 4, from 20 to 30, the largest number in any decade 13, from 30 to 40, 9; from 40 to 50, 6, from 50 to 60, 3, and from 60 to 70, 7. The ages are not given in 27 cases. As regards sex, the females lead with 26 to 18 for the males. In 26 cases no sex is given. Thirty-one patients are recorded as having recovered after operation, while in 14 cases there was a recurrence in a short time or in the course of a few years. In the others the result is not given.—*The Laryngoscope.*

POST-TYPHOID PERICHONDRITIS OF THE LARYNX.*

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At the twenty-fifth annual meeting of the American Laryngological Association, I presented the report of a case of this affection subsequent to typhoid fever, which was afterward published in the Medical Record of July 25, 1903, and in the Transactions of this Association for 1903.

The history, in brief, was as follows: Female, aged twenty-eight, typhoid fever in October, 1902. Discharged cured December 13, 1902. Slowly increasing dyspnœa, which became urgent, required tracheotomy January 13, 1903. March 11, 1903, gradual dilatation by Schrotter's tubes. April 20, intubated with the O'Dwyer tube under chloroform. The tube was worn for six weeks, when it was removed. Eight days later she was again intubated without chloroform, for increasing dyspnœa and, at the time of publication, was still wearing the intubation tube.

Her subsequent history is as follows: The intubation tube which I reintroduced June 8, remained *in situ*, the external wound promptly closed, food was readily swallowed, and except that the voice was but little above a loud whisper, there was no discomfort whatsoever. On July 1 she took a sea voyage and went to her home in Norway, not without some trepidation lest an unusual attack of seasickness might result in a sudden expulsion of her tube. She was prepared for such an emergency with proper instruments for reinserting the intubation tube, and also, should that be impossible of execution, she was possessed of a tracheotomy tube and cannula. Happily none of these precautionary measures became necessary and she returned to New York on the first of September, 1903, having worn the same tube continuously for three months.

On her arrival she reported that she was readily fatigued on slight exertion, and for the past six weeks had been much annoyed by a bad odor from the tube. During my absence from the city she prevailed upon my assistant, Dr. Yankauer, to remove the tube, which he did on September 1.

Twelve hours after removing the tube, dyspnœa began, which became more severe during the night and was quite marked in the morning. The whole larynx was red and swollen, the false cords could not be distinguished from the true, and the interior of the larynx looked like a red cone with a small opening at the bottom. It was impossible to reintroduce the large tube, and the largest of the metal tubes, children's size, was introduced.

September 3. While Dr. Yankauer was making preparations to examine her larynx she coughed up the tube, and she then breathed fairly well for two days, when I saw her. On examination I found the following conditions: The laryngeal interior was now distinguishable, though red and inflamed, without causing dyspnœa. A little mass of granulation-tissue appeared below the anterior junction of the cords. For the next five days she had no disturbance with her breathing and her voice became stronger each day. On September 10 she complained of some increase of the dyspnœa, and two days later the dyspnœa was marked on the slightest exertion. There appeared to be a fixation of one-half of the larynx on the left side, the right cord being perfectly

*Sequel to a case previously reported. Read before the American Laryngological Association at its twenty-sixth annual meeting held at Atlantic City, June 2-4, 1904.

distinct while the left was entirely hidden by a band running above the line of the false vocal cord, narrowing the lumen of the larynx. Below the cords, and about on a line with the cricoid cartilage, there were some thickening and narrowing of the lumen. A No. 5 Schrotter tube was now forcibly introduced under cocaine and was followed by expectoration of blood. The adult size O'Dwyer tube could not be introduced, but the largest of the children's size metal tubes was readily introduced.

September 15. Has been breathing comfortably through the tube. Directly over the head of the tube are two œdematous swellings which do not, however, encroach upon the orifice of the tube.

September 19. The tube was readily extubated under cocaine spray with no dyspnœa resulting. The œdematous swelling above mentioned has disappeared, and the general appearance of the larynx is more nearly normal in color than it has been at any previous examination.

September 22. Has had no trouble in respiration since extubation. Voice clear, but deep. Some thickening visible at the junction of the cords, both cords visible, the band on the left formerly hiding the cord having disappeared. Benzoin inhalations were ordered, but no local treatment.

May 25, 1904. It is now nine months since the last extubation, and at no time since then has there been any dyspnœa. The woman's voice is husky and deeper in tone than formerly, her general condition is that of perfect health; she has increased in weight, and attended to her usual duties, so that I believe that I may now state definitely that a cure has been effected, this being the first case recorded cured by intubation. It demonstrates one more success for the O'Dwyer method and a triumph for modern surgery.

The special points of interest are:

1. The unusual nature of its origin.
2. The length of time the tube was worn.
3. The ease of deglutition, after intubation.
4. The use of the child's size toward the last for a short time.
5. It is the first case of this affection cured by intubation.

25 East Seventy-seventh Street.

THE TREATMENT OF PULMONARY HEMORRHAGE.

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In reviewing the literature of pulmonary hemorrhage one is impressed by the prevailing belief that hemorrhage from the lungs is the same thing as hemorrhage from any other organ, that the same mechanical and physiological laws which determine its arrest in other parts of the body apply equally here. Some of the standard textbooks on medicine even go so far as to make such a statement. It is my belief that it would be extremely difficult to get a physiologist to agree to such a proposition. There can be no question but that the stoppage of hemorrhage in an elastic organ, which is constantly expanding and contracting, presents an entirely different mechanical problem from the same stoppage in an organ which is practically immovable. The obstinate and continued bleeding from a chapped lip or a slight incision over one of the knuckles, as compared with the behavior of an equal amount of injury on one of the more immovable parts of the body forcibly illustrates this point. In fact, when one considers the time element necessary for the coagulation of the blood in the lumen of a cut vessel, and remembers that the lung is undergoing a complete respiratory cycle from sixteen to twenty-five times a minute, it requires no additional evidence to convince one that in the arrest of a hemorrhage from the lung forces must be brought into play additional to those usually causing the spontaneous arrest of hemorrhage in other parts of the body. It is well known that in hemorrhage from the lung the air-cells surrounding the site of the hemorrhage become filled with blood, and it is frequently possible to percuss out areas of dulness in the neighborhood of the hemorrhage, due to this infiltration. Much has been written about the danger of this clot becoming septic, but, so far as I know, little stress has been laid upon the important part which it plays in the arrest of pulmonary hemorrhage; and yet it is this clot which, filling the air vessels while expanded, prevents their contraction and immobilizes that portion of the lung. In this manner conditions entirely unfavorable to the natural arrest of hemorrhage are converted into conditions entirely favorable, the bleeding point being immobilized and subjected to pressure, thus giving time for a clot to form in the lumen of the ruptured vessel.

Admitting the above premises, and remembering the infections to which this clot is liable, it follows that it is the duty of the physician

1. To adopt those measures which will assist in the formation of such a clot as promptly as possible.
2. To try and limit the clot to the smallest possible size which will accomplish the desired result.
3. To prevent the dislodgement of the clot, once formed, until sufficient time has elapsed for the eroded vessel to become permanently occluded.

To meet these indications one must decrease the reflex irritability of the lung tissue, and limit the respiratory excursions of the side from which the hemorrhage is coming. The reflex irritability may be controlled by many drugs, among which the bromides and chloral are in high repute. My own preference is for opium, as it is not only without a peer as a cough controller, but it lessens tissue metabolism, renders less oxygen necessary, and so reduces the amount of work which the lung has to do. In comparison with these advantages the theoretical disadvantage of raising the arterial tension is not to be considered.

To limit the respiratory excursions there is no measure more efficient than strapping the side of the chest from which the hemorrhage is coming. The adhesive straps should be applied with considerable pressure during forced expiration, and should cover the entire half of the chest from the axillary fold to the lower costal margin, the same rules which govern the application of straps in fracture of the rib governing here.

The advantages of this method are:

1. It favors the formation of a clot around the bleeding point, thus assisting in the prompt control of the hemorrhage.
2. It prevents the clot from becoming loosened or dislodged, thus preventing the recurrence of a hemorrhage once controlled.
3. The clot in lieu of being formed in lung tissue which is on the stretch is formed in lung tissue, which is relaxed; it follows, therefore, that there is less interference with the general nutrition of the lung, and less likelihood that the existing hemorrhagic infiltration will be followed by septic processes in the lung itself.
4. Upon removal of the straps the expansion of that side of the chest, and the consequent expansion of the air vessels of the contained lung, will loosen

up and favor the expulsion of any clots which may remain in the lung.

The question as to whether this method would increase or decrease the danger of inundating the bronchi with blood is one which only experience can decide. While it is undoubtedly true that opium, by decreasing the general reflex irritability would tend to allow the accumulation of blood, the same cannot be said of this procedure. The decreased movement, would, to a certain extent, favor its occurrence on the side from which the hemorrhage was coming, but this usually occurs anyway; *per contra*, the increased respiratory excursions of the unstrapped side would favor the expulsion of any blood which might enter the bronchi of that side.

My routine treatment has been as follows: Immediately upon the occurrence of the hemorrhage the patient is given a hypodermic injection of $\frac{1}{100}$ grain nitroglycerin and $\frac{1}{4}$ grain morphine. The adhesive straps are then applied to the side of the chest from which the hemorrhage is coming, and the patient is instructed to lie upon that side. Six hours after, if the hemorrhage has ceased, the patient is moved out to a summer house which we have (the building has no sides, and is practically out of doors). At the end of four days the straps are removed, and the patient is given a week of rest cure in the open.

While I believe it to be of great advantage to get a patient with hæmoptysis out of doors as soon as possible after a hemorrhage, the wisdom of such a course might be questioned were the sufferer not already acclimated to the out-door life.

My own experience in this method of treatment has been limited to seven cases. Four were of moderate severity, and two were severe; one was not severe as to the amount of blood lost in a given time, but the bleeding extended constantly over a period of more than seven weeks, during which time all the matter coughed up was blood stained.

In all cases the hemorrhage was promptly and permanently controlled, and in none of these was there any secondary rise of temperature. I do not believe that one could always expect such results as these, nor are the number of cases great enough to justify any positive conclusion. But I do believe that they have been sufficient in number and satisfactory enough in results to justify me in asking of the profession an extended trial of this method of treating pulmonary hemorrhage.

Hot Air Treatment of Diseases of the Genital Organs.—J. Salom presents the results of his experience in fifty-seven cases of genital disease treated by the application of hot air. The majority were cases of parametritis of a subacute or chronic character, and next to this, adnexal disease. The favorable results obtained warrant the author in claiming that the method is of especial value on account of its pain-relieving and resorbent properties. The apparatus described by the author is so adjusted as to include the patient's abdomen and the degree of heat applied varies from 100° to 135° C., according to the individual. In addition to the conditions already noted great success also attended the use of the method in cases of pelvic encapsulated exudates, in two of which the infiltration disappeared in from twenty-two to thirty applications. The induced hyperæmia was very efficient in closing up abdominal fistulæ following laparotomies. The method may also be used to advantage in combination with pelvic massage and other procedures in those cases in which a perimetritis is accompanied by a malposition of the uterus and adnexa, which results in a congestive hyperæmia.—*Wiener klinische Wochenschrift.*

NON-OPERATIVE TREATMENT OF TRACHOMA.*

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THERE is probably no disease in the annals of ophthalmology about which so much has been written and of which there is so much to be learned, as trachoma. The effort to isolate the germ has successfully defied the most scientific investigators in the field of bacteriology. Yet the fact that it is a contagious disease has been firmly established. It is at present of great interest to the medical profession, on account of the crusade established by the New York Health Board to stamp out the disease among the children in public schools. The appointment of inspectors and the establishment of hospitals where these patients may be cared for is of far-reaching importance, and the results that have been obtained in the past two years of this régime are certainly most gratifying. And if this is kept up, the day is not far distant when this dreaded eye disease, which is responsible for so many cases of blindness that become dependents upon the State, will be seldom seen.

In order that my subject shall be properly presented to you, I ask your attention to a clinical picture of the disease trachoma:

There are two forms—the *acute*, characterized by violent inflammation—and the *chronic* or *non*-inflammatory form. The onset of these two varieties is quite different, but the ultimate result is the same. The inflammatory form, often spoken of as "Eastern" or "Egyptian" ophthalmia, begins with violent inflammation, profuse discharge, photophobia, and swelling of the lids. The duration of this stage varies with the virulence of the infection, the general condition of the patient, and the treatment.

After the acute stage has subsided, on everting the lids we find numerous soft elevations, or granulations as they are termed, over the entire surface of the upper and lower lids, and especially marked in the retrotarsal folds. These are the follicles that are most frequently overlooked in diagnosis, and especially in the treatment, and I believe they are by far of the greater importance.

The *non*-inflammatory form presents the same general appearance: The numerous follicles on the conjunctival surface of both lids, without the acute stage.

Why these two varieties should be so entirely different in their onset or first stage, and yet the second and third stages be the same, we do not know. In nearly all cases, the follicles cover the conjunctival surface of both lids; but I have seen cases in which only the lower lids were involved, and others in which the disease was well developed on the ocular conjunctiva. The form of trachoma that we see the most of in this country—and, in fact, every case that I have seen sent from the public schools—has been the non-inflammatory variety; and I consider this the greatest danger, because the condition may be well into the second stage without the patient being aware of any eye trouble. I have had many patients with well developed trachoma come to my clinic and say:

"I am here because the doctor sent me, but my eyes are all right."

The second stage of the two forms is the same. It is where there are no longer separate granulations, but a coalescence and general hypertrophy of the entire conjunctival surface of the lids, resulting from partial resorption of the follicles with deposit of cicatricial tissue.

These conditions lead to the so-called pannus or

*Read before the annual meeting of the Medical Society of the State of New York at Albany, 1904.

vascular keratitis and corneal opacities, which result in impaired vision, if not in blindness.

In the third stage extensive areas of scar tissue are formed in the conjunctiva which cause atrophy of the membrane, contraction of the lids, and incurving of the lashes.

Before I speak of treatment, I want to give you the microscopical picture of one of these follicles which I removed from the inner canthus of a boy ten years old: Size of the follicle, 2x3 m; attached to conjunctiva by a narrow pedicle, the entire surface covered with superimposed layers of columnæ and flattened layers of epithelium (conjunctival epithelium). The mass is composed of non-vascular accumulations of small, round cells. The neck and center of the growth is formed by fibrous, connective tissue, scantily supplied with small blood-vessels. The fibrous tissue breaks up into trabeculi, which enters the cell masses (lymphoid tissue), and subdivide into a fine reticulum.

The government immigration authorities, recognizing the contagious character of trachoma, have deported hundreds of immigrants on this account; and this restriction has already had its effect in reducing the number of cases in our large cities. It is not uncommon for the nurses and house physicians in our hospital to contract the disease. I have had personally under my care two cases in the higher walks of life, who took trachoma in the college settlements. The lymphoid infiltration of the conjunctiva is probably the result of germ activity. And what should the treatment aim to do?

1. To have a germicidal action on the infection.

2. To restore the hypertrophied membrane to its normal condition.

There are two ways of accomplishing this: the surgical, in which the follicles are broken up and expressed, and the medical or non-operative—to which I want specially to call your attention in this paper.

My position in regard to operation I can readily sum up in a few words—I believe that the cases for operation should be carefully selected, and that indiscriminate operation is productive of much harm. I consider it, not as a radical cure, but merely as a means to a cure and a shortening of the time of treatment. The treatment following operation is of the greatest importance; and these patients are very liable to consider themselves cured after they have left the hospital, following operation; and they are too often told that the operation will cure them. These operative cases, without the necessary subsequent treatment, are those in which relapses occur as bad or worse than the first attack.

There is one variety of trachoma in which I consider operation should not be performed; that is, where there are small, hard follicles either alone or with the soft variety. In these cases so much destruction of the conjunctiva is done in expressing them, that the membrane is sometimes left in the third stage or cicatricial condition. The operation in these cases merely hastens this stage. Through the courtesy of Dr. H. W. Wootton of the Trachoma Hospital, of the Health Board, I recently saw a case in which operation was done on a primary trachoma in the first stage. Cicatrices of the conjunctiva resulted and vascular keratitis over the entire corneal surface followed in two weeks and continued for a year. Dr. Wootton stated that he had seen five cases of pannus following operation on these cases in which extreme infiltration and hard follicles abounded. They cannot be removed by the operation, without extensive destruction to the conjunctiva. These cases of vascular keratitis following operation seem to me to be proof of the old theory of pannus being caused by roughened lids irritating the cornea, rather than the new theory that it is a trachoma *of* the cornea. I believe in the operation in all cases of well marked follicular trachoma of the soft variety as the best means of shortening the time of treatment; but as the great majority of these cases are among the lower classes, who are usually opposed to an operation—especially when anæsthesia is necessary—out of 600 cases treated at my clinic at the Presbyterian Hospital last year, about one in ten, when operation was advised, consented to submit to it; the others preferring treatment, no matter how painful or how long a time it required. At the New York Trachoma Hospital last year out of 18,000 cases 5,500 were operated upon. With this in view, and with the large number of cases to deal with, I determined to try the various treatments advocated and to ascertain the treatment that was most favorable in effecting a cure—and to the result of this, I ask your attention:

The general condition of the patient and the hygienic surroundings are of the utmost importance. As these cases occur almost entirely among a class of people who have little or no regard for the principles of asepsis, an effort should be made to arouse their interest in this regard and prevent the spread of the infection. For this purpose, I have printed directions, as follows, which are given to each of my clinical patients:

INSTRUCTIONS TO THOSE HAVING TRACHOMA.

Trachoma is a contagious disease of the eyelids, which if neglected will cause suffering and injury to the sight.

To avoid infecting others, those having the disease should observe carefully the following instructions:

1. They should have their own towels, handkerchiefs, wash cloths and toilet articles, and under no circumstances should they be used by others.

2. They should sleep alone.

3. Avoid rubbing or touching the eyes, as the contagion may be carried on the fingers and infect others through articles handled.

4. The hands should be cleaned often with soap and water.

5. Treatment should be attended to regularly and continued until pronounced cured by the physician.

I have found good results from this; and the fact of their having a contagious disease has been so impressed upon them, that the patients and their parents have sought further advice as to the details of the precautions they should take.

Proper feeding and out-of-door life are to be urged; adenoids and other hindrances to development should be removed. The one rule that I try to emphasize is, that the treatment should be continued until the patient is pronounced cured.

In the treatment of the eyelids, nearly all the astringents in the pharmacopœia have been tried. Silver nitrate, two-per-cent. solution, has met with favor among a large number. My opinion is, that it should never be used in a case of marked trachoma, on account of the silver stains which result from prolonged use. Formalin and citrate of copper have been recommended by some—but without further mention of the many treatments recommended, I want to give you the results of my own observations:

In the first and second stages of the soft follicular variety, I regard rubbing with a strong solution of bichloride of mercury (1-500) as a procedure to be highly commended, and the method of doing this is as follows:

A hard cotton applicator is rolled and dipped in

a 1–500 bichloride solution. After the eyes have been thoroughly cocainized, the lids are everted and the surface given a vigorous rubbing—especially in the folds of the upper lid, along the tarsal cartilage. This rubbing is done three times a week, and the patient is directed to use iced cloths at home, if the reaction is violent, which seldom happens, the treatment that the patient is directed to carry out at home is the use of drops of some organic silver solution, night and morning. This treatment is continued until the conjunctiva is smooth. It is followed by a solution of tannic acid, 40 gr. to the ounce of glycerin.

In the variety of trachoma in which the hard follicles are present, the one treatment that has stood the test of years, and still stands at the head, is the crystal of copper sulphate. A convenient form of using this is a crystal, ground smooth and mounted in a wooden handle. It should be applied to the conjunctiva with the upper lids everted, the patient looking down, so as to avoid contact with the corneal surface. The crystal is applied gently in the upper cul-de-sac and the same way in the lower. A solution is quickly formed by the tears. It is my custom to flush the eye with a boric-acid solution, removing the excess and relieving the severe pain which often follows this application. The frequency of the application is determined by the severity of the case. I have never used it over three times a week. The use of cocaine to modify the pain I regard as a fallacy. The momentary pain of the application may be lost, but the pain following the loss of the anæsthesia is just as bad as if no cocaine had been used. These cases are also given the silver solution for use night and morning.

In the third stage, with the cicatricial contraction of the lid and pannus, I have had good results from rubbing the surface with oleum ricini and making very superficial linear scarifications with the knife. The application of copper is indicated in many of these cases, and much benefit is derived from its use. The pannus is treated as a keratitis—with hot applications and atropine. The larger vessels may be divided at the corneal margin by the actual cautery. The use of the powdered jequirity bean, at one time in vogue, is little used at present. It is a rather dangerous procedure, and if ever used, it should be only in those cases in which there is dense keratitis and pannus.

To sum up in closing, *surgical* treatment should be advised only in those cases in which soft frog's-spawn granulations are present. It should always be followed by after-treatment. Operation should not be performed in cases in which the hard, deep-seated granulations are present, on account of the injury done to the conjunctiva in removing them. The habits and general condition of the patient are very important features to consider in preventing spread and effecting cure.

The *non-operative* treatment that I recommend is, the bichloride rubbing, with the use of one of the organic silver solutions night and morning. In the hard variety, the use of copper sulphate and the silver solution.

40 West Fiftieth Street.

Antivenene.—In a study of the venom of the banded krait (Bungarus fasciatus), Captain Lamb makes some observations on antivenene. He found that Calmette's serum, prepared mostly with cobra venom, had little or no neutralizing action for the krait venom, and the same result was obtained with the Australian tiger-snake anti-serum. It would appear, therefore, that for every venom its appropriate anti-serum will have to be prepared.—*Treatment*

MALARIA*

By R. CADWALLADER, M.D.,
San Francisco, Cal.

When requested by our president to prepare a paper for this society I cheerfully consented, thinking it would furnish a good excuse to myself for attending. I selected malaria, being a subject upon which I was then working, and of which I presumptuously thought myself well posted. I soon found that I had chosen too large a subject and persuaded Dr. Bates to take half of it. I have found it still too large, but, not having found anyone so accommodating as the doctor, I must perforce do the best I can. I find myself in the position of the German scholar who, after spending his life on the Greek ὁ μέν, ὁ δέ, on his deathbed bemoaned his wasted life; ὁ μέν was all, he said, one life could master.

Now I assume that you are all familiar with the parasitic amœba known as the plasmodium malariæ of the simple tertian. I shall call it a germ and will try to use English, not the polyglot of the microscopist. Give me credit for being able to do so if I wished, and I will credit you with understanding it if I did.

My article is based on over 300 cases of simple tertian, occurring this year in my own practice, of which I have kept notes and made blood examination in 251 cases. I refer to simple tertian always, for I have seen no other kind.

I will state the conclusions that I have come to. I want to state them, but not have you believe them unless borne out by your own experience. I don't want to hinder medical truth by any errors of mine. If what I state is true, it will win its own way; and I want you to understand that every statement is prefaced by "it seems to me."

Malaria is perhaps one of the most important diseases with which we have to deal. When we consider that many of earth's richest spots are uninhabitable, as the Mississippi delta and other low silt deposits, because of it; that it ranks above pneumonia, typhoid and other fevers and next to tuberculosis in its annual number of deaths in the Southern states, and that it is world wide in distribution, we can see that it is one of the greatest scourges of mankind. Our troops in the Philippines, our miners in Alaska, our workers in forests, our travelers abroad—nay, even our peaceful valley and orchard homes—are yearly suffering from some form of malaria. Probably not one of you fail to see many cases yearly. To handle it successfully makes or breaks a man in most of our valley towns. The climate of Northern California, with its warm, long summers, its cold but short winters, its exuberant vegetation, with increasing irrigation and a thickening population, not only causes its prevalence, but will favor its increase in future years. A sluggish irrigation ditch, with its cattle tracks and moss clogged sides, a low house surrounded by wind breaking trees, unscreened windows, and a large family of children, constitute a mosquito's heaven. And malaria is not an open enemy of mankind. It is not a frank, outspoken disease that we recognize and combat. It is sly, quiet, insidious. It cowardly steals upon one in the unguarded and unconscious hours of the night, not to strike down or kill outright, and so risk detection, but to inject into its victim's blood a subtle poison that shall lie dormant for many days and after other days of intermittent agony shall leave the exhausted, bloodless, and unstrung—child most likely—a prey for every passing epidemic or hereditary weakness it may have been born with. Could malaria's factor in our deaths

*Read at a meeting of the Northern District California Medical Society.

be graphically shown it would be appalling. But my time is too short for such familiar things, and I must hasten on.

At the close last summer I wrote a short article, published November 1 in the MEDICAL RECORD, in which I called attention to the fact that free drinking of water predisposed to malarial attacks. I reported 35 persons, living mostly on one street, 19 of whom had malaria, and to 8 of these 19 I had advised large quantities of water, and that these 8 had been my severest cases. Also, the observation that when the nights became cooler malaria increased rather than decreased. I suggested that hydræmia was a prerequisite to infection and cited the following facts:

That folklore was often based on truth, and the common caution about eating watermelons was more than a coincidence in time of ripening and was due to increased water consumption. That we were safe always in following Nature's indications in matters curative, and the drenching sweats and diarrhœas of malaria indicate lines of treatment.

That cooler weather, which prevented sweating while it also hindered the growth and activity of the mosquito, was still the time when malaria was at its worst, quoting Mannaburg that "in malarious regions the number of cases is usually materially greater during a summer attended with a heavy rainfall than during a dry summer. In tropical countries the first notable increase in the number of cases occurs when the dry season is first terminated by the autumn rains; but when the rainy season has continued a sufficient length of time to inundate, more or less completely, the surface of the ground, a decrease in the prevalence of the disease takes place. When, however, upon the termination of the wet season the sun regains its full vigor, the evaporation of the moisture from the ground that ensues causes the number of cases again to be largely augmented." (Mannaburg, in "Sajous Cyclopedia.") Or in other words, the cases of malaria exactly follow inversely the water excretion of the people, which may be taken as a fair index of the hydræmia of their blood.

That all the drugs of value from quinine to arsenic directly or indirectly favored water elimination and that purgation helped their action. I quoted Craig "of returned soldiers from the Philippines 65 per cent. showing estivoautumnal parasites in their blood, were suffering from acute or chronic dysentery." A vain effort to remove water from the body.

And I quoted Craig again, "that the administration of quinine in cases of estivoautumnal malaria, complicated by dysentery, not only removes the malarial infection, but, in many instances, the dysentery improves, and a return to health is more rapid." His explanation of this is that the intestinal membrane is invaded by the parasite, causing an irritation, and hence the diarrhœa; but it would seem equally plausible to consider it also as an effort to get rid of all the water possible. And not without significance, also, are his statements that "during the paroxysms the amount of urine passed is increased," and that in "tertian and quartan fevers convalescence is often marked by the occurrence of polyuria," and that "a slight polyuria is very common, and probably more so than is generally known," and also, that, on the whole, "there is little variation from normal in the specific gravity of the urine."

He also calls attention to how infrequently typhoid fever and malaria coexist, quoting Dr. Lyon's list of only twenty-nine authentic cases and giving but five as his own experience. He says, "As a rule, the malarial attacks occur during convalescence from typhoid fever," namely, after the characteristic diarrhœa of the disease is over.

It was to test the effect hydræmia had in malaria that I made the study of my cases this year, and the result of my study forms the *raison d'être* of this paper.

If all were equally susceptible, every bite of an infected mosquito would be followed by the disease. Allowing a large personal factor, we would start in the spring with one infected mosquito who poisons two men. A second crop is hatched, and from these two, four cases arise, and so on to the *n*th power and we have an arithmetical progression until cool weather kills the bulk of the mosquitos and the cases recover. But the reverse is true. We see a few cases early in the spring, usually in those sick in the fall. There are rallies and declines until autumn. During all the hot weather when mosquitos swarm and breed rapidly but few cases occur. When cold nights set in the mosquitos breed slowly and are sluggish coincident with a lowering of water elimination, when—*mirabile dictu*—behold half of our season's malaria.

I have arranged my cases with reference to this fact, including those only who were actually residents of Winters, and excluding all transient fruit-pickers. Being a fruit section, the population is greatly augumented during July and August. It would be unfair to include those whose history I could not follow. They occurred by months as follows: In January 0, February 2, March 3, April 4, May 7, June 15, July 14, August 30, September 25, October 58. I can also add what it is impossible to tabulate, that the severity of the attacks have been much worse since cool weather began.

It is plain, then, that some other factor enters into it beyond the bite. What common condition, I ask you, is present but a chill to the skin, a sinking in the water elimination, and a consequent hydræmia. I have grouped them by age, work, and habits, but this is the only constant condition I can find.

I want you to understand that I absolutely believe in the mosquito being the intermediary host. Manson himself never claimed the bite to be the only possible source of contracting malaria, though I will say it is the only practical way. I know too well how universal is the rule no mosquito no malaria. And I want to call attention now to what I shall more fully speak of later, that germs will exist in the blood a long time, weeks and months surely, before causing symptoms. This I know, and others have observed the same thing. If this be so, some secondary cause must interpose to help it or be opposed to prevent it. Since it invariably causes symptoms the moment the bodily health is lowered, I assume it to be the resistance of the cells themselves, which if lowered or lessened in numbers by fluid will allow the germs to increase.

Craig very properly calls attention to the antagonism between typhoid fever and malaria. He states that the combination of these diseases is very rare, and that he has only observed five instances in over 4,000 cases. "Of these five cases, four were combined infections of typhoid and estivoautumnal fevers, while one was a combined infection of typhoid and quartan fever. The latter is the only case in which the quartan parasite was demonstrated in the blood. The malarial attacks occur during convalescence from typhoid."

I ask you why this rarity and why of five cases in 4,000 only one was simple quartan and why none were the still milder tertian and why it always occurs during convalescence and not before. Malaria notoriously attacks those weakened and exhausted from any cause and why not a typhoid case just

before or during its first stage, and I draw the inference that something peculiar about this stage of the disease is the reason, and I suspect the diarrhœa that is so characteristic, and conclude that the blood is not hydræmic enough for the germ.

And this leads me to the next step that the profuse sweats of malaria and the very often present diarrhœa are efforts of Nature not only to eliminate toxins, but to thicken the blood. We know its results in this, and later I will show that a case of malaria that begins with diarrhœa will hold off for days before a chill ushers in the disease. Many summer diarrhœas of adults and infants that are treated as such are in reality malaria and will promptly get well under quinine.

As I showed last year, free drinking of water will favor malarial infection. The old belief of the danger of eating watermelons has its truth nicely hidden, and the converse is also true. Again and again I see harvest hands sleeping out, bitten by swarms of mosquitos nightly, escaping all symptoms until they stop work and sweating, and then in less than a week they will come to me with a history of a chill. Now, after treating a few families, you will notice that the children and young adults have it, but the grandparents, old and dried up, usually escape. If you find an old, little withered man or woman they are free. This may be from their lack of juices or from acquired immunity. In many cases of old residenters I am sure it is the latter, but even in newcomers the thin, dry grandparents escape. Malaria is practically a disease of childhood. So universal is it that few children escape, and their watery structure favors infection, until by years of suffering they win immunity.

Perhaps you have seen a man who has gone untreated for a long time and worn out the disease. He is weak, bloodless, and yellow, but he is as dry as if he had been baked. Every possible drop of water has been excreted and he gets well.

And here fits in another argument. Many cases only require purgation, to end in recovery. Once in a long while you will find a genuine case that has an idiosyncrasy against quinine. These are rare, but you find them, and when you do, hydragogue cathartics are better than any other line of treatment. And here is the next step, that quinine has the marked effect of increasing vasomoter constriction, as Sollman says, "a quickened pulse with rise of blood-pressure." This greater pressure increases the amount of urine excreted therefore, and lessens the water of the body. Now consider the substitutes for quinine. Except for arsenic, which relaxes the capillaries, but while doing this acts energetically on the intestinal canal, producing watery movements, they are all diuretics. In this list are methylene blue, strychnine, nitrate of potassium, iodide of potassium, myrrh, eucalyptus, lemon juice, guaiacal, and phenocol, pepper, etc.; every one of which have diuresis as their principal, if not only, action. While they are poor substitutes for quinine, the fact that diuresis is their only common action is a strong presumption that it is the line of their beneficial action. It is also well known that brisk purgation by mercury while taking quinine wonderfully assists in the cure.

I had one case of Bright's disease that bears on this subject. The lady was sick some weeks before I saw her with swelling of ankles and eyelids. Her headache, nervousness, and general condition were much worse every other day. I soon noticed it, and blood examination showed many germs, but I was so busy combating threatened coma and urine suppression that I let it go for a time. After packing, sweating, purging, and nitroglycerin I persuaded the kidneys to go to work and the headaches improved. The immediate need for malarial treatment ceased. Two weeks or so later another temporary suppression occurred, and the every-other-day trouble began until elimination was again effected. I then put her on treatment for malaria with no further trouble. What caused the malaria to show itself during times of non-elimination and to disappear during times of elimination of excess fluid? Mind you, she did not have a chill at any time that was noticeable, but the germs were there at all times.

In Hirt's "Obstetrics" are passages which, taken together, support this theory. In speaking of the alterations in the circulatory apparatus of the puerpera he says: "The whole volume of the latter (blood) is increased, but not by an equal increase of all the constituent parts; the corpuscles are relatively decreased in proportion to the liquor sanguinis; the watery element of the blood is proportionately increased, making the condition of the blood during pregnancy one of hydræmia. This is further marked just after delivery, but "at the end of two weeks it is much nearer a normal condition than it was in the latter half of pregnancy, although it is still somewhat deficient in red blood corpuscles and in hæmoglobin."

Under puerperal malaria I find "that the liability to infection is increasing after childbirth." The most striking phenomenon in the puerperal state is the reawakening of malarial manifestations, probably by reason of the traumatism and physical depression following childbirth. The third day after labor seems to be the usual time for the reappearance of the disease."

In speaking of puerperal sepsis, I quote again "the puerperal state excites almost surely a fresh outbreak of malaria that is latent in the system, even though it has been dormant for years. There is nothing to show that the woman is likely to contract the disease during the period of puerperal convalescence itself, but if she has never had it in her past life it is practically certain to break out before she rises from bed.

That malaria is likely to break out in this condition is a fact borne out by all experience, but I do not agree with the statement that it can remain dormant for years in the body. A malarial country has too many opportunities for infection, at least the season before, to be sure that infection is not comparatively recent. But this statement bears out the theory that an impoverished hydræmic blood is a certain prequisite to development of the germ.

Winters lies on the north bank of Putah creek; a torrent in the winter and a sluggish stream in the summer, with many pools of stagnant water, ideal places for mosquitos to breed in. There is a street parallel to it, the south lots running back to the bank. This street is undrained from one end to the other. Every family has malaria every year. The prevailing winds being from the south carries the insects into town. The farther from the stream in regular ratio the less malaria. The town has city water pumped from deep wells and remarkably pure. The mosquitos live all winter at room temperature. I had a few in my office all last winter. It is stated that before hibernation the female does not bite, and so is incapable of carrying over the germ. Of this I know nothing, but it is not needed, for the germ lives for months in the individual.

On numerous occasions during the past winter I found germs in the blood of those sick in the fall but now free from symptoms and supposedly well. I am quite sure of this, but I was not quite so expert then as I am now and might have been mistaken. But you can take any old-timer, one who has lived for some years in Winters, and you will find the germ

in his blood, and I want to impress it upon you that the germ can be found in those apparently healthy.

I have in mind one lady who has a chill every time she works hard, does her own washing or something of that sort. She will have one with its fever. The next day she is well and the day after another chill will come on. If neglected, a regular succession is established, but she knows enough to begin capsules with the first chill and so escapes with one only. This has not happened once, but many times. Another case is that of a gentleman born and raised here, who suffered with malaria as a boy, told me he and his brother could lie in the sun and let the wind blow on them and have a chill any time they wanted to for some years. He is immune personally, but his wife and three children have had several severe attacks this season. His blood shows germs present all the time. In these cases it seems dormant all the time, but I consider it the result of continual infection that, because of some condition of the body, will not allow the germ to increase to a numerical point sufficient to cause symptoms or perhaps to an acquired tolerance to the toxins of their life history.

As I stated before, it seems constantly present, for almost every disease is modified by it. To my surprise, this year a patient with whooping-cough hardly had any trouble except on alternate days, when twelve to fifteen paroxysms was the rule. The germ was there and quinine ended that feature. I mentioned a case of Bright's disease worse in every way alternately until free elimination of water took place.

It has been stated that dark-skinned races were immune. This is not true. The Japanese are the worst cases here. They live in a manner of greatest exposure and come to us with a history of never having had a chill. While hard at work and sweating freely they escape for a time, but as certainly as they lay off a few days they are sure to come down with it, and they have it hard, too. Daily or double infection is common. But, notice the bearing on the hydræmia, a hard-working, dried up, opium-smoking Chinaman rarely has any trouble. It is a matter of observation that they escape.

That there is a latency, is the consensus of opinion as I find it. That there is immunity from symptoms is more radical, but immunity is a relative term. There are persons, however, who have had malaria for years and at last are free even when surrounded by cases and freely exposed to mosquitos and bitten by them and with the germ in their blood.

These are immune in one sense, but occasionally, when run down in health, these very persons will become sick. It is from such that the fresh season's crop of mosquitos become infected, and any prophylactic methods will not succeed until they are treated as well as persons having symptoms.

Now an analysis of these 251 cases is not without deep interest as showing the types and forms met with and the percentage of each. Thirty of the 251 were repeated examinations in the same individual, which cuts us to 221. Of these, thirty-eight were examined prophylactically and thereby in the main escaped. I have left, then, 183 individuals in whom diagnosis was made or confirmed by the microscope:

Of regular every-other-day classical chills and fever	111	cases,	60.7 per cent.
Felt badly with perhaps some fever irregularly, but no chill	37	"	20.3 "
Pure neuralgias, regular or irregular	10	"	5.4 "
Infant diarrhœas conforming exactly to summer bowel trouble, no chill	6	"	3.2 "
Examination because leaving	2	"	1.0 "
Kidney case, worse every other day	1	case	0.5 "
Pertussis, worse every other day	1	"	0.5 "
Continued fever	2	cases	1.0 "
Ear worse every other day	1	case	0.5 "
Fever rising step by step as in typhoid, with no chill and diarrhœa	9	cases	4.9 "
Examined, germ found but not treated	3	"	1.6 "
	183	cases.	99.7 per cent.

Manson says that periodicity is the only sure sign of malaria. I want you to note that only in 62 per cent. of these cases was there any periodicity at all. His observation has not been mine.

Other thirty-eight were examined to see whether the germ could be found; twenty-four had it and in fourteen it was absent. These were taken at random, regardless of age, sex, or how long they had lived in Winters. They were apparently, and supposed themselves to be, free from malaria and were generally in perfect health. There were two cases that I classed as not having the germ that are doubtful. I think they did have it, but not being positive I classed them on the other side. Now let's see how they turned out: The fourteen free from germs have remained free up to date. Of the twenty-six with germs but apparently healthy, I put six on treatment at once. They remained well, but only twenty are now left.

Of these twenty, three were afterward examined and no germ found; too few for any result therefore, and all excluded; two began feeling so badly inside of a month that, knowing their trouble, I had to prescribe; one had a sudden hard chill nine days later; three found out that they had germs and confessed afterward to self-dosage; three began to feel malaria and left for the mountains. There remain eight in whom have been found the germ not once but more than once, and they remain healthy to-day. Now eight, at least, out of 251 have the germ without symptoms, all being examined prior to September 1, Of the eight two have moved away, leaving six available cases.

1. Mrs. S., native Californian, aged fifty-five, height 5 ft., weight 93 lbs., small, dark, dried-up little woman; germ first found June 23, lived in Winters over thirty years. Feels tired at times during summer for days, then better, never had a chill in her life.

2. Mr. L. H., single, native son, aged thirty-five, in Winters thirty years; has not had a chill for fifteen years surely; thin, spare, and dry. Chills in the same house three or four different times this year.

3. H. R., boy, aged nine; August 18, born in Winters; no chill for three years; very frail, thin, dried up; malaria in brothers and sisters.

4. E. R., sister, aged twenty-two, born in Winters August 18, no chill for three years; a year or two in the same house.

5. Mr. W., September 2, aged sixty-five, married in Winters fifty-five years; never had a chill since then; all his family have had them this year; thin, dry, withered.

6. J. W., born here, many chills as a boy, none twenty years; dark, dry, and thin; wife and children sick many times this year.

Now I realize that this is a remarkable statement and one not commonly admitted. As the old saying is seeing is believing, and you saw me prepare a few slides from Mr. W.'s blood. They were there a day or two ago and I guess we will find them again to-day.

Of these 251 cases 111 were instances of chills and fever not differing much from the well-known types. Five of these 111 cases were marked by purging and some fever, but no chill or intermittency. Six cases were in children, supposedly cases of summer diarhœa in nursing infants. One patient was sent to the mountains for relief and finally drifted to me after passing through several hands. The blood showed germs, and quinine ended the trouble in all in a few days. The improvement was from the start. My hydræmia theory furnished the hint.

Now regarding malarial diarrhœa or dysentery, I want to be honest and say that it is very hard to get at the cause of summer diarrhœa. Cold, unripe fruit, heat, etc., enter into it and make it difficult to state that any case has no other causation than malarial infection. But I have seen babies, showing a germ or two, suddenly taken with diarrhœa and with a little fever possibly. The case will act like one of diarrhœa of that age, the patient getting worse and worse until quinine is given, and in twenty-four hours the trouble is over, and at the close the germ can't be found either.

There is a close analogy between the skin and the intestinal mucous membrance, the ecto- and endoderm. We know the exhausting sweats of malaria, and it is not a wild guess to suspect the intestine to act in like manner. Both are active in eliminating toxins. I need only suggest this, and many facts of physiology and practice will flash into mind to confirm it. There is hydræmia of course, and an effort to get rid of the water.

Dr. William Britt Burnes of Memphis read a paper last May before the American Academy of Medicine on this subject, calling attention to this diarrhœa, and stating that the parasite and pigment were to be found in the vessels of the intestinal mucous membrane, and that these cases were promptly amenable to quinine therapy. I only confirm it, therefore; it is not original, but I try to explain it.

One was a kidney case and another whooping-cough, both previously mentioned, three ladies expected to leave and did not want to be sick away from home and were examined.

Twenty-seven cases began by general malaise and ascending fever as in typhoid. In some of these there was diarrhœa, in others constipation. There is no nicer test than between typhoid fever and one of these ascending malarias with diarrhœa. A slight sensation of chilliness may begin both. There is one symptom never seen in malaria by me, but very common in typhoid fever, *i.e.* a dicrotic pulse. Again and again it has saved me from doubt. My rule is to give a guarded diagnosis and to put in heavy malarial treatment for three days, if not better by that time typhoid fever is a certainty. I had nine of these typhoid type cases.

Now here is the history of one of these cases. Mr. B., aged twenty-five, from southern California, up buying fruit. For a week he was feeling badly. Tendency to constipation at first, then diarrhœa, no appetite and tired. Diarrhœa increases and he goes to bed July 30, and sends for me that afternoon. No chill at any time, but he had fever in the afternoon for a few days, bad diarrhœa, some vomiting, abdominal gurgling, tongue dry, brown, coated and tremulous, dull and apathetic, temperature 104. The next morning his temperature is 101½ and the next evening 103 and the morning of Sunday the 1st it was 102. No rose spots, too early for them anyhow. Now this looks like typhoid fever, but his blood was full of the germ Saturday morning and he began taking quinine 4 gr. every three hours that afternoon. As I said, Sunday the temperature was 102 in the morning, that night it was 102, Monday A.M. it was normal. Tuesday P.M. it went to 102 (note it is now showing an every-other-day tendency) and thereafter normal. A Widal reaction would be very nice, but we country practitioners can't keep serum on hand all the time. Three cases were neuralgia pure, but worse on alternate days, I found by questioning and observation. One lady wanted a tooth out that she considered the cause. In all three cases it was neuralgia of the fifth nerve.

I have never seen any eye diseases that could be attributed to malaria. They are admittedly rare and of doubtful etiology.

I notice, too, a class of old residenters with a chronic trouble of fatigue. No chill, no fever, nothing but exhaustion in hot weather. If there is a germ of laziness I believe it is a form of the plasmodium. They are wiry, no extra flesh, and they keep going by will power, and the result is the post-occipital pain of nerve exhaustion. From this class grow our neuralgias—at first on alternate days, but later in spells of a week or ten days at a time. They have become neurasthenic. God only knows how many are yearly driven to our insane asylums by the anæmia and a cachexia incident to malaria.

I had a group of patients, all of whom had malaria severely last year, and who had the germ in their blood this spring, come to me regularly every two weeks for examination. This is why my notes run to 183 on 251 cases. These are the thirty-eight prophylactic cases. Not one of these that came regularly was sick a day. Sometimes they would go a month without a dose, but if a germ was seen, treatment was begun and kept up four days. One or two became careless and suffered for it, but those who were regular escaped. So the microscope is a practical agent for prophylaxis in ordinary hands. I am far from an expert myself, and what I can do any of you can do as well or better.

In examination of the blood let me give you a few hints from my experience: Prick the ear after squeezing it, as it don't hurt much, and for the same reason the ear is better than the finger. Never tell a child you are going to prick, only scratch just a little. Take smear directly on to slide, not cover-slip. Don't stain, but examine at once with a $\frac{1}{6}$ objective and you will get good results. If in doubt use Wright's modification of Jenner's stain, mount in Canada balsam and examine with $\frac{1}{12}$ objective. This is a good rule to follow after using a $\frac{1}{6}$ direct without slip. Now if you find anything that looks like a germ in half the cells exclude it; it is too common. Never take any but isolated cells; if bunched there is too much crenation for accuracy. Exclude every doubtful-looking object. The germ is about one-fourth the diameter of a corpuscle, ringed in form; watch for this with its pigment on one side and the clear refractive center. See that it is in the cell, not on it. Crenation retraction of hæmoglobin and dust are the main causes of error.

And now a few words as to how I treat a case of malaria: I give an adult four grains of quinine in a capsule every three hours with about the same number of grains of bromide of sodium in water to follow. I like the effect of capsicum with the quinine. My stock prescription is

℞ Quininæ sulph. ..... ℥j
Pulv. capsici ..... gr. xv
M. et div. in capsules No. xv.
Sig. One every three hours;

and

℞ Sodiæ bromidi ..... ℥jss
Aquæ ..... ℥iij
M. Sig. ℥j with each capsule.

This sodium-bromide solution removes nearly all the unpleasant head and ear symptoms. With this you must obtain free catharsis. One or two grains each of calomel and compound extract of coalocynth in capsules every two hours until free catharsis results is my rule. For the fever I give one of the synthetic antipyretics.

For children, or when a capsule cannot be given, I have had results from tasteless quinine. Methylene blue, arsenic, etc., are absolute failures in my hands and do not even modify the disease.

Dr. W. E. Bates of Davisville once asked me if I

had ever seen a case that quinine would not cure. I never have, and suspect in such a case that it has not been absorbed. Quinine unaided by catharisis is in large measure wasted. I have never failed, if I saw the patient during the fever and could begin treatment in the interval to stop the next chill. I care not how long it has been running. But as I stated, my experience is with simple tertian fever.

Dr. King has suggested that quinine acts because of its fluorescent property in the blood. I don't believe it at all, but it is an ingenious idea.

What I have called my hydræmia theory then is this: That a prerequisite to infection, or at least to symptoms, of malaria is a watery condition of the blood, and just in proportion to the total fluid in the body will be the severity of the disease.

These, then, are the few facts, analogies, and arguments in favor of the hydræmic theory. I believe it fully myself, and shall until I see stronger reasons against it. I call it a good working hypothesis and admit that it is not proven. I ask you all to accept it as a theory only and to seek to prove or disprove it.

PRACTICAL HYGIENE IN THE PUBLIC SCHOOLS.*

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In matters educational the signs of the time are most hopeful. To those of a strictly practical turn of mind, unable to appreciate results except in dollars and cents; to the pessimist in general, and to all others unable to read between the lines, these signs of hope may not be apparent. But to the careful student of pedagogy, a retrospect of the year's educational progress throughout the United States reveals changes vast and far-reaching, ones ultimately destined to advance all branches of human activity. For the public school system, in large part, lays the foundation upon which the interests of our country are to stand or fall.

President William DeWitt Hyde of Bowdoin College, in an address before the National Educational Association at its recent session in Boston, gives us a panoramic view of what our educational system would be were it everywhere as good as the best that anywhere has been attained. We should have small boards of education composed of the best citizens; having attractive buildings we should utilize them both summer and winter, day time and evening, for both children and adults, in the service whenever needed of social as well as of intellectual ends. But what is to me of more interest than any of the foregoing, provision would be made for special schools for abnormal children, rigid medical inspection would be instituted, district nurses would be at our service and public sanitation and school hygiene would be elevated to their proper position in the school curriculum. While the elements of such an educational system are all present at isolated points, the general standard is still low. Granted that an institution, an organization or a system is no stronger than its weakest point, then we must admit the weakness of our school structure.

Inadequate attention to the preservation of health and the prevention of disease in public school life constitutes a weakness for which we as citizens are in many cases plainly responsible. I use the word "inadequate" advisedly, for that due consideration along certain lines is being paid to the health of our school children, none will deny. Such zealous attention in the past, however, I believe to have been largely spent in improving the character of school appliances and the sanitary conditions of school buildings. But I cannot admit that liberal and increasing attention to physical and personal hygiene has as yet become at all general. Only in a few of our larger cities, with Boston, Chicago, and New York forming the vanguard, do we have rigid medical inspection, district nurses when required, and sanitation and hygiene receiving a more intelligent consideration as studies worthy of our attention. "As a general thing, school authorities very imperfectly realize how important hygiene is for school life. They are content to allow teachers to remain in ignorance of this knowledge, or to accept as evidence of sufficient experience, certificates which guarantee merely a superficial and second-hand acquaintance with this all-important subject."

First of all, then, it seems to me that the public should be brought to a realization of the need of a right physical start in education. The demand will then come for teachers better versed in physiology and hygiene, and for a revision of many of the present-day school books on these subjects, in strict accordance with the teachings of preventive medicine.

The author very distinctly remembers physiology and hygiene as taught in the public schools of Providence in the late eighties. Teaching was from textbook alone, and that from a "temperance" physiology. In a book of 374 pages, 72 were devoted to narcotics and 41 to personal hygiene. Temperance seemed to be the chief topic, and physiology and hygiene were prostituted to a furtherance of the cause.

Teaching was always by the "terrible example;" the trembling hand, thick speech, dull senses, poisoned blood, confused brain, foul mouth, and offensive breath were too conspicuously held up to view. How many of us in later years have come to believe that "the majority of beer drinkers die from dropsy;" that alcohol is a virulent poison and should be classed with arsenic and mercury, or that "tobacco has done more to cause insanity than spirituous liquors?" Extreme care was taken that all matter pertaining to alcohol should not be placed in a separate chapter. Rather, "facts" about alcohol and the bones had to be studied in connection with the bones. And so on through the various chapters, alcohol and tobacco were liberally sprinkled in.

Undoubtedly untold good has been done in strengthening the morals of many young men and women through the dissemination of such temperance knowledge. But why emphasize this broken law of health at the expense of so many other equally important laws of hygiene. Why make physiology entirely subservient to one branch of hygiene, the ill effects of the excessive use of alcohol upon the human system?

The tendency of the present day in law, in medicine, and in the various arts and sciences, is toward specialism. In the domain of medicine preventive measures even now appear conspicuously above the horizon and are destined to be *the* specialty in the near future.

The oft-repeated truth, "An ounce of prevention is worth a pound of cure," gains added force and much significance in its application to the physical welfare of public school children.

Physical training has its staunch supporters; others there are who have argued and labored and fought for the best attainable school buildings, fixtures, and appliances, all in accord with the laws of hygiene and sanitation. All such work is indeed laudable, and should meet with hearty approval and coöperation. But still another class of public benefactors are studying the child himself, believing that

*Read before the Research Club, Providence, R. I.

"most delinquencies of backward children are due to physical defects, and that it is a paramount duty of municipal authorities and health boards to see that children in schools are not suffering from any complaint which might blight their own lives or spread among their fellows" (MEDICAL RECORD, June 13, 1903).

Locke says, "Nothing can enter the mind except through the senses." Such being the case then, we could hardly expect an individual with defective senses to gain other than defective knowledge of the world about him. Great injustice is often done children by accusing them of obstinacy when they are the subjects of physical defects of the eyes, the ears, or the throat. Time was when children were cudgeled if they made mistakes in spelling, while at the present day children are sometimes whipped or otherwise punished for so-called "careless" writing. Repeated and careful investigation of children's eyes have conclusively proven that in a large percentage of cases, at least, these apparent instances of carelessness and stupidity are due to defects of vision.

Risley of Philadelphia, Smedley of Chicago, Agnew of New York, and Allport of Minneapolis have shown that, "taken as a whole, fully one-third of the children in the schools have eye defects that interfere with the best development of mind, and body as well." As Dr. Risley says: "Many a boy who gets on indifferently at school, gaining a reputation for dulness or indolence, is prevented from going forward by his imperfect vision—a condition of which he himself may be ignorant. How is the child to know but that the blurring page, the watery eyes, the aching head which follow any protracted use of the eyes, are not the common lot of mankind? This has always been his experience; why should it not be his fellows, also? The humiliation and loss of self-respect in these cases robs life of much that gives it value, 'and the discovery and removal of the cause of such loss is a matter of no small importance.' 'And such cases multiply themselves over and over again to one who is looking for them.'"

To quote Superintendent Whitcomb of the Lowell (Mass.) schools: "The worst feature of the case is that the schools are mainly responsible for the impaired sight of their pupils. The work in reading, writing, and drawing imposes the severest possible strain, and results everywhere show that the eyes yield to the pressure in constantly increasing numbers as the years of school life go by. Few children are near-sighted when they enter school; the savage never becomes so; myopia is the concomitant of civilization, and schools are what Dr. Scripture of Yale calls them, 'bad eye factories.'"

Probably among the most prevalent of these defects and diseases of the eye, astigmatism, myopia, and trachoma take the lead. In astigmatism the muscular and nervous strain is so great as to produce exhaustion toward the end of every day and to result in a ceaseless drain upon the nervous system. In myopia or "near-sight" objects are never seen clear cut. Of eye diseases, strictly so called, trachoma or contagious granular lids is undoubtedly the most common of all affections during school life. Such was found to be its prevalence upon preliminary investigation among the school children of New York, that it eventually led to the adoption of rigid and systematic medical inspection for all eye defects; where once the chief attention of the teacher and physician was directed to the diagnosis and exclusion of the common infectious diseases, thereafter special attention was paid to physical defects in general.

If unrecognized and untreated, these eye affections lead to dire results, but when detected and properly treated, a cure or alleviation of symptoms may be expected in most cases; careful and sympathetic attention to such work on the part of the school authorities is, I believe, of as true and as fruitful philanthropy as can anywhere be found.

Quite as serious if less numerous are those children "who having ears, hear not." Deafness, however, cannot be considered a "school disease" in the same sense in which many diseases of the eye are such. Examinations conducted among thousands of school children in New York, Chicago, Glasgow, Copenhagen, and elsewhere have shown that some 18 per cent. of such pupils have auditory defects of various kinds and degrees, and that, laboring under such a handicap, they cannot be expected to profit fully by the work offered. Examples are not hard to find in which a boy or girl, supposed to be lacking in that which we call "brains," has made rapid strides in school after the teacher has made sure that everything said was understood.

Still another class with physical shortcomings are those children found to be suffering with throat difficulties, due in many instances to adenoid growths, the so-called third tonsil. Such growths, obstructing the respiratory passages, prevent natural and healthy breathing, affect the hearing, sap the system of its vitality, and tend to induce a condition of listlessness and so-called stupidity. Probably 10 per cent. is a low estimate for those found to be "mouth-breathers," with adenoid growths as *the* contributing cause. Dr. Durgin of the Boston Board of Health says that 169 cases of such growths, all perfectly curable, were discovered in Boston schools in the first year of medical inspection there.

The foregoing physical defects do not embrace all of the adverse conditions under which public school children labor. No indeed! they are simply those which are startlingly common. Others there are even more intimately connected with the nervous system.

Kollman says, "Thirty per cent. of the school children of Europe have abnormal nervous systems, and this nervousness is a prolific source of crime." I trust this casual survey of the physical side of school life may serve as a basis for my text, "Practical Hygiene in the Public Schools."

Since the effects of adverse conditions must be recognized before they can be prevented or treated, it seems to me essential that all schools should have systematic expert medical inspection. Otherwise the combined efforts of the various educational agencies must meet with a measure of defeat. It would ill become me at this time and place to discredit the efforts put forth along this line by some of the more thoughtful, progressive, and sympathetic teachers. But I believe their labor has been largely spent in the recognition of infectious diseases, such as measles, scarlet fever, and diphtheria, and in the detection of repulsive and contagious skin diseases, as, for example, ringworm, pediculi capitis, scabies, etc. Many times these diseases gain considerable headway and scatter the germs of contagion far and wide before they are properly diagnosed. And so it seems to me that there is an apparent need of competent medical advisers to assist the teachers in the detection of the first stages of such diseases. After such a system of medical inspection has once become thoroughly organized, instruction by means of lectures, pamphlets, and clinical demonstrations would enable the teachers themselves to diagnose properly some of the more prevalent of these complaints. And yet, personally, I believe that most teachers find enough to occupy their time fully without devoting a portion to a search for sick children. Let the medical inspector (in those places fortunate enough to possess such an official) seek out the lame

the blind, and the halt at stated intervals and keep a record from year to year of the growth and development of such pupils. These diseased and defective ones could best be detected, treated, and counseled by a physician. Every moment of time which the school program and teacher's strength would allow, could then be more fittingly devoted to instruction in those branches of hygiene which pertain to home as well as school life.

This is the time to do some noble work along the lines of preventive medicine. Such instruction would very materially aid in stamping out epidemics, and vital statistics would probably show a great falling off in such dreaded diseases as syphilis and tuberculosis. One of our members has said, "medical inspection can do its best work in the primary and grammar grades, while physical training should be prominent in the high school." The same authority, moreover, claims that one absolutely necessary condition in school inspection is harmonious and combined action of the school board, Board of Health, and the physicians. All are necessary, and if one is antagonistic, medical inspection will fail. I would heartily endorse these statements of Dr. John H. Bennett before the New England Association of the School Superintendents in Boston, November 10, 1899.

Awaiting the coming of medical inspection into our public school system, some of the more progressive superintendents, principals and teachers, interested in all that pertains to the health of their pupils, have addressed circulars to the parents, giving a few suggestions relating to the habits and health of the children. This method was instituted in all the schools of Brooklyn during the régime of Dr. William H. Maxwell as superintendent. It is perhaps no exaggeration on my part to say that such circulars contained more practical up-to-date information on personal hygiene as applied to school children than is found between the covers of most of our present-day "temperance" physiologies.

A few quotations from one of these most excellent circulars might be appropriate right here: "To parents: 1. The health of your children is paramount to every other consideration. When children particularly girls, between the ages of ten and seventeen, exhibit evidences of nervous disorder, such as twitching of the face and hands, or extreme irritability, it is a sure sign either that the school work is too severe, or that they are not living under proper hygienic conditions, or both. In all such cases school work should be either materially lessened or intermitted until there is a restoration to health.

"2. When children study or read either by sunlight or by artificial light, care should be taken that the light is sufficient, and that it falls upon the page from the left.

"3. The following practices should be prohibited, as being injurious to health: Study before partaking of food in the morning; the rapid reading of lessons just before the beginning of a school session; study during the noon intermission; study immediately after the close of school, before mind and body have been rested by play or other suitable change of occupation; study immediately after eating a hearty meal."

Other principals and teachers realizing that health is paramount to every other consideration, assume that all the circumstances relating to the well-being of the pupils, should be known to the school officials, in order that no adverse conditions may be allowed to exist. To this end a set of questions, "information circulars," as they are called, are addressed and sent to the parents of each pupil with a request that they be signed and returned. Amesbury (Mass.) High School pursues this method with most gratifying results. All information is gratefully received and confidentially considered.

Briefly, these questions may be said to embrace the physical condition of the child, his recreation, sleep, and personal habits, and the relation of school work and home duties. In reply to my queries the principal, Forrest Brown, A.M., kindly wrote: "(1) Circulars are given to pupils at the end of the first eight weeks or at mid-term. (2) One hundred and fifty-seven out of one hundred and fifty-eight complied with the request; no return postage. (3) Information for the most part was thoroughly reliable and assisted us greatly in directing the work of the individual pupil; in fact, it is almost impossible to estimate the value of the data furnished us in answer to these questions."

And briefly, now, as to what a few other cities are doing along similar lines.

Cambridge, Mass., established a system of medical inspection of children in the schools February 26, 1896. Its original purpose was to further the crusade against contagious diseases, but as the system has developed, careful scrutiny has been maintained over all physical shortcomings of the children.

Hartford, Conn., also has a comparatively complete system of medical inspection. It is a branch of work which has constantly grown in importance and is under the direct supervision of the Board of Health. Since its inception during the diphtheria epidemic of 1899, it has come to be demanded by the public as a necessary protection for their children against all kinds of contagious affections to which they are liable to be exposed while at school. To quote the President of the Rhode Island State Institute: "It is not to be supposed that perfect attendance or perfect health is guaranteed by medical inspection, yet it is reasonable to expect that it will prevent much needless suffering and sickness, and tend to increase the efficiency of the schools by permitting a better attendance."

Providence, R. I., has done some excellent work since 1896 along closely allied lines dealing especially with backward children, and I may add with most gratifying results. Medical inspection, strictly speaking, while favored for years by the Superintendent of the Board of Health and others sufficiently well-informed to enable them to speak with authority, has not until quite recently entered into the program of our public school work, but once inaugurated we feel confident that the work will speak for itself.

In recapitulation allow me to state that:

1. "People must be made to understand that it is no disgrace if their children are not so strong, nor so receptive as their neighbor's. It will be an immense gain when the parents shall be made to understand that mental vigor depends largely upon bodily health" (MEDICAL RECORD, September 6, 1902).

2. "Only the knowledge gained not at the expense of health, but accompanied by health, can be of real service. Education must mean better health if it is to mean anything."—*Rhode Island Science Monthly.*

3. Practical hygiene in the public schools, successfully carried out, is evidence of a growing recognition that home and school are parts of a single life; that the school is made for the health, happiness, and usefulness of the children; and that the breakdown in health of a schoolboy or schoolgirl from preventable causes is murder of the first degree, for which high averages cannot atone.

In conclusion, allow me to quote from the *Providence Medical Journal* that "repetition is the basis of all education, and repetition of the truths ad-

vanced by our health boards will in time educate our educators.

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The Influenza Bacillus as the Cause of Cholecystitis.—J. Heyrovsky considers that it has already been proven that the influenza bacillus, aside from its toxic action on the general nervous system, may also bring on an inflammatory process in any organ of the body. A hitherto undescribed localization of the bacillus in a gall-bladder filled with calculi is reported by the author in a patient who had cholelithiasis with irregular attacks of colic, closure of the common duct, and subsequently signs of a biliary infection for which operation was undertaken. The patient had a slight bronchitis which developed into pneumonia after operation, but from which he recovered. Several months later a fistula was still present, which discharged pus freely. Examination of the pus from the gall-bladder at the time of operation, and also that discharging from the fistula, revealed the presence of the influenza bacillus, and the latter was also demonstrated in the sputum during the pneumonia. The author thinks that the path of infection in his case was through the intestinal canal, the patient probably having swallowed some of his own infected sputum. The gall-bladder was rendered more susceptible to the invasion by the fact that it was the seat of a cholelithiasis.—*Wiener klinische Wochenschrift.*

Diphtheria in the Tropics.—Aldo Castellani declares that it is generally admitted by the writers of tropical medicine that diphtheria is infrequent in subtropical countries and extremely rare or absent in the tropics, and that when it occurs there it mostly exhibits a mild character. He gives the history, however, of a girl aged seven, daughter of a European planter who had never been out of Ceylon. She presented all the clinical symptoms of diphtheria and died in two days. The bacteriological examination showed the presence of a virulent Klebs-Löffler bacillus, which killed a guinea-pig in two hours. It is certain that this was an indigenous case of true diphtheria. This case, together with the previous observations of Perry, Fernando, and da Silva in Ceylon, and Plehn, Cornwall, and others in other parts of the tropics, tend to demonstrate that diphtheria is not limited simply to the temperate and subtropical zones, but is a true cosmopolitan disease. It occurs, probably, far more often than hitherto supposed, in tropical countries. The different climatic conditions, perhaps, influence sometimes the characteristic clinical features and course of the disease, and this fact, if a bacteriological examination is not made, may make the diagnosis difficult and cause some cases to be overlooked.—*The Journal of Tropical Medicine.*

Acid Intoxication Sui Genesis.—J. Dreschfeld and F. Craven Moore classify acid intoxication as follows: (1) The diabetic form; (2) the secondary form; (3) the cryptogenetic form or acid intoxication *sui genesis*. Each form presents many degrees of intensity, from the transient and symptomless acetonuria through the types in which acetonuria and diaceturia are associated with such manifestations as headaches and drowsiness, to the most intense comatose and often fatal types familiar in the coma of diabetes. The bulk of the observations relating to the human subject have dealt with diatetic intoxication or coma, and all with morbid conditions—diabetic or non-diabetic—which have been associated with the excretion of B-oxybutyric acid and its derivatives acetoacetic acid and acetone. There is general agreement among the best authorities as to the principal manifestations, with variations in intensity, and in the majority more or less marked gastrointestinal disturbance had preceded the outset of the symptoms of acid intoxication. Disturbance of gastrointestinal function preceding the outset of the intoxication is a common feature, and doubtless must be of significance in initiating the disturbance of metabolism leading to the apparance of "acetone bodies" in the urine. It is hard to estimate the precise rôle of these alimentary disturbances. There is considerable evidence to show that acetone is a frequent, if not a constant, urinary constituent in healthy individuals under normal diabetic conditions. It has been suggested that the acetonurias of starvation and of gastrointestinal disease are but the expression of carbohydrate starvation. The source of B-oxybutyric acid in the organism has been the subject of no little discussion. To what extent the phenomena, associated with the urinary manifestations of defective disassimilation of B-oxybutyric acid, and hitherto accepted as those of an acid intoxication, do depend upon dealkalization of the tissue fluids requires further elucidation. The hypothesis of acid intoxication undoubtedly affords a useful working basis, but there remains many collateral factors to be brought into line before it can be regarded as established. —*The Medical Chronicle.*

Points of Resemblance between Paralysis Agitans and Arthritis Deformans.—William G. Spiller reports this remarkable case. The patient was a married woman of fifty-nine years. Twelve years before admission to the hospital her neck became rigid, and she had been unable to straighten it since that time. She had suffered no pain from it. She said that the rigidity developed after she had washed her hair and sat in a draught to dry it. The lower limbs were atrophied, the atrophy being conspicuous on the thigh of each side, but was masked by œdema in the leg below the knee on each side. Considerable crepitation was obtained in each knee. The patient had a coarse tremor involving all parts of the right upper limb. This tremor sometimes ceased when the limb was at rest, but not always, and at times the tremor was partly arrested by voluntary movement of the hand. The tremor was suggestive of Parkinson's disease. There were no fibrillary tremors in the upper limbs or trunk. There was marked kyphosis at the cervico-thoracic junction. Voluntary movement of the spinal column was greatly restricted in all directions. The post-mortem examination showed decided kyphosis, the most prominent part being about the cervico-thoracic junction, also some scoliosis. Some atrophy of the shoulder muscles was seen. The fingers of both hands showed contractures, which were more marked in the right hand. There was marked ulnar deviation of the fingers, from metacarpophalangeal articulations. The feet were in the position of equinovarus, and equinocavus was decidedly greater on the right side. Had there been no tremor of the right upper limb typical of paralysis agitans, many would doubtless have accepted the diagnosis of arthritis deformans, but the tremor was so striking that some called it paralysis agitans without any reference to arthritis deformans. The writer believed that this patient probably had paralysis agitans associated with arthritis deformans, but he thought it possible that the tremor might be caused by irritation of the motor cervical roots by disease of the vertebræ. He believes that a study of the two diseases in their points of resemblance to one another may throw light on each. The pathology of each is most obscure.—*University of Pennsylvania Medical Bulletin.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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THE VALUE OF LEUCOCYTOSIS IN THE DIAGNOSIS OF INTRAABDOMINAL SUPPURATION.

SINCE the publication of Curschmann's well-known work in 1901, the study of the behavior of the blood in the presence of suppurative processes has been widely extended. Previous to this time, the changes noted in the blood were viewed with a purely theoretical interest, and to Curschmann must be given the credit for formulating conclusions based on actual observation which have come to be regarded as of great practical importance in determining therapeutic measures and establishing a prognosis. Investigation has been mainly pursued along two lines—the study of leucocytosis and the glycogen reaction, or, as the latter may be more properly designated, the iodophilia of the white blood cells. Iodophilia of the leucocytes, however, has not been regarded with much favor, as the views with reference to its prognostic and diagnostic value vary within wide limits, and the technical difficulties are much greater than those involved in the mere counting of the leucocytes.

The term leucocytosis as at present employed, is intended to refer to a transitory increase of the white blood cells, and to it must be ascribed a merely symptomatic significance. Only the absolute number of leucocytes can be taken into consideration as having any direct bearing on the diagnosis; the relative proportion between the red and white cells is of no value. It is essential, therefore, to count the leucocytes in every individual case, but the physiological leucocytosis which occurs during digestion, pregnancy, and a number of other conditions must always be taken into account when pathological processes are present.

Virchow was of the opinion that whenever glandular irritation was present, a leucocytosis resulted. This idea was soon discarded when it was discovered that certain diseases like typhoid fever were accompanied by a leucopenia rather than a leucocytosis. It is now a matter of common knowledge that there are very few inflammatory processes which are not accompanied by a leucocytosis, and for this reason the phenomenon possesses little value as a means of differential diagnosis as claimed at one time by Limbeck. The question at the present time hinges not only on the increase, but on its degree, and one is led to ask whether a leucocytosis of from 22,000 to 25,000 always denotes the presence of an abscess as stated by Curschmann. This is apparently contradicted by reports of even greater numbers being associated with severe hemorrhage, pregnancy, and other conditions. Pneumonia, sepsis, erysipelas, polyarthritis, and inflammations of the serous membranes are known to bring on a well-marked leucocytosis. Bearing this in mind, can it still be claimed that intraperitoneal suppuration is characterized by abnormally high leucocyte values? Rudolf Türkel, in a very complete critique on this subject (*Centralblatt für die Grenzgebiete der Medizin und Chirurgie*, August 5, 1904), believes that a negative answer must be returned to the question at least in this form. The numerous extraneous conditions which are liable to bring about a leucocytosis must be carefully excluded before its presence can be taken to denote suppuration, even in a clinically characteristic case. Curschmann's observations were directed entirely to the question of inflammatory processes in the cæcum or appendix, the extent of the leucocytosis being in a definite relation to the anatomical changes in this region. These observations were soon confirmed by a number of other investigators, and the results of their researches may be summarized as follows: If an exudate is purulent, no matter whether it exists in the form of a circumscribed abscess, or of a diffuse suppurative peritonitis, a leucocytosis of over 20,000 is present. This must persist for several days, however, and a single observation is not conclusive. In appropriating these results for diagnostic purposes, it is quite thoroughly agreed that clinical signs must be given their full value. A negative outcome, however, is admitted to prove neither the absence nor the presence of suppuration. It is a matter of record that when abdominal abscesses are firmly encapsulated, no well marked leucocytosis is present. This phenomenon can be explained only by a study of the circumstances which influence the production of a leucocytosis. Numerous investigations have been conducted with reference to the site and the manner of infection, but in this connection individual predisposition is evidently of the greatest moment. The appearance of a leucocytosis as a phenomenon of reaction is naturally dependent upon the ability of the body to react. In a weakened, marantic organism, the ability to combat the infection and to produce a reaction is either absent or diminished.

It appears reasonable to assume that the appearance of a leucocytosis may be traced to chemotaxic influences which manifest their effects on the hæmatopoietic organs. It has been shown that there are a large number of substances which, when injected into the circulation, bring about a leucocytosis, these including not only drugs but bacteria and their products. If we apply this knowledge to the topic under discussion, it signifies that when toxins from an abscess are absorbed by the circulation, a leucocytosis results, provided, of course, that the inherent powers of the organism to produce a reaction have not been affected. When the abscess is surrounded by a dense capsule, absorption is more or less completely prevented, no chemotaxic action is developed, and no leucocytosis is produced. But even here the leucocyte curve is of value. At the beginning of the attack it will be noted that the number of leucocytes is

increased considerably, and as encapsulation proceeds, the number sinks but does not reach normal figures. Operation in cases of this class is often undertaken too late, and when done, an abscess cavity is found filled with old stinking pus. The patient's chances would have been much better if timely operation had been instituted.

From what has just been said, it is evident that a negative leucocyte count—that is, the finding of normal, or only slightly increased, values—should not be taken as contradicting the diagnosis of abscess. The consensus of opinion among most observers, however, is that a positive result affords a more certain indication of the presence of suppuration than any one other clinical sign. This applies in particular to intraperitoneal suppuration originating in the appendix or the cæcum. The effect of suppuration in other parts of the body has also been studied, but apparently the reaction of the peritoneum to irritants is more rapid and well marked than that displayed by the remaining tissues. Whether serous surfaces, such as the pleura, have similar properties, is still undetermined, but in the case of the peritoneum it is definitely proven.

The question as to the advisability of operating in any given case of appendicitis is unsettled in many minds, and the controversy as to whether the treatment of the disease comes within the domain of the physician or that of the surgeon is not fully decided. The pendulum has swung in both directions. In every case in which the presence of an abscess can be diagnosed with certainty, only one method can be considered, and that is surgical interference. Dieulafoy's assertion that it amounts to actual crime not to turn over every case of appendicitis to the surgeon for treatment, is overdrawn, and contrary to general experience. Although Curschmann's discovery is of undoubted value, caution must be exercised in drawing conclusions from the presence of a leucocytosis in any given case, and the therapeutic indications should be based on the combination of all the clinical signs taken together. In doubtful cases, however, the critical application of this procedure may confirm the possible diagnosis of abscess, and then this phenomenon may serve to point the way for a modification of the manner of treatment. Briefly stated, the following factors must be taken into consideration in applying this procedure in order to make it of value: (1) Contributory causes which may produce a leucocytosis must be carefully excluded; (2) Repeated leucocyte counts should be made; (3) A positive result comprises leucocyte values of from 20,000 to 25,000, taken in connection with involvement of the peritoneum; (4) A negative result must never be taken as negativing the presence of a suppurative process.

Combined Degenerations of the Spinal Cord.—Pierre Marie, in his "Leçons sur les Maladies de la Moëlle," considers it probable that the combined degenerations of the spinal cord have a vascular origin, for the sclerotic changes are often found in the immediate neighborhood of the vessels of the posterior and lateral tracts, *i.e.* round the branches of the posterior spinal arteries. The direct pyramidal tract is not infrequently healthy, while the other tracts are involved; in such cases the lesion is limited to the territory of the posterior spinal arteries.

RHEUMATOID ARTHRITIS AND ITS RELATION TO SOME DISEASES OF THE GASTRO-INTESTINAL TRACT.

Dr. R. Llewelyn Jones published a paper in the *Liverpool Medico-Chirurgical Journal* of June, a part of which is taken up with this subject. In discussing rheumatoid arthritis and its relation to other diseases, it seems advisable to Dr. Jones (1) to take cognizance of those diseases which apparently are casually related to, *i.e.* share in the production of that symptom-complex which is termed rheumatoid arthritis; and (2) to ascertain the nature, if any, which appears to exist between rheumatoid arthritis and certain diseases, such as tetany, Raynaud's disease, and Graves' disease. Dr. Jones confined his attention to one group of the numerous diseases which are apparently etiologically related to rheumatoid arthritis—the gastrointestinal disorders.

The writer then referred to some cases under his care lately, and in which some obscure relationship appeared to exist between the primary gastrointestinal disorder and the succeeding rheumatoid arthritis. He based the assumption on the facts: (1) That the gastric disorder existed for some time before rheumatoid swellings appeared. (2) The onset of joint conditions was in all cases gradual, and not suggestive of microbic infection. (3) Certain prodromal symptoms were present in all cases before joint swellings appeared. (4) Any remission or exacerbation of gastric malady was correlated with a similar change in the joint conditions. The prodromal symptoms which supervened during the period intervening between the onset of the gastric malady and the appearance of periarthric swellings were of this nature, namely: (1) Recurrent attacks of local syncope and asphyxia in the extremities. (2) Muscular cramps, affecting mainly the muscles of the extremities, and in others, more widespread, involving muscles of the head and neck, and suggesting tetany. (3) Pains of definite lines of distribution. In some of the cases the muscular cramps were the most prominent symptom, in others the vasomotor phenomena, suggesting comparison with tetany on the one hand and Raynaud's disease on the other.

Dr. Jones argues that there is little clinical difference between a paroxysm of tetany with its attendant vasomotor phenomena and a paroxysm of Raynaud's disease with its associated muscular cramps. In fact, the writer is of the opinion that these superficial differences indicate a profound resemblance, as they are both probably dependent upon some similar underlying condition, *i.e.* a cerebrospinal toxæmia. Again, the tendency of these two diseases to develop along the same lines is notable. Periarthric swellings certainly occur in tetany, and Weiss and others have reported similar joint swellings complicating Raynaud's disease.

"Thus," Dr. Jones goes on to say, "in these three diseases, Raynaud's disease, tetany, and early rheumatoid arthritis, we find three sets of symptoms common to all—vasomotor phenomena, muscular cramps, and periarthric swellings—and the differentiation of them clinically depends upon the prominence of one or other of them." Therefore the author has been led to think that these three diseases may pass insensibly into each other as members of one family group, owning one common

parent origin, a cerebrospinal toxæmia. He believes, from a review of the pathological data afforded by the class of diseases known as "toxic scleroses of the spinal cord," that rheumatoid arthritis, like these chronic toxæmias in their later stages, tends to pass, into that gloomy region of medicine consecrated to system diseases of the cord. At first all its features are periodic and ephemeral, but later on, degeneration takes the place of functional nervous derangement.

With reference to the association of Graves' disease and rheumatoid arthritis, Dr. Jones published some time ago a series of fourteen cases of rheumatoid arthritis, showing in addition the four cardinal symptoms constituting the complete type of Graves' disease, the large majority of which cases there were as well in vasomotor phenomena and muscular cramps, while in one hæmoglobinuria was present. The author likewise gave a list of what appeared to be larval forms of Graves' disease coexisting with rheumatoid arthritis. After having pointed out that opinion as to the part played by the thyroid gland in Graves' disease is still divided, Dr. Jones gave it as his belief that when one sees this intimate fusion of these two diseases, one cannot refrain from asking oneself whether these two diseases when fused together are not extensions of one and the same morbid process, a cerebral spinal toxæmia.

The good effect of thyroid feeding in cases of rheumatoid arthritis is then referred to, but valuable as thyroid feeding may prove to be, the writer holds the view that it should not, if we consider rheumatoid arthritis to be in the nature of a toxæmia, allow us to be turned aside from the ideal line of treatment—radical, and if necessary, surgical treatment of any ascertained source of toxæmia.

Dr. Macalister, who read a paper on the same subject a short time ago, expressed opinions which, in the main, were the same as those of Dr. Jones, and pointed out that no source of chronic toxæmia, whether situated in the oronasal cavities or in the gastrointestinal, respiratory, or genitourinary tract, if recurrent local asphyxias and muscular cramps are met with, should be dismissed lightly, but rather these disturbances should be regarded as possible premonitory symptoms of rheumatoid arthritis.

With regard to the infective theory of rheumatoid arthritis, Dr. Jones does not believe that specificity can be claimed for one particular microbe, but is of the opinion that, given any source of autointoxication, the resulting toxæmia may, through its action on the cord segments, produce what is called rheumatoid arthritis.

Nervous School Children.

Dr. C. C. Krauskopf, assistant supervisor of the child study department of public schools of Chicago, has prepared statistics which show that one-third of the school-children of that city are afflicted with some form of nervousness, mild or aggravated. Some of the pupils examined exhibited signs of mental depression with a marked tendency to melancholia. Others presented choric symptoms. The prevalence of nervous disorders among children is attributed to the following causes: Strenuous city life; impure city atmosphere; the bringing up of children in flats, no relief from noise, day or night; lack of proper nutrition; late hours permitted by parents, and residence along cable and trolley car lines. The finding is based on statistics collected in every part of the city.

The announcement sounds a timely warning and calls for the earnest consideration of school authorities and parents. Undoubtedly a large part of the nervousness of the school-children is due to the peculiar conditions imposed by life in the city. From the hour he awakens until he goes to sleep at night, the average resident of almost any of the larger cities in this country suffers a severe strain upon his nervous strength. The process continues even when the victim is least conscious of it. Another factor in the depreciation of nervous health is found in the fact that in many homes the best and most nourishing foods are omitted from the daily bill of fare or are improperly cooked. Add to these hurtful influences a hard mental application required in the school-room, in an atmosphere often vitiated and amid the incessant rustle caused by the presence of many restive children, and we have conditions, Dr. Krauskopf believes, admirably adopted to produce a population of nervous dyspeptics.

There is an obvious need for the betterment of the living conditions, both in homes and in the public schools. School boards must recognize the fact that no amount of learning can fit children for the duties of life if they are to reach maturity with poor health and disordered nerves, and they must therefore take measures to insure better ventilation of school-rooms and protect the pupils against undue nervous tension.

Prevention of Postoperative Intestinal Paralysis.

Pankow recently made some comparative observations to determine the value of physostigmine as a preventive of postoperative meteorism. The observations were made at the Frauen Klinik in Jena (*Zentralblatt für Gynäkologie*, No. 31, 1904). All the patients were treated the same, and were given a rectal enema of plain water on the evening of the second day, or even earlier if troubled with gas. It was found that meteorism did not occur in any case within the first four hours after a laparotomy or the Alexander-Adams operation, but came on quite often after the vaginal operation within this same length of time. It was also observed that when intestinal adhesions had been present, the motor functions of the gut returned much earlier than in the other cases. The length of the operation or the narcosis seemed to exert no influence. In comparing the untreated cases with those treated with injections of physostigmine after the operations, it was found that very little difference existed, and no favorable influence could be ascribed to the drug. Pankow believes that postoperative paralysis of the gut may be largely prevented by the preliminary preparations and the handling of the intestine during the operation. If possible, the gut should not be turned out of the abdominal cavity. Patients are allowed full diet until noon of the day previous to operation. For supper on that day they are permitted only a plate of soup, and nothing is given the next morning unless the operation is delayed, when coffee is allowed. Purgation is not permitted. When obstinate constipation is present, caster oil (½ ounce) is given on the morning of the day before the operation. All patients receive a soap-suds enema the evening before operation. With these precautions

Pankow claims that the operation will not be interfered with by distended intestines and that the patients will be in better condition to stand operation.

THE -IC TIC.

Although several medical journals, including the official organ of our national medical organization, are given over to the *-ic* habit, or the sin of substituting the termination *-ic* for *-ical*, the ugly apocope is not patiently accepted by all medical writers and readers. We are not infrequently called upon for an opinion regarding this mutilation, and often urged to protest against it, and one American correspondent not long since appealed to the editor of the *British Medical Journal* for an opinion on this linguistic innovation. The editor referred the question to Dr. Henry Bradley of Oxford, whom he calls one of the highest authorities on such subjects.

Dr. Bradley, after discussing the reasons for bringing back the discarded *-al* in the formation of the adverb (as *pathologically*), says of the main question: "When there is a pair of related adjectives in *-ic* and in *-ical* they are usually in most contexts so precisely synonymous that the choice between them is left open, though usually one of them is more common than the other. But often there are certain particular contexts in which usage absolutely requires the one and not the other. In adjectives connected with the name of a science there is a tendency, by no means universal, to use the longer form to express the notion of 'pertaining to the science itself,' and the shorter form to designate things that are part of the subject matter of the science. Thus we prefer to speak of '*geologic* periods' but of 'a *geological* treatise,' '*Historical* works' are works treating of history; if we said '*historic* works' we should be understood to mean works which were themselves facts in the history of the race. If there is to be any yielding to what you describe as the American innovation of substituting the shorter for the longer form, I think it would be well to try to follow the lines of the existing distinction above indicated. That is to say, if we do use *physiologic*, let it be used only to mean 'forming part of physiology considered as a body of fact,' and let us continue to use *physiological* when we mean 'pertaining to the science or study of physiology.' Thus we might speak of '*physiologic* phenomena' but of '*physiological* treatises or theories.' Of course, very often the two meanings so run together that on this principle it would not practically matter which word was used. Still, I can imagine that the establishment of such a distinction might occasionally tend to lucidity. I am not particularly recommending the American practice; I am only suggesting a way in which, if it becomes prevalent, it might perhaps be turned to useful account."

There is, it must be admitted, a tendency in the English language to drop the final *-al* in all these adjectives—one no longer says diagnostical or characteristical, for example. And it must also be recognized that it is vain to oppose the corruption of language beyond a certain point, but it is not therefore necessary to accelerate the change by prematurely adopting such a cacophony as *chemic*. We may all be medic or surgic practitioners in time, but we hope not soon.

Genu Valgum.—The proper treatment is osteotomy in accordance with the rules laid down by Macewen and Schede.—ABERLE.

News of the Week.

The Seventh International Congress of Otology was held in Bordeaux, August 1-4, under the presidency of Dr. Moure of that city. Set discussions were had on "The Diagnosis and Treatment of Labyrinthine Suppuration" by Drs. Brieger of Breslau, v. Stein of Moscow, and Dundas Grant; and "Operation and After-Treatment of Otogenic Abscesses of the Brain" by Drs. Knapp of New York, Schmiegelow of Copenhagen, and Botey of Barcelona. The next congress will assemble at Budapest in 1908.

Hospital for Contagious Diseases in East St. Louis.—The Good Government and Improvement Association of Belleville, Ill., has appointed a committee to appear before the county board of supervisors and petition the board to supply a sufficient number of nurses for the contagion hospital. The committee will also urge the board to appropriate a sufficient sum to erect a contagion hospital at East St. Louis, so as to obviate the removal of patients from that city to Belleville to take care of the surplusage of patients from the county at large and for the special care and treatment of patients in East St. Louis. The association passed a resolution to assist the county financially in supplying nurses for the contagion hospital and also in erecting a contagion hospital at East St. Louis.

A Town Sued for Establishing Quarantine.—The Hoosac Valley Street Railway Company threatens to bring suit against Williamstown, Mass., alleging that the latter unlawfully quarantined North Adams and kept North Adams people out of the town because of the smallpox epidemic. The company claims its business was damaged several thousand dollars. The same action may be taken against Adams, but there the quarantine was not so strict. Officers mounted cars in Williamstown and prevented every one from landing in the town.

Sale of Carbolic Acid Restricted.—At a recent meeting of the Board of Health of New York City, the following amendment was made to the Sanitary Code: "No phenol, commonly known as carbolic acid, shall be sold at retail by any person in the city of New York, except on a prescription of physician, when in a stronger solution than 5 per cent."

Milk Sickness in Illinois.—The Illinois State Board of Health has instituted a systematic study of this disease which has reappeared after having, as it was believed, died out many years ago. Four deaths from milk sickness have recently been reported. It was formerly thought to be contracted by the ingestion of the flesh or milk of cows with the "staggers."

Dr. Thomas E. Bamford, who has been chief of staff at the Hudson River State Hospital for a number of years, has resigned his position, to take effect October 1, and will engage in general practice in Syracuse.

Inspector of Contagious Diseases Appointed.—As a result of the typhoid epidemic in the Bronx, a new office has been created by the Board of Health, the incumbent of which will be known as "Chief Inspector of Contagious Diseases in the Bronx." Dr. Charles F. Spencer was appointed to the office. He will make his headquarters at 168th street and Franklin avenue.

Another Ambulance Wrecked by a Car.—As an ambulance of the Bushwick Central Hospital, Brooklyn, was passing along Reid Avenue to answer a call on Saturday evening it was run down and wrecked by a trolley car. In the ambulance, besides the driver, were Dr. Huyser and a policeman.

All were thrown out. The driver was the worst injured; two of his ribs were broken. Both of the others, however, were cut and bruised. Dr. Huyser dressed the driver's hurts and attended to the policeman, whose wrist was sprained, and then went to the hospital to have his own hurts attended to. This is the fourth or fifth accident of the kind which has occurred in this city within a year.

Copper as a Germicide.—The chemist of the Department of Agriculture is experiencing the lot of all great personages in failing to receive honor in his own home. According to the newspapers, he has purified the water supply of very many cities and small towns in this country by swinging a bag of blue vitriol in the reservoir, but now that Washington itself is threatened with a typhoid-fever epidemic, the health officer will not permit its water to be impregnated with copper salts, and the agricultural chemist is in despair.

Sydenham Hospital Charges Dismissed.—The State Board of Charities has dismissed the charges against the trustees of the Sydenham Hospital, of New York, on the grounds that the institution, not receiving any public funds, is not under its jurisdiction. It has been suggested to the complainants that the conditions complained of can be corrected through the Supreme Court.

Boorish Treatment of Scientists.—The Society of Chemical Industry, which met in international session in this city last week, was entertained by the local chemists at a banquet at which it was expected that the Mayor of the city would be present to welcome the visiting scientists. But that functionary neither appeared himself nor sent any one to represent him. The present mayor, unlike some of his predecessors, knows what is decent in the matter of human intercourse, and so his snub to the distinguished visitors cannot be excused on the score of ignorance.

Dr. William Lord Smith of Worcester, Mass., according to a report from that city, has received the honorary appointment of physician in ordinary to the Shah of Persia. Dr. Smith, it is said, was caught at Ispahan during an outbreak of the plague. He was detained much against his will in quarantine, and while on his enforced visit prescribed for the natives with great success. About this time the Shah came down with malaria, and hearing of the wonderful American and his marvelous cures, sent for him. The invitation was a command, and Dr. Smith made the 210-mile trip on a camel. He cured the Shah and the G. P. made him physician in ordinary and urged him to remain at the court permanently.

First Aid Pupils Save a Life.—Two policemen found a man who is a pipe fitter for one of the gas companies, sitting motionless at the bottom of a street excavation, his head bowed upon his breast. One of the policemen leaped down and passed the man up to the other. The man was unconscious but the policemen applied artificial respiration until an ambulance from Roosevelt Hospital arrived half an hour later. The man was finally resuscitated, and the ambulance surgeon told him he owed his life to the policemen.

Gift to St. Luke's Hospital, Chicago.—According to the will of Mrs. J. H. McVicker, $10,000 will be given to this institution.

Drs. B. B. Griffith and James L. Taylor were recently appointed members of the Springfield, Ill., Board of Health.

Dedication of Washington Park Hospital.—A hospital bearing this name, located at 6010 Vincennes avenue, Chicago, was formally dedicated September 5. The staff includes Drs. John B. Murphy, Frank Billings, Archibald Church, Wm. A. Evans, and Alfred Hakanson. The chief of staff is Dr. C. O. Young.

Dr. Follen Cabot, Jr., of New York has been appointed genitourinary surgeon to the City Hospital.

Duty on Radium.—An appeal against the assessment of a 25 per cent. ad valorem duty on radium was argued a few days ago before the United States general appraisers by Hugo Lieber, a chemist of this city. Radium has been assessed the duty named, as a chemical compound, but Mr. Lieber took an appeal from the decision on a recent importation, contending that it should be entered free as a crude mineral.

The New York State Veterinary Medical Association held its fourteenth annual meeting in Brooklyn on September 13, 14, and 15. The meeting was largely attended. The following officers were elected for the ensuing year: *President*, Dr. George H. Berns of Brooklyn; *Vice-President*, Dr. Charles Corvie of Ogdensburg; *Secretary-Treasurer*, Dr. William Henry Kelly of Albany.

Rabies in Ithaca.—Health Officer Crum of Ithaca, N. Y., has asked help from the State Health Department to control a threatened epidemic of rabies which has been developing there for the last two weeks. A mad dog ran amuck through the city some time ago, and bit many other dogs before he was caught. Several persons have also been bitten by supposed rabid dogs, but as yet no case of human rabies has been reported. Inoculation experiments showed that the dog, with which the epidemic is believed to have originated, was suffering from virulent hydrophobia.

A Case of Alleged Maltreatment in a State Hospital.—A Coroner's jury of eight physicians and four laymen in the inquest to determine what led to the death of a patient in the Manhattan State Hospital, May 1 last, has returned a verdict that the man's injuries were not self-inflicted, and has recommended that an investigation be made by the Grand Jury. An autopsy performed on the man's body soon after he died disclosed the fact that eight of his ribs were fractured, that both of his eyes were blackened, and that he had contusions on various parts of his body.

Obituary Notes.—Dr. Edward Payson Buffet of Jersey City died of disease of the heart on September 9, in his seventy-first year. He was born at Smithtown, Suffolk county, L. I., on November 7, 1833. He was graduated from Yale in 1854 and from the College of Physicians and Surgeons in this city three years later. He moved to Jersey City in 1858. He was for many years a visiting surgeon at Christ Hospital and surgeon at the City Hospital.

Dr. William L. Buechner of Youngstown, Ohio, was killed on September 10, by being thrown over an embankment in a runaway accident. He was a graduate of the Medical Department of Western Reserve University, Cleveland, in 1885.

Dr. John L. J. Gormly of Brooklyn died on September 6, of disease of the heart, at the age of twenty-nine years. He was graduated from the Long Island College Hospital in 1897.

Dr. John T. Brosnan of Brooklyn died at his home in that borough on September 9. He was a graduate of the Bellevue Hospital Medical School in 1893.

Dr. John Lyle Campbell, dean of the Wabash College faculty, died at his home in Crawfordsville, Ind., on September 7. In 1868 Dr. Campbell, conceived the idea of celebrating the centenary of American Independence and wrote Mayor McMichael of Philadelphia concerning it. The suggestion was taken up and resulted in the Centennial Exposition.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SCIENCE AT CAMBRIDGE—THE NERVOUS SYSTEM—PLAGUE—HELMHOLTZ'S THEORY—PROPERTIES OF MIXTURES—HEREDITY AND VARIABILITY OF SPECIES—DEGENERATION—RADIOACTIVITY.

London, August 26, 1904.

The Scientific Congress has come to its close. Mr. Balfour presided at the final meeting and the members have dispersed. A great amount of work was got through, as only a few items will show. Professor Sherrington opened the section of physiology with an address on three points of view from which the science studies the nervous system. First, its processes of nutrition, which can be followed in nerve cells as well as in others, but nerve cells have certain specialized functions, such as the power to transmit excitements. This power, which is called conductivity, is the object of the second problem. The third is the way in which by this conductivity the cells and units of an animal are welded into a whole, forming from a collection of organs a single animal. It was this last point to which the president directed the chief attention of the section.

To this section belongs the credit for industry, as on Saturday, when the others were dispersed over the neighborhood in search of recreation, the physiologists stuck to work all the morning, when Dr. Hankin gave his reasons for holding that the plague in India in 1896 was spread by fakirs on their way to the festival at Nassik from Garwhal, where it was endemic, and other outbreaks were probably produced in the same way. Dr. Hankin considered fleas, which are always at home on these fakirs, as the direct agent of communication.

Dr. C. S. Myers read a paper on the recent development of Helmholtz's Theory of Hearing. A pure tone sounding in a series of wires, set in vibration not only the wire attuned to that rate of vibration, but also others which were its simple multiples, thus giving an explanation of the resemblance of a note to its octave, and next to that the fifth, and after that the fourth. Assuming this, it explains the fact that two notes of nearly the same rate of vibration reinforce each other, producing a fused sensation of an intermediate tone, but if the rates of the two tones differ more the resulting fused sensation is discordant.

In the Chemical Section Prof. Sydney Young's presidential address was a review of the state of our knowledge of the properties of mixtures. He outlined the methods of investigating the behavior of liquids when mixed together as to (*a*) their miscibility, infinite, partial, or inappreciable; (*b*) the relative volumes of the mixture and its components; (*c*) the heart evolved or absorbed.

The Zoological Section, from all one hears, seems to have been the most successful. The president, Mr. Wm. Bateson, F.R.S., opened it with an address, the "facts of heredity and of variability of species as exhibited by the practical examination and experiment of breeding." He said the breeding was to the zoologist what the test was to the chemist. Darwin's work brought the origin of species within the grasp of our intelligence, but as his theory required the lapse of enormous periods of time men turned their attention to investigations within the limits of human life. After examining the theories of De Vries, Mendel, etc., the president said nature seemed to exercise selective operations as potent as those which man employed in breeding experiments. The corollary to Virchow's aphorism that every living cell sprang from another, was that every variation from the type is "founded on a pathological accident." He then stated the limitations of the knowledge of heredity, and added there are those who look to it with lofty aspirations and ask if the science can be used to make those who come after us healthier, wiser, or more worthy. "The answer," he said, "is No, almost without qualification. We have no experience of any means by which transmission may be made to deviate from its course; nor from the moment of fertilization can teaching or hygiene or exhortation pick out the particles of evil in that zygote or put in one particle of good. Education, sanitation, and the rest are but the giving or withholding of opportunity." You will not be surprised after this that the debate on heredity fixed for the next day was most animated. The battle, for so the discussion is spoken of, has in fact been fought before, e.g. at the Linnean Society—but scarcely with the intensity with which it was waged at Cambridge. In fact, the debate is declared by many to have been "the big thing of this year's meeting."

In the Anthropological Section Mr. Balfour took part in the debate on degeneration, and asked how would medical men analyze the effects of town life? Food was better than it used to be, education better; where is the difference between workers in town and in country? Was it a question of ventilation in the home or air in the streets? If theories of heredity were true, only processes of elimination could affect the race, but the tendency was for families to become smaller among the well-to-do. Everything which opened every career to everyone of ability tended to the deterioration of the race. Permanent causes could not be affected in a life-time by legislation. Dr. Shrubsole said city life tended to eliminate tall, fair-haired, and leave townspeople with dark and red-haired people.

In the Mathematical and Physical Section radioactivity was the subject of a discussion from which much was expected but scarcely realized, and the president (Professor Lamb), in summarizing, observed jocosely that enough had been said to suggest that "one speck of radium makes the whole world kin." The discussion, however, was memorable from the acceptation by Lord Kelvin of the disintegration of the atom as the cause of radium activity—a theory which last year he opposed.

At the closing general meeting of the association Mr. Balfour again presided. One thousand pounds was granted for research by sections. Arrangements were announced for next year's meeting in South Africa. Prof. George Darwin of Cambridge has been elected president for that meeting.

AN OLD-TIME DOCTOR.

To the Editor of the Medical Record:

Sir: I saw awhile ago, in the Medical Record, a short sketch of an old-school doctor, and thought perhaps you might like to hear of another.

Dr. Ezekiel Skinner was born in Glastonbury, Conn., June 27, 1777. His mother died when he was five years old, and his father when he was ten. Thus early an orphan, he was consigned to an uncle, who, when he had reached a suitable age, apprenticed him to the trade of a blacksmith. But all his father's family having died of consumption, he resolved to study medicine and see if he could find some way to arrest the disease. He bought the last year of his apprenticeship and spent it in attending school. He then commenced the study of medicine under the direction of Doctor, afterward Governor, Peters of Hebron, Conn., where he remained three years. He then obtained the means for going to Philadelphia to complete his medical studies with Dr. Rush. He received his license to practice medicine in 1801, and was married the same year. He first settled as physician at Granville, Mass. Ian MacLaren's description of the doctor of Drumtochey would answer for this man. In 1812 he enlisted as a soldier in the war, but his medical worth was soon discovered and he was transferred from the ranks to the hospital.

One of his sons went as missionary to Africa, contracted the fever prevalent in that climate, and died on the voyage, while trying to reach home. His father said he *knew* he could cure that disease, and although then sixty years of age, he left a good practice to go to Liberia. He took the fever, but had it lightly. On his arrival at Monrovia, being very weary, he retired early, but before getting to sleep a messenger called where he lodged, and asked for the new doctor, saying a man in the neighborhood was very ill and could not live till morning, unless relief was procured; that his physician had given him up to die. He was told that the doctor had just arrived, had not passed through the acclimating process, and his life would be endangered by going out in the evening air. But Dr. Skinner, hearing the conversation, rapped on the floor and directed them to detain the messenger till he could dress, and he would go under his guidance to see the patient. His going was the means of saving the life of the man, who was very sick and, in addition, suffering from malpractice. The patient was George Pinney, afterward Governor of Liberia. Dr. Skinner remained there about three years, and for some time was acting governor of the colony. As a student under Rush, he imbibed many of his opinions, and for the cure of many, if not most, diseases relied mainly upon calomel and the lancet. Predisposed from his youth to consumption, afflicted repeatedly with hemorrhage of the lungs, he reduced arterial action by free use of the lancet, bleeding himself one hundred and seventy-five times. He was ardent, frank, cheerful, and light-hearted, and utterly fearless in the discharge of duty. He was a bold and skilful surgeon. An incident will illustrate his courage and the impetuosity of his character. While still a student, his preceptor came into the office one day and remarked, "Old Martin must die of apoplexy because we cannot get blood from him." Springing to his feet, Dr. Skinner exclaimed, "God Almighty never made the man I cannot get blood from."

and immediately went down to old Martin's house, and opened the jugular vein, got blood freely, and the patient recovered.

Near the time for his return to this country, from Liberia, Dr. Fuller, a very eminent surgeon, in company with another, remarked that he had just come from a patient suffering with a tumor, but that it was so connected with a main artery, that he did not care to encounter it, and that he did not know of any one who would have the courage to undertake the necessary operation but Dr. Skinner, and that he is in Africa. Soon after, Dr. Skinner, who had just arrived from Liberia, came in, and Dr. Fuller after greeting his friend, told him of the case, and although he had just landed in New York and was on his way to see his family after a long absence, he immediately took the stage for Middletown, found the case as described by Dr. Fuller, performed the operation with entire success, and returned home the next day.

In April, 1855, Dr. Skinner went to Greenport, to live with his son, Dr E. E. D. Skinner, where he gradually declined, though he did not desist from active service till two weeks before his death. He died on December 25, 1855, aged seventy-eight years. His son died many years ago. Two medical grandsons are living, Dr. E. D. Skinner of Mineola, and Dr. B. D. Skinner of Greenport, L.I.

One Who Knew the Old Doctor.

Progress of Medical Science.

The Boston Medical and Surgical Journal, September 8, 1904.

Spindle-cell Sarcoma of Foot, with Lung Metastases.—Charles L. Scudder relates the history of this case. The patient was a man about twenty-two years old. In April, 1903, he fell down stairs, twisting the right foot. He used crutches from the time of the accident. In July he complained of a dull, throbbing pain in the foot. An incision was made into the sole of the foot, and a large quantity of apple-tapioca-pudding-like material mixed with blood was evacuated. The material was examined, with a report of sarcoma. On August 5 the glands in the groin were removed. They were not found to be malignant. On August 8 the leg was amputated eight inches below the tuberosity of the tibia. The diagnosis of the disease was spindle-cell sarcoma. The growth apparently originated from the muscles and tendons. The patient caught cold in November, and suffered from a severe cough. He died December 20. Autopsy revealed sarcomatous metastases of the lungs. A case of spindle-cell sarcoma originating in the soft parts of the sole of the foot, is extremely interesting. The interval between the time of the accident and the death of the patient was only eight months. The writer believes that exploratory incision into malignant growths is unwise. He declares that the question may be raised in this case: Did the incision into the sole of the foot, with subsequent curetting and laceration of the veins, contribute in any way to the metastases? He concludes by saying that a very thorough examination of the body of any individual with sarcoma of the extremities should be made, to determine if possible, the existence of metastases before any radical operation is attempted.

The Interrelation of Medicine and Surgery in the Treatment of Gastric Ulcer.—Hugh Cabot and George S. C. Badger call attention to the fact that but a comparatively short time ago, gastric ulcer, both in its acute aspects and in its chronic complications, was regarded as a purely medical disease. It is admitted that the acute and subacute varieties of dyspepsia and acute gastritis are distinct medical conditions, and are not likely to have any relation to surgery. On the other hand, perforating ulcer of the stomach has long been a distinct surgical condition in which surgical intervention offers the only hope of cure. Acute attacks of hemorrhage from the stomach due to gastric ulcer are nearly always to be treated medically. The hemorrhage can generally be controlled by rest, morphine, and nutrient enemata. But there are cases in which the hemorrhage can be controlled only by surgical measures. Recurrent hemorrhage is particularly characteristic of gastric ulcer. It occurs in a large number of cases. Chronic ulcer, however, may exist for years without symptoms. The writer speaks of several classes of chronic ulcer. The first which he considers includes cases of severe chronic dyspepsia without marked dilatation of the stomach. In many cases medical treatment is indicated, but there are those in which only surgical treatment will avail. A certain number of cases, at first apparently of chronic dyspepsia, will after a while show the condition known as hour-glass stomach. Diagnosis can be made only when there is a distinct constriction forming two or more pouches. These cases should be operated on before they have developed into true hour-glass stomachs. More work must be done in this field, before the physician can always feel sure of his diagnosis. Then, again, there are the cases of chronic dyspepsia accompanied by dilatation of the stomach. If this is atonic dilatation, medical measures will suffice. If the case, however, resists medical treatment, exploratory operation is justified. As to the relation between the physician and surgeon in regard to these cases, neither alone can do justice to his patient. All stomach cases are at first in the province of the medical man, but many of them become surgical. The two must cooperate intelligently, if the best results are to be attained. The writers sum up the indications for surgical treatment as follows: (1) Perforating ulcers of the stomach. (2) Bleeding ulcers in which the hemorrhage either cannot be controlled by medical means, or, having been controlled, tends to recur, thus placing the patient's life in immediate danger. (3) Cases with a long history of dyspepsia culminating in hemorrhage, after the hemorrhage has been controlled by medical means, and the patient put in proper condition for operation. (4) Cases of intermittent recurring hemorrhage which, though individually small in amount, tend by their persistency to produce a profound anæmia. (5) Cases of chronic dyspepsia without dilatation, which fail to yield to proper medical treatment. (6) Cases of chronic dilatation of the stomach which fail to yield to medical treatment and are not due to a general visceral ptosis.

Journal of the American Medical Association, Sept. 10, 1904.

Menorrhagia in Typhoid Fever.—William Himmelsbach reports the history of a woman, thirty-five years old, with a temperature of 102.5°F. and a history of bronchitis, vomiting, and general malaise. In a few days the case was diagnosed typhoid fever. On January 20 there was a profuse uterine hemorrhage; prior to this the temperature was 103.5° F., shortly followed by a drop to 100° with subsequent rising. Bimanual examination excluded any lesion, and close questioning, and absence of characteristic odor eliminated the menstrual flow. Efforts to check the flow were futile, but, after two days, it ceased spontaneously. About the twentieth day the temperature declined to 100.2° F. and suddenly, preceded by a chill, went to 104° F. The lower lobe of the right lung was found to be pneumonic. It took the usual course and the patient was discharged some six weeks later.

The Anatomy and Radical Cure of Inguinal Hernia.—Daniel N. Eisendrath, after considering the anatomy of inguinal hernia, mentions all of the methods briefly to show how different surgeons have striven independently of each other to remedy the defects of the Bassini operation. His conclusions are as follows: In the normal inguinal canal the anterior wall is relatively stronger than the posterior. This condition is exaggerated in inguinal hernia so that the larger the hernia the greater the muscular gap between the arching fibers of the internal oblique and Poupart's ligament. In the smaller herniæ almost any of the modern operations, either with or without transplantation of the cord, will suffice. When the muscular gap is marked some method must be employed in which a strong aponeurotic structure is used to fill the gap. The Andrews modification of the Bassini operation, by utilizing a portion of the external oblique aponeurosis as an additional layer in the posterior wall of the canal, gives the latter great strength. The majority of surgeons believe best results are obtained by not transplanting the cord. It is still an open question whether or not the veins should be resected.

The Pelvic Ureteral Sheath; Its Relation to the Extension of Carcinoma Cervicis Uteri.—John A. Sampson states that the pelvic portion of the ureter is surrounded by a sheath which is apparently derived from the tissue along or through which the ureter passes, and owes its origin to the peristaltic movements of the ureter, thus causing intermittent pressure on the surrounding tissue. Near the bladder the ureter is reinforced by muscle bundles, some of which apparently come from the bladder, while others are apparently derived from the outer coat of the ureter. These muscle bundles also form a sheath about the ureter, with which the sheath previously referred to fuses. The formation of a sheath about the abdominal portion of the ureter is very imperfect and in places apparently absent, which may possibly be explained on the ground that the surrounding tissue is loose and offers little resistance to the contractions and expansions of the ureter. The inside of the sheath is filled with adipose tissue and fine strands of connective tissue in which are imbedded vessels. While this sheath protects the ureter from the invasions of inflammatory processes and new growths, at the same time the local thickening of the sheath may interfere with the function of the ureter, thus giving rise to hydroureter and renal insufficiency, and predisposing to kidney infection and helps form the thickened ureter found in cases of ureteritis. The ability of the ureteral

sheath to resist the invasion of carcinoma depends more on the nature of the growth than any quality of the sheath. The sheath is of importance in operations in the pelvis, for if the integrity of the sheath is preserved, that of the ureter is assured.

[*Medical News*, September 10, 1904.]

The Gastrointestinal Crisis of Erythema Exudativum Simulating Appendicitis.—A. M. Pond believes that gastrointestinal crises in erythema exudativum are a very important and quite a constant symptom. Osler accounts for these crises as being "probably due to localized œdema of the gastrointestinal walls," and classes these cases with those of angioneurotic œdema in which colic is such a prominent and constant feature. The writer gives the history of an interesting case of this nature. He believes that great caution is necessary in making a diagnosis of these cases which present the acute characteristic paroxysms of colic, attended by vomiting rapid pulse, a tender abdomen, with perhaps a tumor, with either a spasm of the abdominal recti muscles, or in the later stages, a condition of abdominal rigidity. Although these symptoms may appear typical of involvement of the appendix, or of other abdominal viscera, operation should not be decided upon too hurriedly. The family history must be carefully studied in relation to skin, joint, or kidney lesions. And both blood and urine examinations must be made. If the gums are spongy, bleeding easily; if there are joint symptoms, or areas of angioneurotic œdema with hyperæsthesia, an early operation is not to be recommended, unless the blood count shows a rapidly increasing leucocytosis. The examinations should be made hourly, and the increase be distinct before operation is undertaken.

Influenza in Children.—Kenneth E. Kellogg declares that influenza oftentimes runs a more protracted course in children than in adults. Besides affecting the nasal mucous membrane, the bacillus of this disease wanders into many tissues of the body. It is probable that the catarrhal symptoms are due to the presence of the bacillus itself, and the immediate effects of the toxin are shown by symptoms directly referable to the cerebrospinal center. The remote effects are seen in the lowered tone of the nervous system, and other tissues, the patient being thus in a condition in which he cannot easily resist disease. Several types of influenza have been described, such as the nervous type, the gastrointestinal type and the respiratory type. Often, there exist combinations of these types, making the various phases hard to recognize. The catarrhal symptoms are in a measure characteristic of the disease. The fever is strikingly irregular. One type of the disease stimulates typhoid fever. In the nervous type the child is peevish and irritable, while the prostration is out of proportion to the other symptoms. The gastrointestinal symptoms are vomiting and diarrhœa. Purpura often occurs, and so may œdema. The mastoid process is often involved. Acute dilatation of the heart has been noticed. Nephritis is a rare complication. A fairly common symptom is a pseudopertussis cough. The diagnosis of influenza is generally arrived at by the process of exclusion. The serious nature of this disease requires prompt and constant attendance. Cases should be isolated, on account of the communicability of influenza. If the attack is severely toxic, elimination should be stimulated. Hydrotherapeutic measures should be tried. Phenacetin is preferable to opium to allay the nervous and muscular manifestations. No measures which tend to depress the nervous system should be used. The use of strychnine is valuable. Local treatment for the nasal symptoms in the form of a saline spray is beneficial. Subacute cases are often helped by change of air. Good hygiene. The rules of hygiene should be carefully observed. Finally, the writer emphasizes the great value of prophylaxis in relation to this disease.

An Analytical Study of Twenty-eight Cases of Arthritis, with Special Reference to Gout and Its Treatment.—Charles C. Ransom calls attention to the relatively large incidence of gout which he has noted in twenty-eight cases of arthritis carefully studied by him. These cases were selected from 415 general medical cases admitted to the hospital during the months of November, December, and January of the last year. Of these twenty-eight arthritides, twelve, or 43 per cent., were gout, this being 2.89 per cent. of the total number of cases admitted. Five of these were acute podagra, while the other seven were of the chronic type of the disease. The acute cases were all classic, beginning in the metatarsophalangeal joints of the great toes with swelling, redness, and pain, which were more severe at night. A sharp initial fever was also present. These symptoms all quickly subsided under the administration of colchicum. A review of the seven cases of chronic gout shows, with possibly two exceptions, that there was no mistake in the diagnosis. The high percentage of gout cases found in this series by the writer is surprising, on account of the general idea held by observers that the prevalence of gout in this country is less than in Great Britain and Europe. Just as surprising, however, is the relatively small number of cases of rheumatic arthritis found among this series of hospital cases. Only 18 per cent. of the total number were of this class. Of these five cases, four were acute rheumatic arthritis, and only one, chronic rheumatism. There were five cases of gonorrhœal arthritis, or 18 per cent. of the total number of cases of arthritis. Only one case of septic arthritis, or 3.5 per cent., appeared, while there were two cases of erythromelalgia. Two doubtful cases were noted. There was one case of arthritis deformans in a female. As to treatment, a milk diet was ordered for the cases of gouty arthritis. The joints were painted with a mixture of oil of gaultheria, one drachm, and ichthyol, one ounce. The joints were then wrapped in cotton wool, over which rubber protective or oil silk was held in place by a roller bandage. Colchicin, $\frac{1}{100}$ of a grain was given every two hours. If this affected the bowels, it was given at longer intervals. As a rule, the inflammation and pain were controlled within forty-eight hours. After the subsidence of the acute symptoms, the drug was given every four hours. In the chronic cases, the same method was used, if there was inflammation present. Massage was employed in the case of stiff joints, and the patients were directed to use the joints as much as possible. A simple apparatus, called a "teeter" was also employed, by means of which the patient, while sitting in a rocking chair, is able to exercise the knee and ankle-joints. The writer has also found the ichthyol bath of service in chronic cases. Massage precedes the bath. Tonics are given as required. In acute rheumatic arthritis, besides the milk diet and the joint treatment, salicin is administered. Rheumatic joints should not be put in splints. In gonorrhœal arthritis, irrigation and local application of silver nitrate to the urethra are valuable. Good food and tonics should be used in arthritis deformans. Static electricity is beneficial, also, as well as the ichthyol bath.

New York Medical Journal, September 10, 1904.

Diagnosis of Influenza and Articular Rheumatism.—Max Talmey gives the typical symptoms of both these affections, and points out the fact that the two diseases seem so well-defined that they could hardly be confounded. Yet if the so-called "rheumatoid" form of influenza and the cardiac complications be considered we find that influenza may present a picture similar to and difficult to distinguish from acute rheumatism. In both diseases we have the main symptoms, fever and the involvement of the joints and heart. The character of the fever and heart affection may be alike in both, but the affection of the joints affords us differential points. In rheumatism the joints are swollen, red, and hot; in influenza they are not. In rheumatism the seat of pain is in the joints themselves, while in influenza it is in the muscles and their attachments. Slight passive motions in the joints considerably increase the pain in rheumatism; but very little, or not at all, in influenza. Other differential points are the spontaneous sweats and the family predisposition in acute rheumatism, while in influenza we have the protracted convalescence with nervous heart disturbances.

The Treatment of Mucomembranous Colitis by Colostomy.—John M. Elder reports a case which is interesting by reason of its long duration, notwithstanding careful medical treatment, and the apparently complete cure obtained as the result of surgical interference. He also gives a retrospect of the literature on this subject, showing the marked advance made in this special line of surgery. From left-sided inguinal colostomy a step was made when the whole colon was put at rest by an operation done on the right side, and this seems to be the better operation. The Kader-Gibson and Weir methods are ingenious ways of affording means to irrigate without inconvenience to the patient, permitting him to continue his occupation and promising a cure. The Weir method can readily be seen to be applicable only to those cases in which the appendix is freely movable and is long enough to be brought to the surface and utilized as a drainage tube. The older and oft tried method of right inguinal colostomy seems to suit well in the majority of cases, and when we consider that nearly all the patients presenting themselves are chronic invalids, the six weeks or so necessarily spent in hospitals when the fistula is opened is by no means too long a period in which to obtain relief from a condition which often has existed for nearly as many years.

What Can Be Done to Check the Progress of the Age Degenerations?—Bradford C. Loveland calls attention to the degeneration of arteries and arterioles or capillaries incident to advancing years and imperfect elimination.

When we consider that apoplexy, paralysis, most senile conditions affecting the brain and nervous system, Bright's disease and diabetes, senile gangrene, angina pectoris, and many other conditions are dependent upon this as a fundamental cause, a considerable majority of all deaths occurring after middle life may be charged to the account of degenerated arteries. He concludes that the etiology of arteriosclerosis may be narrowed down to one of poisoning and the elimination of toxic material; consequently it is logical to suppose that after the removal of the cause the progress of the disease will be arrested. He relates three cases in which there was not only a limiting of the process, but relief from certain symptoms which had been present for some time, and in a certain degree an improved circulation in the parts supplied by the diseased blood-vessels. This improved circulation might result in absorption of the thickenings which had narrowed the lumen of the vessels or a bettered general circulation. It seems natural to suppose that a mode of living which will result in so much improvement should, if persistently adhered to, prevent death from this cause, and that an improvement so lasting would involve actual improvement in the tissues.

American Medicine, September 10, 1904.

The Early Recognition and Treatment of Intestinal Obstruction.—Andrew Stewart Lobinger sums up as follows the symptoms in intestinal obstruction, which appear early and which are our principal dependence in diagnosis: Obstipation, vomiting persisting more than fifty hours, pain, more or less severe and constant; shock or collapse, meteorism, of localized character; normal or subnormal temperature; a rapid small pulse and a leucocytosis between 15,000 and 20,000, with a strong reaction of indicanuria if taken before the third day, and the ileum is involved. Besides these symptoms, it is most valuable in relation to diagnosis, to give the closest scrutiny to the past history of the patient. Oftentimes, such an analysis will yield an immediate and correct diagnosis. Constricting bands or adhesions may be present as the result of various conditions. Gibson found in 1,000 cases in which operation was done for acute intestinal obstruction, that bands were the cause of the obstruction in 186 cases. The hernial openings must be carefully examined. Late operative interference is the principal cause of mortality. A surgeon should be consulted at the very beginning of the trouble. When vomiting is an early and depressing symptom, gastric lavage will do much to rest and quiet the patient. But this tranquility is sometimes deceptive, and vigilance should not be relaxed. Only a very thorough evacuation of the bowels, with general subsidence of characteristic symptoms, should be reassuring. Simple release of the constricting band will often suffice if the patient is seen before serious necrobiotic change occurs in the gut However, if destructive changes have taken place, it will be a question of judgment whether immediate exsection of the gangrenous segment and anastomosis shall be accomplished, or simple suture to the abdominal wall and enterotomy shall be done. If the patient is too weak for prolonged anæsthesia, then a primary enterotomy, establishing an artificial exit for the gas and intestinal contents, will prove safer. An anastomosis can be made later. Every effort should be made to support the patient, and to prevent further shock. The greatest care should be observed in all the details of technique in order to avoid future complications.

Pathogenesis of Chronic Gastric Ulcer.—W. G. MacCallum states that a satisfactory explanation of the chronic progressive ulcer has not yet been attained in spite of the numerous researches that have been made by various investigators. As early as 1855, Virchow stated that he believed that the condition is essentially due to the disturbances in the circulation of the stomach—embolism, thrombosis, arteriosclerosis, aneurysm formation. In other words, any change which might result in the cutting off of the blood supply from a part of the stomach could cause the death of that part and its subsequent digestion. Müller produced ulcers by causing a chronic venous congestion by tying the portal vein. Axel Key believed that spasm of the muscles produced a passive venous congestion and favored ulcer formation. Talma stimulated the vagi, thus producing hemorrhagic erosions. He thought that this was due to the infarction and digestion of parts of the stomach rendered anæmic by the violent muscular contraction set up by this means. Many authorities have explained the genesis of the ulcer on the grounds that mechanical, chemical, or physical influences have destroyed the tissue. Rasmussen holds that the chronic ulcers may often be traced to the pressure on the stomach from tight lacing. Leube and Decker have noted cases in which burning the mucosa with hot food will cause ulceration. It is difficult to explain the persistence of the round ulcer, especially on account of the remarkable power of healing which characterizes the walls of the stomach. Writers are unanimous, however, in speaking of it as a peptic ulcer. The writer concludes by saying that gastric ulcers may be produced by anything which causes necrosis of the mucosa of the stomach, and thus subjects it to the digestive action of the gastric juice. While certain cases may be explained in their origin by one or other of the causes given, there are others whose inception is obscure. The persistence of some of these ulcers offers the greatest difficulty of explanation, and none of the theories is satisfactory. Perhaps the majority of gastric ulcers do heal, however, and are recognizable later only by the scars they leave, so that possibly Talma is right in saying that all ulcers tend to heal, but that frequently they last a long time, because new ulceration occurs in the same spot.

Deutsche medizinische Wochenschrift, August 25, 1904.

Removal of Urates and the Joint Capsule from the Gouty Toe.—Riedel believes that very good results attend this method of treatment, although he has had the opportunity to try it in but two cases, for the disease rarely ever comes within the scope of surgical treatment. In the first case, an operation was undertaken for what was believed to be a suppurative arthritis of the great toe. The incision revealed a joint filled up with urates, which were cleaned out and the thickened capsule removed. The patient made an uninterrupted recovery and remained free from joint symptoms until his death twelve years later from some other disease. The second patient was a woman of seventy, who was similarly operated upon and remained well until her death six years later from aortic stenosis. The writer admits that this procedure is only applicable to cases in which the gouty process is localized; when it is general the usual therapy must be employed. In doing the operation it is well to leave the wound wide open, and simply pack it.

Acute Pancreatitis with Recovery after Laparotomy.—Wiesinger reports two cases of this disease with disseminated fat necrosis, which have remained cured after operation for a period of over a year. In both of these cases the prodromal symptoms consisted of digestive disturbances, which were followed by severe epigastric pain, repeated vomiting, lack of stools and flatus, alternating with profuse diarrhœa. The diagnosis was not made until the laparotomy disclosed areas of fat necrosis scattered through the abdominal cavity. This affords a conclusive symptom, and when found, the blood stained serum should be evacuated, the bursa omentalis drained, but the abdominal contents should be disturbed as little as possible. In both of these cases there was no sloughing of the pancreas. The author thinks that operation is always indicated and should, if possible, be done without a general anæsthetic. In one of the writer's cases, a second laparotomy undertaken for another purpose, a year later, showed that the necrotic areas had entirely healed.

The Spontaneous Cure of Cancer.—R. Borrman discusses the statement made by a number of observers that the giant cells in carcinoma of the skin must be looked upon as part of a curative process. He himself has examined 265 cases, which he intends to report on shortly in another periodical. His observation agrees with those of the other investigators, but he considers that they have placed a wrong interpretation on their findings. He thinks that the giant cells may possibly be formed around foreign bodies, but that they do not surround living cells, particularly proliferating tumor cells. A spontaneous cure could be thought of only if the latter condition took place and the tumor cells were destroyed. This, however, does not occur. In rodent ulcers, which may exist in a quiescent state for prolonged periods, and in which the condition noted might be expected, nothing of the kind was found. The writer claims, moreover, that the giant cells are met with in greater number in the rapidly growing, than in the slowly developing types of carcinoma. There can be no question of a phagocytic action similar to that associated with the disposition of dead material in other parts of the organism, but in which the giant cells play the active rôle.

Berliner klinische Wochenschrift, August 22, 1904.

Follicles and Erythema Induratum.—A. Alexander presents a summary of the clinical work which has been done on the subject of tuberculous diseases of the skin by the dermatologist. In addition to the well-known forms there are two other types which have been designated as a papulonecrotic tuberculide (follicles) and the erythema induratum of Bazin. These lessons have been ascribed to the agency of the toxins and to the tubercle bacillus, and it is the writer's opinion that they must be considered in the light of present knowledge, as the halting places of weakened tubercle bacilli. Depending on the manner in which they settle, either the one or other form of the disease is created. Practically the presence

of this skin lesion means that somewhere in the body there is a tuberculous focus and a general infection of the organism has already taken place or may result at any moment. The two forms mentioned are to be considered as a projection of a visceral tuberculosis on the skin, and therefore deserving of attention.

The Establishment by Surgical Means of Anastomotic Channels for the Blood of the Portal Vein.—S. Talma discusses certain points in reference to the operation with which his name is largely associated. These he puts in the form of the following questions: (1) Can the deviation of the blood from the portal vein favorably influence the hepatic cirrhosis itself? In connection with this it also remains to be seen whether the icterus accompanying this condition may also be thus successfully treated. (2) Can an omentopexy reduce the danger of hemorrhage from the overdistended veins of the abdominal viscera? (3) Does the opening of new anastomotic channels in portal thrombosis obviate the severe circulatory disturbances? Ad (1), he believes that experience has not shown that the collateral circulation has had any influence on the cirrhosis and at the present time the outlook cannot be considered favorable. The hepatic process may be favorably influenced, but it does not continue to complete cure. Ad (2), he states that he still adheres to his previous claims, that hæmatemesis with hepatic cirrhosis indicates fixation of the omentum and that œsophageal varices may be avoided by the performance of a timely omentopexy. The question still remains as to whether this procedure will also cure the varices already developed in the abdominal viscera, especially the gullet. Three cases which the author observed remained well after operation and the bleeding ceased, but no anatomical examinations could be made. Ad (3), he reports a case of portal thrombosis upon which he operated, but without favorable results, so that he is inclined to abandon the method were it not for the more favorable report of a case by Umber, in which at autopsy numerous adhesions (natural) were discovered which seemed to compensate for the presence of a plugged portal vein which had evidently been in this condition for many years.

Munchener medizinische Wochenschrift, August, 23, 1904.

Experiments on the Motor Function of the Vagus.—H. Starck discusses the influence of the vagus nerve on the œsophagus and the cardiac end of the stomach and also the results of his attempts to produce dilatation of the gullet by experimental means. The latter was carried out in dogs in which unilateral and bilateral resections of the vagi were done. It was found that the inhibitory impulses going through the vagus to the cardia were not of any great moment. No spasm results, and the passage of fluids and of the œsophagoscope is not interfered with. It is evident therefore that this condition cannot act as a permanent obstruction to the passage of food and is not a factor in the formation of the chronic œsophageal dilatation. As for the effect which the vagus manifests over the musculature of the stomach, it was seen that vagotomy above the hilus of the lung alone was followed by any effect. A paralysis resulted which interfered with peristalsis, so that solid food became fixed in the gullet, although fluids found their way into the stomach. Permanent dilatation could not be observed because it was impossible to keep the animals alive. It does not seem reasonable to assume that degeneration of the vagus is the cause of œsophageal dilatation unless in exceptional instances. A vagotomy below the hilus shows that the important motor fibres evidently enter the œsophagus above the level of the hilus, because resection at this point shows no permanent influence on the motor functions of the œsophagus.

Absorption of Pure Albumin in the Intestinal Canal of New-born Infants and Animals.—Ganghofer and Langer have been led to their investigations by the claims made by Romer that pure albuminoid substances pass through the intestinal walls of the new born without undergoing any change and have the same effect on the organism as if they had been injected directly into the circulation. In adult animals conversion into peptones is necessary before absorption can take place. As this was proved for diphtheria antitoxin and like substances, the writers endeavored to determine whether a similar process existed with reference to nutrient materials in the intestine of the newly born, and if this were the case, to what age this phenomenon persisted. The experiments consisted of giving the albuminoid materials by mouth to young animals and then testing their blood serum for specific precipitation with homologous immune serum. The results may be summarized as follows: The property of absorbing the albuminoids unchanged was found, in animals examined, to persist until the end of the first week after birth, and then it could no longer be determined. Similar conditions were also found in the human infant, but here the phenomenon seemed to be present for a longer time, but of which the extent has not yet been fully determined. The intestinal canal of older animals does not permit the passage of albuminoids taken by mouth, unchanged, under normal conditions. But if the quantity administered is unduly large, or there exists an anatomical or functional derangement of the epithelium of the intestinal tract, the passage of unchanged albuminoids directly into the circulation is possible. The absorption of the unchanged albuminoids was shown in one instance to have brought about the formation of antibodies. It was found, however, that this usually resulted in the animal becoming ill and losing weight, and the process must therefore be considered harmful to the organization.

French and Italian Journals.

Contribution to the Theory of Immunity.—Capellani Salvatore has studied experimentally in animals the question as to what is the cause of the immunity conferred by the use of antitoxins, whether it is due to a passive resistance developed by the system or whether there is formed in the blood a specific resisting substance acting as an antidote. While making preparations of diphtheria bacilli from an animal previously immunized with Behring's serum, he noticed that the bacilli were all very much elongated and swollen, with an approach to segmentation, and a classic key-like termination. He repeated experiments on this subject, and became convinced that this change in shape was due to the immunization, to the presence in the blood of some substance which acted directly on the bacilli. He now immunized guinea-pigs, and introduced into the peritoneal cavity sacs made of collodion, filled with diphtheritic cultures; he allowed these to remain a few days, then removed and examined them. The bacilli had become clavate in shape. The changes in the bacilli were believed to be due to the action of some specific antitoxic substance in the fluids circulating in the animals experimented on. The author concludes that we cannot speak of a passive immunity in the animal immunized, but must admit the production of a special secretion, inimical to the diphtheria bacilli.—*La Riforma Medica*, August 3, 1904.

A Case of Broncho-œsophageal Fistula with Mediastinal Adenopathy Consecutive to Tuberculous Pericarditis.—Péhu reports the case of a woman aged sixty-six years, with negative antecedents. She had, however, suffered with bronchitis for a year. There were no signs of tuberculosis. For the last month the patient had suddenly begun to lose her strength and had grown thin. About the same time she noticed that food was swallowed with difficulty. Dyspnœa also had developed. The patient had a cachectic aspect. A large subclavicular ganglion was detected. There was no alteration of voice, and the pupils were normal. There were signs of a pleural effusion. The pulse was 120. Albuminuria was present. The clinical diagnosis was that of cancerous stenosis of the middle part of the œsophagus. The patient died the day after entering the hospital. Autopsy revealed the true state of affairs. Caseous, mediastinal adenopathy does not ordinarily entail fistulæ between the œsophagus and the bronchi. It has been observed in 107 cases that 68 perforations were due to a neoplasm of the alimentary canal, while 17 were due to tuberculosis of ganglia. In this series of cases, the communication was more often between the left bronchus and the œsophagus, while in the author's observation it was associated with the right bronchus.—*Lyon Médical*, August 14, 1904.

Total Visceral Transposition.—L. Baldenweck reports that different authorities hold contrary views concerning the frequency of this anomaly. He himself believes it to be comparatively rare. In all of these cases the organs seem to possess their habitual comparative relations. In other words, the arrangement is such that were they viewed in a mirror, the image would be that of a normal individual. There is nothing to hinder longevity in these cases, one of whom is known to have lived to the age of eighty years. The absolute position of the human organs is not important. The writer mentions twelve cases, stating the various diseases from which they suffered. But the number of cases is too small for a deduction of any conclusions. The pulmonary troubles exceed the others in number, however. Certain malformations have been detected in some of these cases, such as deformity of the thorax, and a very small pancreas. As to the diagnosis, the important points are the situation of the heart, determined by palpation, percussion and auscultation, the position of aortic sounds, the position of the liver and stomach by means of percussion. Insufflation can also be used in relation to the stomach. Radioscopic examination is also a very important method of examination. The theory for this anomaly that is most generally accepted, is that in the normal condition, the embryo is placed at the left of the vitellus; if for some unknown cause, it is placed at the right, there will be an inversion of the viscera.—*La Tribune Médicale*, August 6, 1904.

Book Reviews.

A Textbook o Human Physiology. By Albert P. Brubaker, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College; Professor of Physiology in the Pennsylvania College of Dental Surgery; Lecturer on Physiology and Hygiene in the Drexel Institute of Art, Science and Industry. With Colored Plates and 354 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1904.

The special object in view in the preparation of the volume before us was the condensation and selection of the general subjects in physiology which would have a bearing on modern medicine. The estimation of the proportionate values of the different subjects has been most ably performed, as one would expect from an author who has had twenty years of practical teaching at different colleges. The general text avoids very wisely the description of the different physiological apparatus, only including those which would be of use to the clinician and some of the very important ones used in the investigations of purely experimental work. The work follows the general order of modern works on physiology, is richly illustrated with plate and diagrams, has a most lucid text, and in short fulfils its intended purpose most satisfactorily.

The Treatment of Some Acute Visceral Inflammations, and Other Papers. By David B. Lees, M.A., M.D. Contab., F.R.C.P. (London). Formerly Scholar of Trinity College, Cambridge; Senior Physician to the Hospital for Sick Children, Great Ormond Street; Physician to St. Mary's Hospital; Late Examiner in Medicine for the University of Cambridge, the University of Durham, the Victoria University, and the Conjoint Board for England. Philadelphia: P. Blakiston's Son & Co., 1904.

The author, who has had a large experience as a clinician both in hospital and private practice, here gives his views, part of which were expressed before the Harveian Society of London in 1903. They consist of a series of short articles which advocate certain methods, among which might be mentioned the importance of mapping out the size of the left ventricle and right auricle in cardiac and pulmonary disease, the great good accruing from venesection and leeching when the right heart is distended, the advocacy of the use of ice-bags in pneumonia, pericarditis, pleurisy, and sometimes in appendix and kidney diseases, and the value of larger doses of the salicylates combined with an alkali. Besides these lectures he reprints various articles which in part deal with the same subjects and in part with allied subjects. The book as a whole makes instructive reading, and deals with the details in therapeutic procedures in a way many of the modern works would do well to imitate.

Traité de Médecine. Deuxième Edition. Publiée sous la Direction de MM. Bouchard, Professeur à la Faculté de Médecine de Paris, Membre de l'Institute, et Brissaud, Professeur à la Faculté de Paris, Médecin de l'Hôpital Saint-Antoine. Tome IX. Paris: Masson et Cie. 1904.

After a delay of nearly two years the ninth volume of this greatest of French systems of medicine is published, and the speedy appearance of the tenth volume, completing the series, is promised. These concluding volumes are on diseases of the nervous system. The ninth volume contains the following articles: "Diseases of the Cerebral Hemispheres," by E. Brissaud and A. Louques; "Diseases of the Cerebellum," by L. Tollemer; "Diseases of the Cerebral Peduncles, the Corpore Quadrigemina, the Pons, and the Medulla," by Georges Guillain; "Secondary Degenerations," by P. Marie and Georges Guillain; "Intrinsic Diseases of the Spinal Cord," by P. Marie, André Lévi, O. Crouzon, and G. Guinon; "Extrinsic Diseases of the Spinal Cord," by G. Guinon; "Diseases of the Meninges," by G. Guinon; and "Syphilis of the Nervous Centers," by H. Lamy. There are some 320 excellent illustrations distributed through the 1100 pages of text. This volume, with the next of the series when published, will without question constitute not only the latest, but one of the best treatises of the nervous system in any language.

A Textbook of Pathology. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia. Philadelphia, New York, London: W. B. Saunders & Co., 1904.

This work, the author tells us, is intended especially for the use of students who have to acquire the first principles of the science and have no need to concern themselves with the discussion of pure theories and disputed questions. The latter have, therefore, been omitted for the most part or touched upon as lightly as possible. It is well for the size of the volume that they have been, for as it is the work fills over 800 closely printed pages. The author makes the usual division into general and special pathology, devoting about half the book to each division. The long teaching experience which Dr. McFarland has had has well qualified him for the task of writing a textbook on this fascinating subject, and he has done it well. To students, especially those who have the privilege of receiving instruction from the author in person, this book will be invaluable, and practitioners as well can find here all that any but a specialist would need.

Le Liquide Céphalo-Rachidien. Par le Dr. Milian, Ancien Interne des hôpitaux de Paris, Ancien Chef de Clinique à la Faculté de Paris. Paris: G. Steinheil, 1904.

This work is a résumé of our present knowledge regarding the cerebrospinal fluid. It also contains an extensive bibliography and a report of original research. The subject is divided into four parts: (1) The origin, circulation, physical and chemical characters, and the physiology of the cerebrospinal fluid. (2) Its pathological conditions and the special technique in its study; its semeiological value in meningeal hemorrhage and fracture of the skull. (3) Its pathological cytology in acute and chronic processes. (4) Lumbar puncture and intraspinal cocainization. The practical clinical part of the book relating to the technique of lumbar puncture and spinal anæsthesia is clearly and concisely written and well illustrated.

Dermatologische Vorträge für Praktiker. von Dr. S. Jessner, Königsberg. Zweite Auflage. Würzburg: A. Stuber's Verlag (C. Kabitzsch), 1904.

There are three of these little fasciculi on practical skin subjects—one on psoriasis, one on the internal treatment of cutaneous affections, and the third on the cutaneous diseases of children. They are all well prepared and of decided interest.

A Textbook of Alkaloidal Therapeutics. Being a Condensed Résumé of All Available Literature on the Subject of the Active Principles, Added to the Personal Experience of the Authors. By W. F. Waugh, M.D., and W. C. Abbott, M.D., with the collaboration of E. M. Epstein, M.D. Chicago: The Clinic Publishing Co., 1904.

The authors of this book are well known throughout the country as enthusiastic advocates of the therapeutic principle of "the smallest possible quantity of the best obtainable means to produce a desired therapeutic result," and their enthusiasm appears on every page of their work. There is no therapeutic nihilism here—pessimism may do for the closet therapist, but in the bright vocabulary of the alkalometrist there is no such word as fail. One who can make allowance for this will have his ideas broadened and some prejudices removed by a careful study of it. To those who already believe in the therapeutic superiority of active principles over the crude drugs, and to those who prefer the latter, believing that the so-called active principle is only one of many substances of therapeutic value in the plant, this book will be equally useful—to the former as a guide, to the latter as opening their eyes to the fact that, whatever may be the value of the crude drug, the alkaloid or glucocide has also its place, and a very important place, in therapeutics. The book is interleaved with blank pages for the convenience of the reader in recording his own experiences. The authors have written a work which cannot fail to be useful to a large class of physicians.

Chirurgie Nerveuse d'Urgence. Par le Dr. A. Chipault, Ancien Chef de Consultation Chirurgicale à la Salpêtrière. Paris: J. B. Ballière et Fils, 1904.

This is one of a series of books published under the title of "Les Actualités Médicales." The author describes the various traumatic and infectious processes involving the nervous system which require immediate or early surgical intervention. The technique for such operations is set forth in detail.

The Optical Dictionary. An Optical and Ophthalmological Glossary of English Terms, Symbols, and Abbreviations, together with the English Equivalents of some French and German Terms, Relating to Physical, Physiological, and Pathological Optics, Optical, and Other Instruments of Precision, and Terms Descriptive of Color and Photochemistry; to which are added a Number of General and Mathematical Expressions. Edited by Charles Hyatt-Woolf, F.R.P.S., Editor of the Optician and Photographic Trades Review, etc. Philadelphia: P. Blakiston's Son & Co., 1904.

The scope of this work is sufficiently set forth in the descriptive title, and it remains for the reviewer only to say that in the main the editor's work appears to have been well done. The definitions are concise, for the most part clear, and, as far as we have been able to discover, correct. To opticians, and even to medical men without an ophthalmological training, the book will undoubtedly be of great service.

Society Reports.

CANADIAN MEDICAL ASSOCIATION.

Thirty-seventh Annual Meeting, Held in Vancouver, B. C., August 22, 23, 24, and 25, 1904.

(Special Report to the MEDICAL RECORD)

FIRST DAY—TUESDAY, AUGUST 22.

THE meeting was called to order at 10 A.M. by the president, Dr. Simon J. Tunstall. The secretary read the minutes of the last meeting and presented his annual report. The report called attention to the rapidly increasing membership of the association and urged a better and more complete organization of the society upon the lines of the British Medical and American Medical Associations. Dr. Small gave notice of motion to amend the by-laws.

Addresses of Welcome.—Dr. BRYDONE-JACK, secretary of the local reception committee, delivered an address of welcome on behalf of the resident physicians. He outlined the many entertainments that were to be given and other arrangements for the meeting.

Dr. MCGUIGAN, the mayor of Vancouver, welcomed the visitors on behalf of the city. His address was replete with western hospitality. The importance of the meetings of the Canadian and also (next year) of the American Medical Association upon the western coast was dwelt upon, and he hoped all would carry away pleasant recollections of their visit. He explained that in British Columbia a high standard of medical ethics was maintained, as shown by the absence of all forms of advertising by the members of the profession, and the absence of any illegal practitioners.

Dr. DAVIS of Victoria spoke on behalf of the College of Physicians and Surgeons of British Columbia.

Address in Medicine.—R. E. MCKECHNIE of Victoria, B. C., delivered the annual address in medicine. He sketched the career and manners and procedures of the "medicine man" in the treatment of disease among the native Indians, as it had come under his notice. He instanced a case of tuberculous pleurisy in which the Indian medicine man and his assistants were endeavoring to drive out the evil spirit which was looked upon as the cause of the trouble. The recent advances in medicine were also sketched, particularly the advances in the treatment and cure of consumption.

Prevention of Tuberculosis.—The following resolution was moved by Dr. R. E. McKechnie of Vancouver, and seconded by Dr. R. E. Walker of New Westminister:

"*Whereas*, Tuberculosis has been positively proved to be an infectious disease;

"*Whereas*, The patient is the focus of infection and is capable of infecting, and does infect dwellings, clothing, and private and public places generally. Statistics already available prove that compulsory notification with educational oversight of the patient and those under exposure to the contagion, together with disinfection of infected materials and places, has resulted in a diminution of the number of cases;

"*Whereas*, Such action in the Dominion of Canada lies with the various provincial governments;

"*Therefore be it resolved* that the various provincial authorities be and are hereby urged to take at once the necessary steps to bring these suggestions into effect, and that the secretary be requested to forward copies of this resolution to the secretaries of the various provincial boards of health."

Patent Medicines.—Dr. C. J. FAGAN, Victoria, B. C., made a strong plea for the profession to take active steps to combat this growing evil. He dwelt upon the extensive employment of patent medicines and the luring advertisements met with in publications. The various methods to be followed were outlined, such as applying to the Postmaster-General to prevent the transmission through the mails of such literature, or calling the attention of the Minister of Inland Revenue to the large percentage of alcohol contained in many of these so-called remedies. A lengthy discussion followed, and Dr. Fagan was requested to form a committee of such as he wished to associate with him and formulate a method of action in the matter

Neuroses as Seen in Orthopedic Surgery.—Dr. B. E. MACKENZIE of Toronto read this paper, which consisted of a series of observations and reports of cases of deformity of purely neurotic origin. His treatment was massage and gymnasium exercises with fresh air and good food.

Case Reports.—Dr. ROBERT H. CRAIG of Montreal reported the following: Papilloma of the larynx, child aged seven, high tracheotomy, thyrotomy. Empyema of the right sphenoidal cavity, associated with occlusion of the right posterior nares. Empyema of the right frontal and sphenoidal cavities.

SECOND DAY—WEDNESDAY, AUGUST 23.

Address in Surgery.—WM. MAYO-ROBSON of England delivered this address. He selected as his subject the diseases of the pancreas in so far as they were related to the production of disturbances in the gall-bladder. His preliminary remarks were upon the anatomy and physiology of the organ and the changes produced by pancreatitis. The direct extension to the gall-bladder and the ill effects produced by the enlarged pancreas in distorting the biliary passages were impressed upon the members. He made a strong plea for early operation in all cases and advocated large and free incisions. He also greatly favored the use of chloride of calcium to prevent a too free hemorrhage.

Hernia of the Bladder Complicating Inguinal Hernia.—Dr. F. J. SHEPHERD of Montreal read this paper, which was a report of three cases of hernia in which the bladder formed part of the hernial protrusion. He urged the importance of emptying the bladder and of a careful examination for this complication before all hernial operations.

Movable Kidney.—Dr. KENNETH MACKENZIE of Portland gave a statistical record of his cases and the results of operations. He also discussed the important question as to the effects of the operation in relieving neurasthenic symptoms. The result of his experience was that each case required to be considered by itself, and that when the proper results were to be obtained the patient would require to be carefully treated for the weakness and prostration for some time after recovery from the operation.

Hypertrophy of the Breasts.—Dr. S. R. JENKINS of Charlottetown, P.E.I., reported this case, which was one in which an enlargement of both mammæ began in a young girl and slowly increased until they acquired an enormous size. Partial excision was performed, but the growth recurred.

Therapeutic Hints from Bacteriology.—Dr. D. CRUIKSHANK of Windsor, Ont., reviewed the serum remedies, their evolution, and what was to be expected of them in the future. Their superiority to drug medication was emphasized.

President's Address.—Dr. SIMON J. TUNSTALL of Vancouver, in this address, thanked the members for the honor they conferred on him, and for coming so far to attend the meetings. The ground on which the city was built, less than two decades ago, was virgin forest, and is now a city of forty thousand inhabitants. He sketched the history of medicine in the province, giving much attention to the "medicine men" of the nations, liking their treatment to that of the mesmerist and suggestive therapeutist of the present day. Dr. Tunstall then dwelt at length on four medico-political points of Canadian interest: The Canadian Medical Protective Association; A Dominion Health Department; Interprovincial Regis-

tration, and Government Care and Treatment of Inebriates.

Surgical Treatment of Complete Descent of the Uterus.—Dr. E. C. Dudley of Chicago read a paper with this title. Complete descent of the uterus, he said, descent to the third degree, which might be defined as that deviation in which a part or whole of the uterus was outside the vulva, was always associated with extensive injury to the pelvic fascia, the pelvic connective tissue, the muscles of the vaginal outlet, the perineum, and the vaginal walls —in fact, these injuries of the pelvic floor constituted the essential lesion, the mal-location of the uterus being an incidental factor.

In operating to relieve the displacement in addition to restoring the lacerated structures, it was important to return and hold the uterus in its normal angle in relation to the vaginal canal. The ordinary operation sought to suspend the uterus in the pelvis without regard to the relative position of the uterus and vagina. Generally speaking, the indications for treatment were somewhat as follows: (1) Extreme cystocele not associated with the most extreme procidentia should be treated by anterior colporrhaphy and perineorrhaphy. (2) Cystocele, associated with complete procidentia, properly might be treated by hysterectomy, anterior colporrhaphy and perineorrhaphy. (3) Conditions intermediate between the two conditions indicated above and cases in very feeble or very aged women would call for special judgment, whether hysterectomy be omitted or performed.

A Latern-slide Clinic.—Dr. Dudley then gave a unique exhibition in which he showed many views of operative procedures and pathological conditions after the same manner as in a bedside clinic. It proved most interesting to all present.

Third Day—Thursday, August 24.

Tuberculous Peritonitis.—Dr. C. H. Mayo of Rochester, Minn., read this paper. He looked upon this as a comparatively rare disease. Operation was frequently performed for peritoneal tuberculosis with success, but its mode of cure was unexplained. He advised careful search for the cause of the trouble before operations were begun. The disease was more frequent in women than in men, in the ratio of about five to one. A simple incision in some cases was all that was necessary, in others the conditions were such as to require a separation of adhesions and irrigation. Repeated operation was often necessary.

Meckel's Diverticulum.—Dr. H. Howitt of Guelph read a paper with this title, which was a review of our knowledge of this abnormality, with report of four cases. Dr. Howitt advocated resection of the intestine, as in his experience simply removing the diverticulum has resulted in a stump which favored intussusception of the bowel, an occurrence he had met with as a result in two cases.

Operative Treatment of Spina Bifida.—Dr. E. R. Secord of Brantford read a very exhaustive paper on the subject. The following conclusions were presented: (1) There are no absolute contraindications to the operative treatment. The more severe the case the more marked is the futility of other than operative treatment. (2) As to method: In meningocele, opening of the sac after dissecting up the skin, suture of neck and removal of redundant tissue. In myelomeningocele and syringomeningocele, the same method combined with loosening of the nerve cords and return of the same to the canal. (3) As to prognosis, meningocele, with more extended experience should yield uniformly favorable results.

Fourth Day—Friday, August 25.

The session, held in the morning of this day, was purely a business meeting. It was voted to meet in 1905 at Halifax, N. S.

Officers.—The election of officers resulted in the choice of the following: *President*, Dr. John Stewart, Halifax; *Vice-Presidents*, Drs. McLaren Montague, Bridge, P. E. I.; J. B. Black, Windsor, N. S.; A. B. Atherton, Frederickton, N. B.; Jos. E. Dube, Montreal, Que.; H. Meek, London, Ont.; W. E. England, Winnipeg, Man.; H. C. Wilson, Edmonton, N. W. T.; R. E. Walker, New Westminister, B. C.; *Local Secretaries*, Drs. H. D. Johnson, Charlottetown, P. E. I.; G. C. Jones, Halifax, N. S.; T. D. Walker, St. Johns, N. B.; J. D. Cameron, Montreal, Que.; D. Stewart, Palmerston, Ont.; Popham, Winnipeg, Man.; Hewettson, Pincher Creek, N. W. T.; A. S. Monro, Vancouver; *General Secretary*, Dr. George Elliott, Toronto; *Treasurer*, Dr. H. B Small, Ottawa; *Executive Council*, Drs. G. M. Campbell, Halifax; J. Ross, Halifax; C. D. Murray, Halifax.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-sixth Annual Meeting, Held at Atlantic City, June 2, 3, and 4, 1904.

President's Address.—Dr. J. H. Hartman of Baltimore, in his presidential address, called attention to the fact that the ranks of the Association had not been broken during the past year. It was suggested that the Association send a message of good wishes to Señor Manuel Garcia, an Honorary Fellow, the discoverer of the laryngoscope some fifty years ago, who, on March 17 last, passed his ninety-ninth birthday. Mention was made of the various new methods for treating diseases of the nose and throat, especial attention being directed to the examination of the œsophagus and bronchi by Killian's method, and to Gersuny's method for the subcutaneous injection of paraffine for the correction of nasal deformities. Hay fever and its treatment was touched upon. The question of enlarging the membership of the Association was endorsed by the President. He called attention to the fact that many of the members were now reaching the stage when their period of active usefulness would not be as great as in the past, and he believed the introduction of younger men to the rolls would be a great advantage to the Association in general.

Secreting Mechanism of the Nose.—Dr. J. L. Goodale of Boston read a paper entitled "A Contribution to the Study of the Secreting Mechanism of the Nose." The author, after a review of the literature of the subject, called attention to the fact that the mucous membrane of the nose contained two arrangements for the production of nasal fluid, viz., the glands and the intercellular spaces of the epithelium and the underlying basement membrane. Up to the present time it has not been determined in the membrane of the nose whether serous glands occurred in addition to the mucous glands or not, and, therefore, the writer determined to investigate the subject by the newer methods of Golgi and by Retzius, which have proved serviceable in the demonstration of serous glands in the larynx and trachea. It was found that in normal cases the mucous membrane of the respiratory portions of the nose contained both mucous and serous glands in association. Attention was next called to the alterations produced in the glands of the nasal mucous membrane and in the canals of the basement membrane, and different pathological conditions, such as chronic inflammations characterized by increase of mucous secretion, chronic atrophic inflammations, and vasomotor rhinitis. It was found that chronic inflammations characterized by increase of mucous secretion showed a heightened activity in the mucous glands irrespective of the secondary changes produced in the other constituents of the tissues. Atrophic inflammations showing tenacious fetid mucous, exhibited a complete disappearance of the canals of the basement membrane, while the mucous and serious glands showed a diminished but still a distinct degree of activity. In vasomotor rhinitis there

is a striking increase in the looseness of structure of the epithelium and in the number and size of the basement canals, an alteration which is distinctly out of proportion to the moderate increases in the mucous and serous glands. Physical examinations in connection with these histological findings render it probable that the greater portion of the vapor impaired and the inspired air of the nasal membrane is derived from the fluid which reaches the surface through the basement canals and interspaces of the epithelium.

Dr. H. L. Swain of New Haven said that he had found, in decalcifying the bone of the middle turbinate, that there were a great many mucous glands situated in the region of the middle turbinate, sometimes a perfect mass of glands being found, and he believes this accounts for the great amount of mucous found in this region. With regard to the question of the amount of fluid existing in the nose at any one time, Dr. Swain stated that in cold weather there is an accumulation in the nose because of the outside air, and laid stress upon the fact that a great deal of the moisture found in the nose in cold weather came from the lacrymal glands.

Dr. James E. Newcomb of New York agreed with Dr. Swain that there could not be a too careful study of this subject. He referred to the use of mucin in atrophic rhinitis, and stated that he had employed this remedy for over a year with satisfactory results.

Dr. Goodale, in closing the discussion, agreed with Dr. Swain that there was a large number of glands found in the region of the middle turbinate. His special object was to call attention to the new facts in the histology, which he did not find in the literature on laryngology.

Report of a Case of Nasal Hydrorrhœa.—Dr. J. Edwin Rhodes of Chicago reported the case. He stated there had been little added to the literature of this subject since the presentation of Dr. Bosworth's contribution in 1889, when abstracts of the sixteen cases then on record were given. There have been presented since that time, however, a number of theories as to the etiology of this condition. In regard to the differentiation between cerebrospinal rhinorrhœa and nasal rhinorrhœa it was stated that the laboratory test of St. Clair Thomson was sufficient to determine the difference. The cerebrospinal fluid was supposed to come from the subarachnoid space and to find its exit through the nasal cavities. Possibly it found its way by filtering down through perineural sheaths or through traumatic openings in the skull, the results of injuries, etc. It was said that it differed from true nasal hydrorrhœa in some of the symptoms, and the two conditions should no longer be classified together, but considered as quite distinct in character. Nasal hydrorrhœa was defined as a copious flow of watery fluid from the nasal mucous membrane, either continuous or appearing at certain times during the day, or at irregular intervals, and sometimes persisting for long periods of time. It might come from both nares, but was more often one-sided. The two theories which had received the greatest recognition were: first, that it was anœrosis of the trifacial nerve in the nasal mucoso; and second, that it was one of the symptoms of a general neurasthenic condition. The author believed the neurasthenic character of the disease to be fairly well established and thought that probably the exosmosis of the fluid was due to the irritations of the terminal filiments in the nasal mucosa of the trifacial nerve, the exciting cause, although not well established, being probably due to some obscure atmospheric condition. The main symptom of the condition was the discharge of a clear, limpid fluid from the nose: the other symptoms were headache, insomnia, cough, sneezing, nervous phenomena, etc.

Dr. Rhodes then related the case of a woman aged forty-four years, who complained of a constant dripping of fluid from the right naris. She was given a pill of zinc phosphide, nux vomica, and quinine with benefit to her nervous condition, and bromide was given to quiet her at night. Various remedies were tried without the slightest benefit until a solution of argentum nitras in small quantities, 60 grains to the ounce, was used over a portion of the nasal cavity only. This caused some pain and a slight headache, but was immediately followed by the cessation of the dripping for a few minutes. Later, the nasal cavity was swabbed first with a 1-1000 suprarenaline solution, then the 60-grain solution of nitrate of silver was applied to the entire accessible parts of the nasal cavity. This treatment was followed by very severe headache, but five days later the headache ceased and the discharge began rapidly to decrease, ceasing entirely in three or four days, and there has been no return.

Dr. Swain, in commenting upon the result obtained in Dr. Rhodes' case, considered that just as successful a result might have been obtained by the use of any agent, such as electricity, etc., if it had been used to the required degree, since it was the profound systemic disturbance which produced the cure in the case reported.

Some Remarks on the Intranasal Surgery of To-day.—Dr. J. N. Mackenzie of Baltimore read a paper with this title. Its general tenor was that of a protest against many of the radical methods now in vogue. They were pursued by some operators with a most indiscriminate zeal, and were calculated to bring the modern surgery of this region into disrepute. One reason for this *furor secandi* was the fact that the interior of the nose would stand a great deal of mutilation without dangerous reaction, but this was no justification of the courses so often followed. The author believed in thoroughness when operations were justified, but he could not accept as valid some of the arguments advanced to justify operations done at the present time on the nose and accessory sinuses. Too much stress had been laid on the effects of slight septal deviations, and often the sequelæ of operations left the patient in a far worse condition than before. He thought that if the statistics of all operations done could be placed before us and not those merely of favorable results we would be appalled at the showing. The relief from the present condition of affairs was to come through a better education of the rising generation of laryngologists.

A Study of the Fatal Operations upon the Nose and Throat.—Dr. Francis R. Packard presented a paper with this title. He regarded it as surprising that so few fatalities followed in this class of operations, considering the frequency with which they were done. He presented tabulated lists of the fatalities recorded in literature. He was able to find twenty-six fatalities following from anæsthesia, twenty-four from chloroform, one from the A. C. E. mixture, and one from ether, the latter apparently from bronchitis. Chloroform deaths followed with especial frequency in those patients who presented the status lymphaticus. Of fatalities due to causes other than the anæsthetic he had found twenty-two. Of these fourteen were from hemorrhage after removal of tonsils and adenoids. Other causes were meningitis from application of perchloride of iron for epistaxis, purulent leptomeningitis following operation by external incision for removal of nasal polyps and orbital tumor. Meningitis following cauterization with galvanocautery of the middle turbinate, meningitis following probing and injection of the lacrymal canal and the same disease after removal of an exostosis, and one death from sepsis and exhaustion following tonsillotomy.

Observations on the Therapeutic Value of Medicated Ointments in Certain Affections of the Nasal Chambers.—The paper of Dr. Alexander W. MacCoy of Philadelphia is summarized as follows: "(1) Notwithstanding the bent of mind toward surgical procedures for the relief of diseases of the nasal chambers, the rational employment of drugs must still keep our attention. (2) Our constant and persistent use of nasal washes, especially during the winter season in our climate, tends to harmful results

(3) By the employment of curative medicaments in the form of soft ointments in the nasal chambers we can avoid certain risks following the use of washes, etc. (4) The availability, convenience, and adaptability of medicated unguents in the therapeutics of the nasal chambers appeal in a rational manner for their employment. (5) Ointments prescribed should be dispensed in collapsible tin tubes, as this renders them most convenient for use at all times and in all places."

Dr. H. L. Swain, believed there was a definite field for the use of preparations containing oil in one or another form in the treatment of the acute affections of the nose. He stated that with regard to the different drugs and their chemical affinity, he had often prescribed the yellow-oxide ointment and found that when the patient was at the same time taking potassium iodide, there was a combination of the drugs with a very unpleasant reaction of the two. He called attention to this chemical affinity since he had never seen it stated in print, and because if he had known of it earlier it would have been of great service in saving much trouble.

Dr. J. Solis-Cohen of Philadelphia suggested the use of what is known as a "stripping pencil," placing the ointment upon the end of this and then pushing it backward into the nose until it reaches the thorax, when it is brought forward and out, having in this way touched the entire mucous membrane. These pencils are used for painting the colors in carriage wheels and are about an inch long.

Dr. W. K. Simpson of New York stated that he had experienced difficulty in applying ointments of sufficient density, but thought that if this could be done, the medication by ointments would be an ideal form of treatment.

Dr. G. Hudson Makuen of Philadelphia called attention to the danger of using ointments, citing the case of a patient who formed the bad habit of applying vaselin to his nose before retiring in order to keep the mucous membrane moist, and thus allowing of his spending a comfortable night. He has continued this application for eight or ten years, so that now he has formed the habit and is unable to break himself of it.

Dr. MacCoy, in closing the discussion, advised the application of ointments being made by covering the ends of toothpicks or matches with cotton to serve as carriers, and after these are once used they are to be thrown away. He regards this as a method which is suitable for business, traveling, etc. With regard to the amount of ointment applied, he stated that it was of no consequence whether this was great or little, nor whether thick or liquid. He himself never uses strong or severe ointments on account of the irritation produced by their use.

The Etiology and Diagnosis of Ozæna and Its Relation to Pulmonary Tuberculosis.—Dr. Clement F. Theisen of Albany read a paper with this title and with the following conclusions: "(1) Sinus disease probably causes ozæna in a certain percentage of cases, or at least it must be considered a strong predisposing cause. (2) Suppurative processes in the accessory sinuses, as shown by Pearce's observations, are frequently present in certain of the infectious diseases of childhood, particularly scarlet fever, measles, and diphtheria, and for this reason these infectious diseases must be considered at least possible etiological factors of ozæna. (3) That while a certain percentage of cases are caused by sinus disease this is not sufficient to explain the pathogenesis of the whole clinical picture of ozæna. (4) The large number of ozæna patients having pulmonary tuberculosis would certainly point to the nasal condition as a strong predisposing cause for the development of the tuberculous condition."

Dr. J. L. Goodale of Boston stated that there were many and various conditions known as ozæna, and that all are practically identical in treatment.

Dr. Thomas J. Harris of New York stated that in a study of nineteen cases of genuine ozæna which he examined for sinus disease he discovered antrum disease in two, it being unilateral in each, and in a third case he found an ethmoidal sinus affection. Other than this he was unable to recognize any sinus complications. Regarding the relation between tuberculosis and ozæna, Dr. Harris stated that in an examination of twelve cases he found only one showing a condition of tuberculosis, and this patient had laryngeal tuberculosis when he presented himself for treatment for the ozæna. Reference was made to Hamilton's statistics regarding this matter. Hamilton, in an examination of one hundred cases of tuberculosis found no ozæna, but in fifty cases of tuberculosis he found the tubercle bacillus. In 170 cases of ozæna he discovered but six cases of tuberculosis. Dr. Harris calls attention to the difference between the statistics of Dr. Theisen and Dr. Hamilton. Reference was also made to the statement by Ingals, that ozæna occurred less often in proportion than the average of nasal diseases in relation with tuberculosis.

Dr. Cornelius G. Coakley of New York stated that it had been the rarest thing in his experience to find cases of typical disease of the accessory sinuses accompanied by those conditions regarded as ozæna. He condemned the Jackson apparatus for transillumination as being practically useless. He also deprecated the use of strong antiseptic solutions in the treatment of this condition, believing that the employment of simple astringent fluids was productive of good results.

Dr. Emil Mayer of New York referred to the statistics of Pearce with regard to empyema in young children. Reference was also made to eight cases of his own, from the study of which he believed that an infection of the accessory sinuses in young children does bring about ozæna.

Dr. J. Payson Clark of Boston had examined one hundred cases of tuberculosis of the larynx, studying them particularly with regard to the nose, and had compared with them one hundred cases coming to the clinic with other troubles, and was struck with the great proportion of cases of ozæna and atrophic rhinitis in the cases which had tuberculosis of the larynx as compared with those having no local trouble.

Dr. James E. Newcomb of New York referred to having examined seventy cases of tuberculosis without finding one case of ozæna among them, taking the term of ozæna to signify a foul-smelling discharge. There were seven or eight cases, however, in which the patients had atrophic conditions of the nose. It is thought that the generally bad environments of these patients is somewhat to blame for these conditions.

Dr. H. L. Swain of New Haven stated that he had not found the occurrence of sinus disease any more frequent among his ozæna cases than among others. He considered it very reasonable, however, that tuberculosis should be associated with ozæna, since this condition presented a good chance for the growth of all kinds of bacilli.

Dr. Thomas Hubbard of Toledo considered the coexistence of tuberculosis and ozæna as a mere coincident. Attention was called to the feature of temperature in tuberculosis, since this naturally meant the drying of all mucous membrane and the production of a slight atrophic condition, which would naturally tend toward a condition from which it would be very difficult to differentiate ozæna.

Dr. William Lincoln of Cleveland cited three cases in which, subsequent to an operation, a very low condition of the general health and the appearance of ozæna, developed. The ozæna yielded, however, to the restoration to good health of the patient. He therefore lays stress upon the point that one should not endeavor to fasten the cause of ozæna upon any one disease, but should keep steadily in mind that any vastly depleting disease may be followed by this condition.

Dr. W. E. Casselberry of Chicago gave it as his opinion that a conclusion with regard to this subject would never be reached until the term ozæna was either done away with or defined more correctly.

Four Unusual Tumors in the Nasopharynx—Dr. Walter F. Chappell of New York briefly reported these cases. The first patient was a girl fifteen years of age, who, for about four years, had had difficulty in breathing, growing worse at night. On examination, the right nostril presented a whitish growth, protruding anteriorly within an inch of the anterior nares. A large reddish mass was found in the nasopharynx, extending below the free margin of the soft palate, and completely filling the nasopharynx. This was removed with an adenoid curette and slight hemorrhage occurred. This mass was found, on microscopical examination, to be an œdematous polypus. After its removal respiration was restored, and the patient gained in weight. The second case was that of a boy fifteen years of age, who complained of a full feeling in the back part of the throat, nasal stoppage, and choking sensations at night. On examination, a large gray, granular-looking mass was seen to extend one and a half inches below the soft palate on the left side. The patient's hearing was not impaired, he complained of no pain, and his general condition was good, although his sleep had been so much disturbed that he felt quite exhausted. The mass was removed through the mouth with a pair of forceps, and was found attached by a pedicle about one-eighth of an inch and one-sixteenth of an inch thick. A careful examination showed the tumor to have sprung from the lateral tonsillar region.

Dr. Emil Mayer of New York reported a case of unusual postpharyngeal growth in a man thirty-two years of age, who presented very slight symptoms, but who showed the glistening tumor in the pharynx extending into the nasopharynx. This was removed and proved to be a pure nasal polypi.

Dr. James E. Newcomb of New York reported the case of a patient who had been unable to breathe through the nose for five years. It was supposed that she had a nasopharyngeal fibroma, and an operation was advised. Several small bands of connective tissue were removed, and it was then found that there was no tumor at all.

Facial Asymmetry as a Cause of Deformities of the Nasal Septum.—Dr. Henry L. Swain of New Haven gave an extensive résumé of the work done on the skulls in the Marsh collection in Peabody Museum at Yale University, during the past three years. This work was carried on for the purpose of determining the cause of the over-arching of the palate, which is so frequently seen. Cases were presented relative to the subject, and comparisons made between the adult Hawaiian and young Hawaiian, the young flat-head Indian, and the adult Flat-head Indian. In this comparison, the measurements of Dr. J. H. Hurst were used. The question of heredity was extensively considered.

Dr. Thomas Hubbard of Toledo referred to the casual observations which he had made of the heads of a particular family. The parents had perfectly healthy and normal dental arches. Three out of their eight children had developed deformed arches. In one child the arch was very decidedly deformed, the palate elevated, and the dental arch completely broken, so that the teeth were irregular; in this case one of the incisor teeth penetrated the arch in almost the median line of the mouth. In the third generation one child had teeth which appeared at irregular intervals, the dental arch being so entirely broken as to crowd out the teeth. These cases were cited to show the effect of heredity in the development of the arch of the palate.

Dr. John O. Roe of Rochester discussed the question from the standpoint of heredity, mentioning the law of compensation. He referred to cases seen by him in which adenoids have been the cause of deflected septum.

Dr. A. Coolidge, Jr., of Boston referred to the cases reported at the meeting of the association in New Haven, in which there was congenital occlusion of the posterior opening by a bony plate. He stated that, if there ever was a case in which mouth-breathing ought to affect the shape of the skull, or in which breathing through one side of the nose should affect the skull, the cases referred to were such, but these cases did not show any particular tendency to high arch or deviation of septum. It was his opinion that if such complete occlusion of the nares did not cause high arching of the palate, adenoids were still less likely to do so.

Intratracheal Injections.—Dr. Thomas Hubbard of Toledo, Ohio, read a paper with this title in which he awarded the claim of priority of this method to Botey, who had presented clinical reports of cases before the Academy of Sciences of Paris, in 1890. It was stated that it was the general impression that the method of Botey had not been adopted as a routine practice by laryngologists in general. The author believed, however, that it was only through familiarity with the method that one could appreciate its superiority over other methods in common use. Among the American writers who had advocated the method and enlarged its field of practical application, were mentioned Thompson, Murray, Anderson, Simpson, and Donellan. It was admitted by Thompson and others that injections did no good, and might even do harm during the acute hyperæmic stage of any type of inflammation. The fact that a patient was expectorating freely was no indication that the injections should be used. The treatment of tracheal injections was essentially local, the purpose being to encourage free secretion and to prevent the fermentation or decomposition of accumulated deposits and the formation or production of sapræmia. Tracheal injections were considered as very useful adjuvants to the general treatment of bronchial asthma. The technique had not been considerably altered since that described by Botey. The long curved laryngeal cannula attached to the Muir syringe seemed to be the favorite instrument. Cocaine anæsthesia was used prior to injections as a routine practice. Although there were some cases in which intratracheal injection was useless, the majority of cases were relieved of discomfort. The author advocated the use of a modified cannula having a half-inch bend, which was, however, not long enough to reach below the tip of the epiglottis. He had found the treatment by intratracheal injections useful not only in bronchitis, but also in laryngitis, not including the acute hyperæmic state. The efficiency of this method appeared superior to that of the swab or spray.

Dr. J. W. Gleitsmann of New York referred to his use of intratracheal injections, stating that one patient had been entirely relieved, and that, although another had been greatly helped during the administration of the treatment, the old condition had again returned. He believed that the use of the laryngeal mirror was necessary in order to introduce safely the long cannula which he considered necessary for this treatment. He had frequently used the intratracheal syringe, and had seen many good results and great improvements. In the injections he confined himself to the use of bengaline and camphor, having found this productive of good results.

Dr. W. K. Simpson of New York considered intratracheal injections to be one of the most positive means of both local and constitutional effect upon the bronchial and pulmonary conditions, and believed that they would soon become a very popular mode of treatment. He stated that a considerable amount of technique was required, before its use was satisfactory. He related the case of a very robust man, in whom a pneumonia developed after the use of the intratracheal syringe.

Dr. Emil Mayer of New York did not think sufficient stress had been laid upon the temperature of the injected fluid, it being his opinion that this should be of the same temperature as the throat into which it was injected.

Dr. John O. Roe of Rochester suggested the use of chloroform prior to making the application by the intratracheal syringe, considering this a much better agent for the purpose than cocaine.

Dr. G. Hudson Makuen of Philadelphia said he believed that if one could avoid touching the epiglottis, no

spasm would be produced. He referred to a cannula devised by Dr. Freer of Chicago, which he had used with most satisfactory results, much preferring it to the intratracheal syringe.

Dr. J. L. Goodale of Boston agreed in the statement of Dr. Roe, that the use of cocaine, especially in those cases in which frequent application was necessary, was to be deprecated. He mentioned a combination which he had used, of a saturated solution of eucain B, in a little adrenalin. This solution nearly equalled cocaine in the completeness and rapidity of its action.

Dr. Hubbard, in closing the discussion, stated that he considered the question of anæsthesia of the larynx of small importance, since, if the small, sharp curved cannula was used, the tip did not even touch the epiglottis, and with a properly placed laryngeal mirror, fluid could be injected into the trachea in all cases in which one could see the glottis, or below it. Regarding the temperature of the fluid injected, he stated that at first he was careful to have this fluid about the temperature of the blood, but that of late he had disregarded this precaution, using it at about the temperature of the room, and had been surprised at the excellent manner in which it had been received.

The Compensatory Action of Certain of the Laryngeal Muscles Seen in Cases of Vocal Disability during the Past Year.—Dr. Clarence C. Rice of New York summarized his paper, as follows: "(1) There exists throughout the entire muscular system of the body, the intention and the habit of one group to render assistance to any other group of muscles which may be temporarily, or permanently, inefficient. (2) Compensatory service is more readily appreciated in the larynx than elsewhere, because its technique may be observed with the laryngeal mirror. (3) The weaker of the laryngeal muscles are very easily fatigued by too rapid action or by overtraining, and that it is the habit of the stronger muscles to offer their assistance immediately. (4) Although this compensatory action is wonderful from a physiologic point of view, it is unfortunately accomplished at the expense of any great success in singing."

Dr. G. Hudson-Makuen of Philadelphia said that the great difficulty in diagnosing faulty laryngeal action, lay in the fact that the laryngoscope would not permit one actually to see the action of these muscles, during the singing process. He considered it important that this subject should be given the attention which it deserved, and that then the singing profession might become aroused to the fact that laryngologists did not know anything about the subject, and were able to furnish them with plans or theories which would be of use. He then called attention to the training of the extrinsic muscles of the larynx, saying this training should be uniform, developing the weak ones and adjusting their action.

Dr. Rice, in closing the discussion, urged that the matter of laryngeal troubles should not be forgotten in the great interest taken by the association in nasal and pharyngeal work. He agreed with Dr. Makuen, that the laryngoscope was unsatisfactory in the study of the muscles during the singing process, but looked forward to the time when this might be possible. He believed that it was the laryngologist's province to watch the muscular mechanism of the larynx, in order to see whether it was doing good or bad work, and when the latter was noticed, then to set both pupil and teacher right. The teacher knew something was wrong with the voice, but was unable to explain the cause.

The Sequel to a Case of Post-typhoid Perichondritis of the Larynx, Reported to this Association in May, 1903.—Dr. Emil Mayer of New York presented the final report on this case (see page 446.

Dr. W. K. Simpson of New York stated that he hoped to present a case of this character before the association at the next meeting. With regard to the type of tube used in such cases, he suggested the use of the hard rubber tube in preference to the metal one, since there was less likelihood of occlusion by mucus in the rubber tube.

Dr. A. W. de Roaldes of New Orleans spoke of the danger of wearing a tube, referring to the case of a patient who was obliged to wear an O'Dwyer tube for several years, it being removed about once a month and cleaned. The greatest danger in this case was the collection of mucus in the tube. It finally became necessary to do a tracheotomy, and the patient was now wearing a tracheotomy tube, and was a strong, vigorous boy.

Dr. Mayer, in closing the discussion, stated that in cases in which tracheotomy has previously been performed, the danger of wearing a tube was not nearly so great. He regarded as the greatest danger the possibility of the sides of the larynx contracting, when the tube was removed.

Second Day—Friday, June 3.

Neuroses of the Upper Air Track, Exclusive of Those Due to Diphtheria and Organic Disease.—Dr. G. Hudson Makuen presented a paper dealing especially with "Neuroses of the Nose," in which he stated that neuroses of nasal origin had been divided into two general classes, the sensory and the reflex neuroses. The former class consisted chiefly of disturbances of olfaction—anosmia, hyperanosmia, and parosmia, and of disturbances of sensation—anæsthesia, hyperæsthesia, and paræsthesia. Anosmia might be due to various causes; there were three distinct kinds—the respiratory, the gustatory, and the essential. Basic tumors of the brain, meningitis, and tabes had been mentioned as causes of anosmia, and rheumatism might also be so considered. The absence of smell for certain things was not of unusual occurrence. Hyperosmia, or a genuine hyperæsthesia of the sense of smell, might be a forerunner of anosmia. It was often due to the excessive irritation of the olfactory nerve, and anosmia or paræsthesia of the sense of smell, might be due to constitutional conditions such as gave rise to digestive disturbances, or might be the result of local conditions, such as carious teeth, ozæna, or suppuration in the nasal and accessory sinuses. With regard to the operative measures suggested for the relief of nasal reflex neuroses, he stated that if they did not cure the disease, they at least add to the comfort of the patient, and render him less liable to future respiratory troubles of various sorts.

The author reported the case of a young man coming under his care, who suffered from epileptic attacks. Examination of the nose showed an irregularly shaped septum, with marked pressure in the region of the posterior third of the middle turbinate, on the left side of the right nostril. There was also a decided nasal and postnasal catarrh. Local treatment was advised and was followed by the removal of a large exostosis of the septum, which was pressing firmly against the left middle turbinate. After the operation the patient reported having had two slight epileptiform attacks, and on examination it was found that the packing introduced after the operation, was producing more pressure than was thought. With the removal of this pressure the epileptic condition subsided.

Dr. F. E. Hopkins of Springfield spoke of "Neuroses of the Pharynx." The author considered this subject under the heads of abnormalities of sensation, neuralgia, reflex neuroses, spasmodic disturbances, and vascular neuroses. In discussing the question of abnormalities of sensation, anæsthesia, hyperæsthesia, and paræsthesia of the pharynx were described: under reflex neuroses, tinnitus aurium and sialorrhœa. The author cited a case of Lambert Lack appearing in the *Laryngoscope* of June, 1898, as an illustration of spasmodic disease. It was stated, with regard to the treatment in nearly all the cases of pharyngeal neuroses, that the patients were neurotics, and that while local lesions were to be sought for and removed when found, the general health should be improved by every method which could be brought to bear upon the individual case.

Dr. Emil Mayer spoke of "Neuroses of the Larynx." After presenting a schematic drawing showing the dis-

tribution of the laryngeal nerves, he said that he had noted an interesting condition of affairs with regard to essays on the various neuroses of the larynx, in a retrospect of the twenty-five volumes of transactions of the American Laryngological Association. In the first fifteen volumes there were from three to four essays on this subject each year, while in the last ten volumes many years had elapsed without a single article on the subject. This was accounted for by the fact that those were the early days of the laryngoscope, and the functions of the larynx were being studied from every point of view, while in later years, with the advance of surgery in this and adjacent fields, newer observations were made in other directions, while few new facts presented regarding neuroses. The writer passed briefly over the various sensory disturbances, as hyperæsthesia and anæsthesia, and presented for discussion, first, spasmodic affections of the larynx. Among these were included laryngismus stridulus, congenital stridor, spasm of the glottis, chorea of the larynx, laryngeal nystagmus, and dysphonia spastica. Regarding congenital stridor in infants, the writer was inclined to agree with Thompson and Logan-Turner, that it was a neurosis. The second part of the discussion referred to stammering; the third part to neuralgia of the larynx; the fourth to status lymphaticus and sudden deaths. Regarding this, he said that the importance of a clear understanding of this subject could not be overestimated, as it would help to an explanation of the sudden deaths from anæsthesia in operations for adenoid growths. Among the motor paralyses, some unusual etiological factors were mentioned, such as paralysis due to pericardial exudate, mitral stenosis, postoperative (the removal of angiofibroma at the angle of the jaw, and laryngofissure for papilloma); and traumatism from bullet wounds. The treatment of functional aphonia was then considered, and finally hysterical aphasia.

Dr. J. H. Bryan of Washington said the subject of neuroses of the upper air passages was one of the most difficult problems with which laryngologists have to deal. He reported two cases of anosmia. In regard to laryngismus stridulus, he believed this undoubtedly to be a neurosis due in many cases to mechanical causes, and called attention to a case already reported, in which the condition was due to the falling of the epiglottis

Dr. Theisen of Albany referred to three cases of thymus disease recently seen in the Children's Hospital in Albany. These patients went to bed apparently perfectly well, but were found dead in the morning, having died without giving any warning whatever. It is believed one of these patients had several attacks of laryngismus stridulus.

Dr. J. W. Farlow of Boston considered the most troublesome cases to be those of neurosis of the nose accompanied by enlargement of the middle turbinate bone, a great deal of lacrymation, and swelling about the eyes. He suggested treating such cases by exercising the skin and by hydrotherapeutics. Mention was made of the great fear which patients suffering from spasm of the glottis had with regard to eating, fearing that they might swallow too large pieces, and therefore making a habit of taking but small portions. But it was much better for these patients to eat larger pieces in order to keep the passage open as wide as possible, and also because not so much irritation is caused when a medium-sized portion was swallowed as when the muscles had to contract around a small piece. Reference was made to a case in which the false and vocal cords would come together with such violence on any attempt at speech that the patient would be rendered almost unconscious.

Dr. John O. Roe of Rochester referred to several cases in which migraine, headaches, etc., were found to have been caused by small polypi. He advised that a careful examination of the nose should be made in such cases before any treatment was resorted to. With regard to the subject of chorea he cited the cases of two children having large tonsils and adenoids, and suffering from chorea. Upon the removal of the tonsils and adenoids, however, the choreic symptoms disappeared.

Dr. J. W. Gleitsmann of New York referred to the subject of nervous cough, reporting a case under his care which was cured by sending the patient upon a sea voyage. Upon her return home her general condition was much improved, and the cough which was of a purely neurotic character, had entirely disappeared. Dr. Gleitsmann said that polypi of the nose complicated by asthma, the latter condition being cured by the removal of the adenoids, was by no means of rare occurrence.

Dr. Thomas Hubbard of Toledo, Ohio, regarded the subject under discussion from a medicolegal standpoint, reporting a case in which he was compelled to give testimony. The patient had received a blow upon the back of the head on falling from a street car. Symptoms of a moderate degree of concussion developed, and the olfactory bulb was either lacerated or injured. With reference to laryngismus stridulus, Dr. Hubbard considers this a disease in which the prognosis should be very guarded, and in which the case should be carefully watched, since death frequently resulted when one least expected it. He also referred to a case of congenital stridor, in which improvement took place upon the removal of the tip of the uvula.

Dr. Thomas J. Harris of New York cited the case of a trained nurse who developed attacks of spasm of the larynx as a result of very much reduced general health. She had the characteristic attack coming on in the middle of the night, and the fear that she would die. There was no organic trouble, but there was very marked postnasal catarrh. The use of bromide of potassium was most successful in this case.

Dr. S. W. Langmaid of Boston reported the case of a young girl who suffered from a barking cough, and the condition was much improved by carrying out the method of suggestion; that is, it was suggested that if the patient would keep her mouth firmly closed the bark could not escape. This condition was considered to be very rare.

Dr. William Lincoln of Cleveland mentioned a case of chorea produced by the removal of a lymphoid growth from the pharynx.

Dr. W. K. Simpson of New York called attention to the results in a case in which the uvula was removed without the consent of the child's parents. The uvula was removed so completely that the patient developed a most marked case of general hysteria, becoming completely helpless, and unable to walk. The laryngologist was removing an enlarged tonsil in this patient, and considered the uvula was long enough to call for amputation. This nearly led to a suit for damages, however, on the part of the child's parents, and if they had taken the matter into the courts they would, doubtless, have won their suit, since their consent had not been obtained before the removal of the uvula which resulted in such distressing symptoms.

Dr. W. F. Chappell of New York referred to two cases coming under his observation in which during the premenstrual period the patients had intermittent attacks of laryngitis, and occasionally complete stoppage of the nasal passages, with some moderate amount of sneezing. Both cases were cured by hydrotherapy, the patients standing in warm water while the back was showered with cold water.

Dr. Clarence C. Rice of New York mentioned the fact that, in his experience, very stout people had been troublesome patients, and he concluded that the size of the pharynx bore a distinct relation to its influence upon the condition of the larynx.

Dr. G. Hudson Makuen, in closing the discussion said that treatment of neuroses of the nose by hydrotherapy would seem to him to be treatment of only the peripheral condition. In reference to the case of nervous cough reported by Dr. Gleitsmann, Dr. Makuen

cited a case in which the symptoms of cough and asthma were caused by a large thickened spot of mucous membrane on the posterior wall of the pharynx. After the cauterization of this spot the symptoms disappeared, and the patient entirely recovered. It was admitted that one might often cure the cause of nervous cough without curing the cough itself, since if the patient had formed the habit of coughing it was very hard to break him of it. A case was related of laryngeal vertigo cured by removal of the tip of the uvula, which was very long.

Dr. Emil Mayer called attention to the fact that vertigo sometimes existed in connection with neuroses of the nose. He said nervous cough was a very rare condition, although reflex coughs were stated to be not unusual, and were often cured by treating the lingual tonsils, or by curetting the posterior pharyngeal wall. Reflex coughs, however, were not considered by Dr. Mayer to be strictly nervous conditions. In referring to the case of congenital stridor due to an elongated uvula, Dr. Mayer stated that many men maintained that this condition was not a neurosis, but in this connection he consulted with a number of pediatric physicians, and most of them agreed that it was primarily a neurosis. In regard to Dr. Rice's statement that laryngeal spasm was frequently met with in stout people, Dr. Mayer stated that this had not been his experience.

Removal of Foreign Bodies from the Œsophagus and Bronchi by the Aid of Killian's Œsophagoscope and Bronchoscope.—Dr. E. Fletcher Ingals of Chicago reported two cases. The first case was that of a child about two and a half years of age who swallowed a fleur-de-lis chatelaine pin. A radiograph showed the foreign body located at the inner part of the œsophagus just above the interclavicular notch. The child had swallowed the pin six days before being seen by Dr. Ingals, and during that time had suffered from severe nausea and had been unable to take solid food. The patient was given chloroform, and Killian's œsophogoscope, illuminated by Kirstein's lamp, was introduced. The pin was discovered in the folds of the collapsed œsophagus at the end of the tube. It was impossible to remove the pin through the tube, on account of its size, and therefore both the tube and the pin were brought out together. The second case was one of the removal of a pin from the lung. The patient was a girl of seventeen, who presented a history of having drawn a large glass-headed pin into the air passages eleven months previously. For three days following the accident she had attacks of cough, but the symptoms were so slight that no action was taken The cough, however, grew gradually worse, and at times the pin could be felt to move about in the air passages, and at one time it was coughed up to the larynx,when it caused a spasm which nearly resulted fatally. Her sensations had always been referred to the right side or to the center of the sternum. She was short of breath, particularly upon lying down. Large quantities of sputum, sometimes containing blood, had been expectorated. The *x*-ray was used three times but showed nothing. The trachea had previously been opened in an attempt to find the pin, but this proved unsuccessful and the wound was therefore closed and healed rapidly. It was stated that an abscess had been found at the time of this operation and that there was considerable expectoration of pus. When the patient came under the writer's care she was coughing a great deal and expectorating from three to six ounces of mucopus daily. A radiograph was taken showing the pin on a line between the second and third ribs in front and the fifth rib and sixth interspace behind, and from 3 to 4½ cm. to the right of the median line with the head directed downward and outward. The patient was given chloroform, and after much difficulty the pin was extracted with the bronchoscope. The patient recovered from operation promptly, and is now in better health than before the accident.

Dr. J. Edwin Rhodes of Chicago mentioned a case in which a pin, similar to that extracted by Dr. Ingals in the second case reported, had been removed by him through a tracheal opening from the third tonsil.

Dr. W. K. Simpson of New York reported a case in which a pin had been swallowed, lodging in the œsophagus. The *x*-ray showed it turned with the point up so that it was impossible to remove it. During the night, however, the pin became inverted and was extracted under chloroform anæsthesia.

Dr. John O. Roe of Rochester reported the removal of a twenty-five-cent piece from the œsophagus of a child of eight years. The exact location of the coin was determined by the use of the *x*-ray, and it was then extracted by the aid of a special forceps devised by the speaker.

Foreign Bodies in the Bronchus.—Dr. A. Coolidge, Jr., of Boston, supplemented Dr. Ingals paper by reporting four cases. In three cases a preliminary tracheotomy was performed, and in the other the foriegn body was removed by the aid of Killian's bronchoscope. The first case reported is that of a man who had lost a silver dime in his nose, it having fallen into the trachea. A low tracheotomy was done, but attempts to seize the coin were unsuccessful. There was no discomfort in breathing. The *x*-ray showed the coin to be situated just to the right of the median line at the fifth costovertebral articulation. The patient was placed on his back without a general anæsthetic, a straight speculum was introduced through the tracheal wound and pushed down nearly to the bifurcation. The coin was seen in the upper part of the right bronchus and removed with alligator forceps. The second case was that of an infant of twenty-two months, who twelve days before admission, after having been left alone, was found choking and cyanosed. On admission nothing abnormal was found on percussion or auscultation. There was an occasional spasmodic cough. A shawl pin was found to be lodged in the right bronchus and was removed with alligator forceps. The third case was that of a woman who had swallowed a pin 1½ inches long. On examination the pin was found to be at the fourth interspace on the left side and the head directly below it. An unsuccessful attempt at removal was made with Killian's bronchoscope. The following day the pin was shown to be in the same place, and on the third day, without a general anæsthetic, the trachea was sprayed with cocaine and a short tube inserted through the wound. The pin had become dislodged and was seen high up in the left bronchus and was easily removed. The fourth case was that of a boy aged eight years, who declared he had swallowed a nail, but this statement was not believed. A few days later the patient develloped a right-sided bronchitis. Examination with the *x*-ray showed a foreign body in the right bronchus. Under ether anæsthesia, Killian's bronchoscope was introduced and the nail seen projecting from the right bronchus into the trachea with the point imbedded in the tracheal wall. When the nail was touched coughing was excited and also a little bleeding. After two or three attempts the nail was withdrawn through the glottis with the tube, and was seized in the bronchus. Dr. Coolidge added that if he had had the experience in connection with his third case which he had with his fourth, and if he had had the instruments on hand for maintaining respiration for the right bronchus while he invaded the left, he would have made an attempt to reach the foreign body through the nasal passages before doing a tracheotomy. He stated that the introduction of Killian's autoscope was much easier in the living subject than in the cadaver, and believed it an instrument which could be used a great deal oftener than it now is.

The Present Methods for the Treatment of Malignant Diseases of the Larynx were considered by Dr. D. Bryson Delavan of New York (see page 441.)

Dr. E. Fletcher Ingals of Chicago thoroughly agrees with the author of the paper in regard to the operation of laryngectomy only being performed by qualified persons. Two cases were reported, in one of which a preliminary tracheotomy was performed, and in both of which a complete laryngectomy was done. The patients

made uneventful recoveries from the operations, and were able to talk very well.

Dr. H. L. Swain of New Haven also reported a case of laryngectomy, and this patient was also able to talk. He was a minister, and had voice enough to preach again if he so desired. There was no preliminary tracheotomy in this case, and except for a stitch abscess the patient made an uneventful recovery from the operation. Mention was made of the case presented by Dr. Chappell before the last meeting of the association. This patient would pass the three-year limit within two months and there was still no sign of recurrence.

Dr. John N. Mackenzie of Baltimore reported the case of a woman who presented herself to him having well-marked papilloma of the soft palate and posterior wall of the pharynx with spots of infection here and there on the lateral wall. This case was inoperable, and the patient was therefore advised to put herself under the care of Dr. Pusey of Chicago. The treatment by use of the *x*-ray was instituted, and was successful with regard to the growth in the pharynx, but the infection spread along the lateral wall deeper into the larynx until it reached the epiglottis. The case is referred to as an instance of the adaptability of the *x*-ray to the pharynx. Dr. Mackenzie thoroughly agreed with the author in the question of only having qualified men to perform the operation of laryngectomy.

Dr. W. K. Simpson of New York was convinced that the average laryngologist was not capable of doing excision of the larynx for cancer. He called especial attention to the lack of attention paid to the question of technique even by good operators, and cited a case resulting fatally from neglect of the post-operative technique.

Dr. William Lincoln of Cleveland considered that it was wiser to run the risk of operating before malignancy was thoroughly established than to wait until this was certain. In regard to the treatment of these cases by the *x*-ray, Dr. Lincoln referred to a case in which this agent was used with no result for good. Mention was also made of the seven cases reported by him in his thesis of last year, all of which were operated upon by Dr. Crile. Operation was undertaken in every case, not with the promise of cure, but with a view to relieving the pain and discomfort, and in six cases prevented many weeks of suffering. The other patient was completely cured.

Dr. Delavan, in closing the discussion, stated that with regard to the *x*-ray, the more superficial the growth the more probable was the prospect of relief, and said he believed this agent had been invariably used in cases of laryngeal cancer, the patient hoping thus to do away with operation. The treatment with this agent so far has been entirely from the outside. Dr. Delavan stated that he had had cases of inoperable tumors of the neck in which the *x*-ray had been of the greatest possible value in relieving the suffering. Stress was laid upon the danger of excising portions of malignant growths for microscopical examination. Thyrotomy was not considered justifiable in laryngeal cancer. Dr. Delavan referred to two cases which resulted fatally after complete laryngectomy, and one after a partial laryngectomy. In all these cases he believed the result would have been different if the operators upon the cases had been more skilful.

Effects of Tobacco upon the Throat.—Dr. Samuel W. Langmaid of Boston referred to the literature on the subject, and expressed his belief that the climate had much to do with the effect produced upon the mucous membrane of the throat by smoking. He was convinced that the nicotine carried to the throat of the smoker was in reality very small in comparison to the amount of carbon monoxide gas, and therefore attributed the poisonous symptoms produced by smoking to the absorption of this gas by the system. He believed that tobacco smoking was not only harmful to the throat as a direct irritant, but that it produced vasomotor disturbances of the pharyngeal mucous membrane by its poisonous effects upon the nervous system.

Dr. Swain of New Haven referred to a case of a young woman who complained of trouble with her throat. It was found that she was a smoker. Three years after the first examination of her throat, she returned for a second examination, but no appreciable difference was found in the condition. She complained, however, of having less comfortable nights, and this seemed to have been the only added symptom after three years of smoking. It was Dr. Swain's opinion that smoking left a certain mark upon the throat, which was, however, hard to define.

Dr. J. W. Farlow considered it the duty of laryngologists to instruct their patients as to the best way to smoke with a minimum amount of damage to their throats, and suggested that even one or two cigars might be smoked daily without harm, if taken immediately after the principal meal. The mouth should be rinsed out after smoking with cold water, in order to remove the sticky condition of the mucous lining of the nasopharynx and pharynx.

Dr. Langmaid had found that good results had been produced by having the patient give up smoking for a time. He stated that many of our best singers smoke, and that smoking had less effect upon the voices of low register than upon those which were higher, since the lower pitched voices did not depend upon the finer chords for their beauty of tone.

Bone and Cartilage in the Tonsil.—Dr. James E. Newcomb of New York presented a paper with this title. His attention had been called to the condition from reports of the few cases recently published, and some two years ago he had seen one case in his own practice. The patient was a woman of about thirty years, whose tonsils were enlarged. In removing the left one with the usual Mackenzie instrument a hard body was pierced, and examination of the tonsil after removal showed that the body was the tip of the styloid process of that side. The process was under normal conditions about 2½ cm. in length and projected downward, forward, and inward from the under surface of the temporal bone, being a derivative of the second branchial arch. In his own patient the right side presented nothing abnormal. Such cases were perhaps of greater interest than importance, yet irritation might result if sufficient soft tissue did not pad the stump left in the tonsil. His own patient had suffered no inconvenience, though the stump was easily perceptible on palpation. As to bony and cartilaginous nodules scattered throughout the tonsils, he had had very little personal experience. Several tonsils had come under his observation which showed masses too large and firm to be regarded as connective tissue, and he had surmised that these masses might have been cartilaginous, but this view had not been confirmed by the microscope. Two theories were held as to the origin of these cartilaginous deposits. According to one, they were vestigial rests of the second branchial arch, and were therefore to be looked upon as enchondromata. The other theory referred them to metamorphosis of connective tissue. It was difficult to say which theory was correct, as on embryological grounds there were arguments against the validity of either. We had to remember that cartilage might develop independently of the skeletal frame in the connective tissue of organs when mechanical relations demanded its presence. The writer of the paper presented a summary of the various views on the subject with brief reports of published cases.

Dr. Cornelius G. Coakley of New York stated that in his researches on branchial cyst in connection with his paper he was surprised to see how often cartilage and bone were found in these cysts. He also said that he found some bone on the anterior surface of the posterior pillar

of the fauces and some in the cellular tissue under the lateral wall of the pharynx.

Dr. JOHN O. ROE of Rochester reported a case in which he struck against a very hard substance while attempting to remove an enlarged tonsil with the snare. This osseous formation was found to be the end of the styloid process, which was projecting into the tonsil for nearly half an inch.

THIRD DAY—SATURDAY, JUNE 4.

The following papers were read, some of them by title: "Submucous Operations on the Nasal Septum; No Perforation—the End in View; Report of Cases," by Robert C. Myles, M.D., of New York. "Broncholiths, with Report of Case," by D. Braden Kyle, M.D., of Philadelphia. "The Final History of a Case of Supposed Vocal Nodule; Epithelioma of the Larynx; Thyrotomy; Death," by Charles H. Knight, M.D., of New York. "Subglottic Tuberculous Lesions of the Larynx," by T. A. DeBlois, M.D., of Boston. "Two Cases of Pemphigus of the Mouth," by John W. Farlow, M.D., of Boston. "A Branchial-cleft Cyst Simulating a Retropharyngeal Abscess," by Cornelius G. Coakley, M.D., of New York. "Primary Ulceration of the Tonsil, Together with Some Remarks on Tonsillar Ulceration in General," by Thomas J. Harris, M.D., of New York. "Tic Douloureux from Sphenoidal Disease," by John O. Roe, M.D., of Rochester. "Lupus of the Pharynx and Nasopharynx Cured by the *X*-rays," by Herbert S. Birkett, M.D., of Montreal.

During the executive sessions of the Congress, the following gentlemen were elected: To Corresponding Fellowship, Prof. B. Fraenkel, Berlin; to Active Fellowship, Dr. T. Passmore Berens, New York City. Title of thesis, "An Operation for the Correction of External Deformities of the Bridge of the Nose." Dr. John M. Ingersoll, Cleveland. Title of thesis, "A Study of the Development of the Nose and Its Accessory Cavities." Dr. Harris P. Mosher, Boston. Title of thesis, "The Applied Anatomy of the Frontal Sinus."

Officers.—The following officers were elected for the ensuing year: *President*, Dr. Clarence C. Rice of New York; *Vice-Presidents*, Drs. Thomas Hubbard of Toledo, Ohio, and Walter J. Freeman of Philadelphia; *Secretary and Treasurer*, Dr. James E. Newcomb, New York; *Librarian*, Dr. J. H. Bryan, Washington, D. C.; *Members of Council*, Dr. D. Bryson Delavan of New York, to serve for three years, and Dr. J. H. Hartman of Baltimore, Md., to serve for four years. The date and place of the next congress were left to the decision of the council to determine. An amendment to the constitution was adopted increasing the active fellowship from seventy-five to one hundred.

Removal of Pin from the Lung, per Vias Naturales, with Bronchoscope and Tube Forceps.—E. Fletcher Ingals carefully describes this case. The pin, a large glass-headed one, had been swallowed nearly a year before. Tracheotomy was performed but the pin was not found. The writer gave $\frac{1}{60}$ gr. of atropine hypodermically to check secretions. Chloroform was administered, and when anæsthesia was nearly complete the larynx and trachea were sprayed with a solution of cocaine and suprarenalines with atropine, strophanthine, carbolic acid, and oil of cloves. He then introduced a Killian bronchoscope, 34 cm. long, through the larynx down into the right main bronchus and one of its larger branches. The parts were illuminated with a small Chicago-Electro Appliance No. 1 (cold) lamp, with carrier 33 cm. long, made for the special purpose. Careful search with a blunt hooklet was made for the pin for about three-quarters of an hour. Finally it was brought across the end of the tube, and was then caught with Killian's tube forceps. But not being able to extract it in this way, the writer finally regrasped it firmly and drew it and the bronchoscope out together. In doing so, the pin was bent to an acute angle near the head. The pin was of brass, 4 cm. long, and the glass head measured $5\frac{1}{2}$x8 mm. in diameter.—*The Chicago Medical Recorder.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE PRACTICE OF OBSTETRICS—Designed for the Use of Students and Practitioners of Medicine. By Dr. J. CLIFTON EDGAR. Second edition, revised. 8vo, 1153 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $6 net.

FRIEDBERGER & FROHNER'S VETERINARY PATHOLOGY (Authorized Translation). Translated and edited by M. H. HAYES, F.R.C.V.S. With notes on Bacteriology, By Dr. G NEWMAN, D.P.H. Volume I. 8vo, 519 pages, muslin. W. T. Keener & Company, Chicago. Price, $4 net.

A SHORT TREATISE ON ANTI-TYPHOID INOCULATION. By A. E. WRIGHT, M.D. 8vo, 76 pages, illustrated, muslin. Archibald Constable & Co., Ltd., Westminster. W. T. Keener & Co., American Agents. Price, $1.25 net.

SERUMS, VACCINES, AND TOXINES IN TREATMENT AND DIAGNOSIS. By WM. CECIL BOSANQUET, M.A., M.D., F.R.C.P. 12mo, 344 pages, muslin. W. T. Keener & Co., Chicago. Price, $2 net.

CLINICAL URINOLOGY. By Dr. ALFRED C. CROFTAN. 8vo, 298 pages, illustrated, muslin. William Wood & Company, New York. Price, $2.50 net.

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. CLOUSTON, M.D., F.R.C.P.E. Sixth edition. 8vo, 738 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia.

TRANSACTIONS OF THE SEVENTY-FIRST ANNUAL SESSION OF THE TENNESSEE STATE MEDICAL ASSOCIATION, CHATTANOOGA, 1904. 8vo, 424 pages, muslin.

THE MEDICAL EPITOME SERIES. SURGERY. A Manual for Students and Practitioners. By M. D'ARCY MAGEE, A.M., M.D., and WALLACE JOHNSON, PH.D., M.D. 12mo, 295 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $1 net.

A TEXTBOOK OF MATERIA MEDICA, INCLUDING LABORATORY EXERCISES IN THE HISTOLOGIC AND CHEMIC EXAMINATION OF DRUGS. By ROBERT A. HATCHER, PH.G., M.D. and TORALD SOLLMANN, M.D. 12mo, 411 pages, illustrated. W. B. Saunders & Co., Philadelphia. Price, $2 net.

A HANDBOOK OF SURGERY FOR STUDENTS AND PRACTITIONERS. By FREDERIC RICHARDSON GRIFFITH, M.D. 12mo, 570 pages, illustrated, leather. W. B. Saunders & Co., Philadelphia. Price, $2 net.

THE HEATH SCHOLARSHIP PRIZE ESSAY ON THE DEVELOPMENT AND ANATOMY OF PROSTATE GLAND. By W. G. RICHARDSON, M.B., B.S., F.R.C.S. 8vo, 121 pages, illustrated, muslin. J. & A. Churchill, London. Price, $3.75 net. P. Blakiston's Son & Co., Philadelphia, American Agents.

A TEXTBOOK OF DISEASES OF WOMEN. By CHARLES B. PENROSE, M.D., PH.D. Fifth edition, revised. 8vo, 550 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3.75 net.

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians, and Health Officers. By D. H. BERGEY, A.M., M.D. Second edition, revised and enlarged. 8vo, 536 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3 net.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology and Bacteriology. By FRANK BURR MALLORY, A.M., M.D., and JAMES HOMER WRIGHT, A.M., M.D. Third edition, revised and enlarged. 8vo, 469 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3 net.

Those Who Sleep in the City of London.—Estimates framed by Dr. Collingridge for his annual report to the Court of Common Council place the number of those who sleep in the city at 24,958, and of those who are engaged in business there during the daytime at 358,930, of the 839 deaths registered in the district in 1903 no fewer than 631, which occurred in St. Bartholomew's Hospital, were of persons who had resided outside its boundaries.—*Daily Telegraph.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 12, 1904:

	Cases.	Deaths.
Measles	40	8
Diphtheria and croup	176	25
Scarlet fever	60	2
Smallpox	...	...
Varicella	2	...
Tuberculosis	391	139
Typhoid fever	146	21
Cerebrospinal meningitis	...	15

Radium and Temperature of the Earth.—Prof. Rutherford has stated that he believed the amount of radium present and uniformly distributed throughout the earth would be sufficient to account for all the heat lost from that body. In this event the cooling of the earth, so that it ultimately would become uninhabitable, as was calculated by Lord Kelvin, would be postponed, and a few million more years would be afforded for the various forms of animal life. Such a possibility was anticipated doubtless by Lord Kelvin himself, for in his calculations he inserted "provided no new form of heat is discovered." This is now held to exist in the minute quantities of radium which are widely and universally distributed over the earth, and which may account for the gradual increase of temperature as the interior of the earth is approached.—*Harper's Weekly.*

Annual Statistics Relating to Diphtheria from l'Hôpital des Enfants-Malades.—M.M. Marfan and Menard publish statistics concerning children treated in the diphtheria wards of l'Hôpital des Enfants-Malades between May 1, 1902, and May 1, 1903. The total case mortality upon 1,412 cases was 15.8 per cent. If those dying within the first twenty-four hours be omitted, the mortality is reduced to 11.1 per cent.; while if those dying during the first forty-eight hours be excluded, the mortality falls to 9.3 per cent. The authors note the following points: (1) A number of prophylactic injections were made in the case of brothers or sisters of those attacked. One thousand children received injections of 5 c.c. of serum for this purpose, and only two of them were attacked by diphtheria, one within twenty-four hours and the other four days after receiving the infection. Both cases were benign. (2) During this period diphtheria was less malignant than during the period which preceded it, but the cases of croup were more numerous. (3) Local treatment was reduced to a minimum, and was only carried out in the very offensive attacks with sloughing.

Bacteriology of Ink.—In 1901 there occurred in Switzerland several deaths of school children from blood poisoning, which was attributed to "repeated pricks from pens dipped in ink containing molds and other harmful bacteria." No very scientific investigation appears to have been made, however, either of the ink or of the bodies of the unfortunate children. The paternal Prussian Government was, nevertheless, alarmed, and Professor Flugge of Breslau was commissioned to investigate the matter. The results of experiments by his assistant, Dr. Heymann, are summarized in the *Hygienische Rundschau.* The various results occurring in ink had been previously studied by Marpmann, who showed that inks are usually sterile, owing to the tannic acid they contain. This was confirmed by Heymann, who found that out of twenty-four samples tested on glycerin agar culture media twenty-two were completely sterile, and the other two contained only "ordinary air bacteria." He further found that "gall ink" has considerable antiseptic powers, spores of penicillium being destroyed in twelve hours, and "the pathogenic" bacteria in an hour. He concludes that ordinary ink, either fresh or after prolonged use, contains no harmful microorganisms, and has a very great disinfecting power, especially against those which produce blood-poisoning. If pen pricks give rise to septic disease, it can only be through secondary infection.—*Medical Magazine.*

The High Mortality among Medical Officers in War.—Apropos to the Russo-Japanese war a Russian medical journal contains an article from which it appears that the rate of mortality among military surgeons was much larger during the war with Turkey than in the combatant portions of the army. As it was deemed of very great importance to know whether this was peculiar to the late war, a comparison was made with the ascertained losses of surgeons in former wars, and the following statistics are the result of this investigation: During the campaign in 1813-15 there were 2170 surgeons in the Prussian army, of whom about 10 per cent. were either killed or wounded, being in about equal proportion to the casualties among combatants. In the French campaign against Constantine, 1837, while every thirteenth combatant officer was killed, every sixth surgeon died. This, in proportion to the numbers, shows that the mortality among surgeons (16⅔ per cent.) was more than double that of the line officers (7⅙ per cent.). During the Crimean war, according to French official statistics, the mortality among the surgeons was 18.2 per cent. and among the combatant officers 7.3 per cent. In the last Russian campaign 355 surgeons out of a total of 2,839 died, being equal to 12½ per cent. In the Mexican expedition (French) the rate of mortality among the surgeons was about 20 per cent., while that of the combatant officers was only about 4 per cent. The only instance on record in which the proportion of deaths among combatant officers was larger than that of the medical officers was in the Prussian army during the Franco-Prussian war, '70-71.—*Journal of the Association of Military Surgeons of the United States.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 12, 1904:

SMALLPOX—UNITED STATES.

				CASES.	DEATHS.
District of Columbia, Washington	Aug. 27–Sept. 3			1	..
Florida, Jacksonville	Aug. 27–Sept. 3			1	..
Illinois, Chicago	Aug. 27–Sept. 3			5	..
Louisiana, New Orleans	Aug. 27–Sept. 3			4 (1 case imported.)	
Massachusetts, Lawrence	Aug. 27–Sept. 3			1	..
North Adams	Aug. 27–Sept. 3			22	1
Michigan, at 51 localities	Aug. 20–Aug. 27			Present.	
Ohio, Cincinnati	Aug. 19–Aug. 26			1	.
Pennsylvania, Philadelphia	Aug. 27–Sept. 3			1	..
Williamsport	Aug. 27–Sept. 3			1	..
Tennessee, Memphis	Aug. 27–Sept. 3			1	..
Nashville	Aug. 27–Sept. 3			3	..

SMALLPOX—FOREIGN.

Brazil, Rio de Janeiro	July	24–Aug.	7	549	210
Canada, Winnipeg	Aug.	13–Aug.	20	1	..
France, Paris	Aug.	13–Aug.	20	8	1
Great Britain, Glasgow	Aug.	19–Aug.	26	2	..
London	Aug.	13–Aug.	20	2	..
Manchester	Aug.	6–Aug.	20	6	..
Nottingham	Aug.	13–Aug.	20	2	.
India, Bombay	Aug.	2–Aug.	9	8	.
Karachi	July	31–Aug.	7	3	
Italy, Palermo	Aug.	13–Aug.	20	37	4
Mexico, City of Mexico	Aug.	14–Aug.	21	12	..
Russia, St. Petersburg	Aug.	6–Aug.	13	7	2
Warsaw	July	16–July	30	..	44
Spain, Barcelona	Aug.	10–Aug.	20	..	8
Turkey, Alexandretta	Aug.	6–Aug.	13	..	0
Beirut	Aug.	6–Aug.	20	Present.	
Constantinople	Aug.	7–Aug.	21	..	16
Smyrna	Aug.	7–Aug.	14	..	2

YELLOW FEVER.

Brazil, Rio de Janeiro	July	24–Aug.	7	6	2
Ecuador, Guayaquil	Aug.	3–Aug.	10	..	2
Mexico, Coatzacoalcos	Aug.	20–Aug.	27	5	1
Merida	Aug.	21–Aug.	27	3	2
Tehuantepec	Aug.	21–Aug.	27	..	1
Vera Cruz	Aug.	20–Aug.	27	4	..

CHOLERA.

India, Bombay	Aug.	2–Aug.	9	.	34
Calcutta	July	30–Aug	6	..	4
Persia, Teheran	Aug.	6		(Nearly extinct)	
Turkey, Bagdad and vicinity	July	16–July	23	314	138

PLAGUE

Brazil, Rio de Janeiro	July	24–Aug.	7	15	6
China, Amoy	July	16–July	30	..15 (Est'ted)	
Egypt	July	30–Aug.	6	12	7
India, Bombay	Aug.	2–Aug.	9	5	51
Calcutta	July	30–Aug.	6	..	8
Karachi	July	31–Aug.	7	5	2
Peru, Eten	Sept.	1		Present.	

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Original Articles.

OPERATIONS UPON THE EYEBALL IN THE PRESENCE OF AN INFECTED CONJUNCTIVAL SAC.*

By CHARLES STEDMAN BULL, A.M., M.D.,
NEW YORK.

SINCE bacteriology has become a science, the ophthalmic surgeon has learned that bacteria play an important part in all forms of suppuration following operations on the eye, for as a rule the infection comes from without. We all recognize that infection of the wound may occur during the operative act as well as afterward. It may come through the air, from the hands of the operator, from the irrigating solutions employed, or from the instruments used. It may be due to the conditions of the edges of the eyelids, or of the conjunctival sac, or of the lacrymal passages. The danger from aerial infection may be sufficiently guarded against during operations on the eye, to make it of secondary importance. The hands of the surgeon may be made aseptic by careful cleansing and scrubbing of the fingers, and the danger from this source is always slight, because in operations on the eyeball the fingers rarely come in actual contact with the tissues involved in the field of operation.

It is to be assumed that the greatest care is exercised in maintaining the absolute sterility of all fluids used in irrigating before, during, and after the operation, and of all collyria used. These, as well as the pipettes, should be boiled before using.

It is not always possible to be absolutely sure of the aseptic condition of our instruments, either because the fluids used for disinfecting them have not recently been sterilized, or because they may have become infected by the hands of the surgeon or assistants. This more especially applies to operations done at the residence of the patient.

This brings us to a consideration of the most important sources of infection, the edges of the eyelids, the conjunctival sac, and the lacrymal canaliculi and sac. Here is undoubtedly found the most frequent source of infection, for we can never be sure that the edges of the lids and the conjunctival sac are non-infected and sterile. They are the most dangerous sources of infection, for while it is possible that there may be no pathogenic germs in a normally appearing conjunctiva, we know that sometimes even in apparently sound lids and conjunctiva, the most virulent germs have been found. We have learned that we cannot with *certainty* make the edges of the lids and the conjunctival sac sterile.

The question then whether we shall operate on the eyeball when the conjunctival sac is infected is one of great importance to both surgeon and patient. At the first glance the subject would seem to occupy but a very narrow field, and not to admit of much discussion, but a closer study of the subject opens up the very wide field of bacteriology, which is practically limitless. One of the important facts taught us by modern bacteriology is that a normal conjunctival sac, free from noxious bacteria of all kinds, practically does not exist, or at least does not come within the ken of the ophthalmic surgeon. As far back as 1894, *Gayet* found, after disinfecting the conjunctival sac of his cataract patients, that microbes remained in 75 per cent. of them, and, from a study of 213 test-tube cultures, he concluded that antiseptic fluids have very little influence over germs in the conjunctival sac.

Rymowicz has given us a still more interesting report on the same subject. He investigated the conditions in one hundred healthy eyes. The conjunctival sac was cleansed with a sterilized physiological salt solution, and then the fluid from the sac was inoculated on agar with coagulated glycerinized beef serum. The conjunctival sac in every case was infected as follows: in 94 cases by the bacillus pseudodiphtheriticus; in 9 cases by the pneumococcus; in 5 cases by the streptococcus; in 6 cases by the Morax-Axenfeld bacillus; in six cases by the staphylococcus aureus; and in eight cases by the staphylococcus albus.

Another fact that the study of bacteriology has taught us is that the pathogenicity of microorganisms is by no means a constant quantity, but differs directly with their capacity to manufacture disease-producing toxins and tox-albumins. This capacity to manufacture toxins is influenced by certain natural and artificial agencies. Such agencies, for example, are unfavorable culture-media in the body, or conditions of life in which the germs are compelled to exist. Within the influence of such agencies, these toxins become attenuated or are not manufactured at all. Among the natural attenuating agents sunlight is most powerful, and among the artificial attenuating agents cleanliness, in the widest sense, is an all important factor.

Fick (Ueber Mikro-organismen im conjunctival Sack, 1887) found in fifty cases of apparently normal eyes only 12 per cent. without bacilli. He enumerates seven different varieties of bacilli and three kinds of cocci, among them the staphylococcus aureus and pyogenes.

A microscopical examination of the contents of the conjunctival sac should always be made before operation, as various microorganisms may cause very similar symptoms. For instance, the presence of disease of the lacrymal passages does not necessarily lead to the conclusion that the acute conjunctivitis is due to the presence of streptococci. Any pathogenetic bacillus of the conjunctival sac may become virulent when the conditions favor its development. But even after a careful microscopical examination, we are not always sure of our results, for the different bacilli vary in their destructive effects at different times. For example, the Koch-Weeks bacillus is apt to cause a distinctly contagious conjunctivitis with severe symptoms, while the conjunctivitis due to the diplococcus is usually not severe; and the conjunctivitis due to the diplo-bacillus of Morax-Axenfeld generally runs a mild and subacute course. Yet not infrequently these conditions

*Read before the American Ophthalmological Society, at its fortieth annual meeting, at Atlantic City, N. J.

are all reversed. The conjunctivitis caused by the staphylococcus and streptococcus is almost always marked by severe symptoms, among them the formation of a pseudomembrane, which is often with difficulty to be distinguished from a diphtheritic membrane, in spite of microscopical examination.

A brief study of a few of the more common forms of infection of the conjunctiva may help us to a conclusion as to when to operate, if at all, in the presence of infection.

There are several forms of conjunctivitis due to the streptococcic infection. The most common form is distinguished by marked engorgment of the conjunctival and subconjunctival vessels, slight secretion and slight swelling of the lids. Another form, due to the same microbic infection, shows a thin membrane or pellicle, and is called pseudomembranous. The common name of streptococcic conjunctivitis depends upon the abundant presence of the streptococcus in the secretion, and the impossibility of explaining the clinical symptoms without its intervention, though there may be other microbes associated with it, which do not explain the gravity of the inflammation. The false membrane is not always present, and is generally of extreme tenuity. There is always some swelling of the lids, and almost always a pre-auricular adenitis. The presence in the secretion of cocci disposed in chains does not prove it to be the streptococcus, for the pneumococcus does the same thing. The bacilli occur more frequently as disseminated diplococci, not to be distinguished from the staphylococcus and pneumococcus. There is no one pathognomonic symptom, but the general complex of symptoms will aid in the diagnosis, while a full demonstration is only furnished by cultivation and inoculation, and the bacilli should be numerous in the secretion and cultures. It should not be forgotten that the streptococcus, the staphylococcus, and the diphtheria bacillus may exist in the conjunctival sac without exciting any reaction, and infection can only occur in the presence of traumatism.

In operative cases the streptococcic infection is very grave, and generally leads to rapid perforation of the cornea and general suppuration of the eyeball. It is always difficult to trace the way in which this infection has occurred, or to determine the conditions which have facilitated its development. It is certain that in many cases the infection is developed in pre-existing forms of conjunctivitis, and it is probable that it would not have occurred without a preceding loss of epithelium. It is very doubtful if a streptococcic infection could be developed in a healthy conjunctiva, and we must regard it as a secondary inflammatory process.

Most of these cases doubtless come from the lacrymal sac, for there is usually slight redness and swelling over the sac and tenderness on pressure, and more or less swelling of the pre-auricular gland, and more rarely of the parotid and submaxillary glands.

The conjunctivitis due to pneumococcus infection is much rarer than that due to infection by the streptococcus or staphylococcus. It occurs mainly in young persons, and seems to be most prevalent in spring or autumn. Its appearance may be either sporadic or epidemic. It is sometimes met with in children with measles and bronchopneumonia, and here the symptoms are very severe, especially on the side of the cornea, which rapidly ulcerates, becomes deeply infiltrated, perforates, and ends in panophthalmitis and sometimes in the death of the patient. The pneumococcus seems to occur more frequently in certain localities. For instance, Rymowicz reports that in Kasan the pneumococcus conjunctivitis ranged from 18 per cent. to 36 per cent. of the cases, and was often accompanied by iritis and cyclitis, probably from development of toxins. In all the cases reported the pneumococcus has been found in great abundance in the secretion. At other times the symptoms are slight, the cornea is not involved, or if so, only superficially, and the pneumococci are few in number.

In the case of an infected lacrymal sac, the condition is somewhat more grave. The contents of a suppurating tear-sac are extremely infectious. It needs but a small wound in the cornea, the slightest injury to the corneal epithelium, to set up that most destructive process, ulcus serpens. Yet it is a well-known fact that many patients have suffered for years from suppuration of the lacrymal sac without any infection of the conjunctiva or cornea. Some two years ago, Stock (*Klinische Monattsblätter für Augenheilkunde*, 1902, p. 116) instituted some experiments on rabbits. The lacrymal sac was infected by the Bacillus pyogenus, Bacillus prodigiosus, and the Staphylococcus aureus, and he watched the animals for a varying length of time without result. He satisfied himself that the normal uninjured conjunctival sac of the rabbit could not be infected, and that if the lacrymal sac were extirpated or the lacrymal puncta cauterized by the galvano-cautery, no germs could enter the conjunctival sac from the nose.

Hirota (*Zentralblatt für Bakteriologie*, 31, Heft 6) carried out similar experiments about the same time. He found that the bacilli of septicæmia and of hen cholera, and the pneumococcus, introduced into the conjunctival sac of the rabbit, only succeeded in infecting it when traumatism was present. He also incidentally demonstrated the influence of the lid action upon the germ contents of the conjunctival sac, by finding that bacteria introduced into the sac all disappeared within ten minutes after the use of irrigating fluids.

In the light of our past experience and of the knowledge gained from the numerous experiments instituted and carried out on animals, it becomes absolutely important that all diseases of the eyelids, edges of the lids, conjunctiva and lacrymal passages, whether suppurative or not, should be treated and cured before undertaking any operation on the eyeball or conjunctiva. Chronic dacryocystitis is the most dangerous source of infection, and if a persistent inflammation of the lacrymal sac resists treatment, the puncta must be obliterated by the actual cautery, or the lacrymal sac must be excised. We have learned by experiments that the bactericidal properties formerly attributed to the natural lacrymal secretion, the tears, do not exist. It is true that successful operations on the eyeball have been performed in the presence of chronic dacryocystitis, but the risk is too great to countenance such unwise action, and the same may be said of operations on the eyeball in the presence of trachoma with purulent discharge. It is by no means safe or wise to be guided in our decision as to operating, by the appearance and secretion of the conjunctiva, even when the mucous membrane is smooth and merely red and swollen, for an inflamed conjunctival sac is never to be trusted. Even after a careful bacteriological examination has been made with negative results, all the steps of an operation should be carried out with the least bruising and violence, in order to avoid preparing a soil in which germs tend to multiply; and we should not operate where avoidable in cases in which unfavorable constitutional conditions exist, as these may indirectly be provocative of pathogenetic germ growth.

All this brings us round again to the ever-present

question: how can the danger of infection be best avoided? From the bacteriological standpoint it would seem that the most favorable results are to be gained by mechanical cleansing of the eyelids and lid-margins and simultaneous irrigation. I do not believe that anything is to be gained by using concentrated antiseptic solutions over indifferent fluids like normal salt or boric acid solutions for purposes of irrigation. Repeated mechanical cleansing with warm water and soap may do for the region surrounding the eyes, the forehead, eyebrows, temple, and cheek, and the external surface and edges of the lids, but the delicate conjunctiva will not bear such rough handling, and is positively injured by the loss of its epithelium, thus leaving openings for the free entrance of germs.

After the forehead, temple, cheek, external lid surfaces, and edges of the lids have been mechanically cleansed in the way mentioned, the conjunctival sac should be repeatedly irrigated with some indifferent sterilized irrigating fluid, and then the fluid collected in the conjunctival sac should be mopped up with sterilized moist cotton pads, before beginning the operation. Operating in this so-called dry manner prevents the entrance of this fluid into the wound, and thus the danger of actually pressing any possibly existing germs into the lips of the wound is avoided.

If care has been taken to avoid operating in the presence of a positively infected conjunctival sac, and if no infection has been introduced during the operation, we may almost with certainty expect a rapid and favorable healing of the wound. The rare occurrence of infection after operation may, perhaps, be explained by the fact that toxic bacteria are not always present, and that when present, they are not met with in great numbers, and consequently their virulence is slight, for the danger of infection increases with the number of bacteria present in the sac, and in contact with the wound. It has been thought by some skilled operators that we have another means at our command for preventing infection after an operation, by doing away with the ordinary protective bandage, and protecting the eye merely by the mask, on the principle that the natural motion of the lids is a valued factor in the normal cleansing of the conjunctival sac. From a bacteriological standpoint this is theoretically correct. But the nature and temperament of the patient must always be considered. In a patient of quiet, equable temperament, it might be entirely safe to close the lids by a strip of adhesive plaster, and protect the eye from external injury by a mask, but in the majority of cases the writer is convinced that the risk of such a procedure would be too great, owing to the restlessness and irresponsibility of the patient.

Summary.—I. A careful microscopical and bacteriological examination should be made of the contents of the conjunctival sac in every suspected case, carrying the examination as far as the cultivation of the bacteria in a proper medium, and the subsequent inoculation of the germs.

II. If toxic germs are found in great numbers, no matter what their varieties, no operation on the eyeball should be undertaken until the germs have disappeared, and the conjunctival sac has been rendered as sterile as we can hope to make it.

III. If there be suppurative disease of the lacrymal passages, whether of canaliculi, sac, or nasal duct, all operations upon the eyeball are positively contraindicated. The lacrymal sac must be excised, and the lacrymal puncta must be obliterated by the galvano-cautery, before any operation on the eyeball is undertaken. In the case of a catarrhal dacryocystitis, or of mucocele of the sac, both canaliculi should be incised, and the sac injected daily with an antiseptic astringent solution, and free irrigation through the nasal duct carried out until all secretion has ceased. Even in cases of great urgency, as, for example, acute inflammatory glaucoma, the writer would not feel himself justified in modifying the above statement.

IV. If the secretion of the conjunctival sac on examination is found to be infected, but the bacteria are few in number and of slight toxic variety, operations may be done on the eyeball when necessary, but these eyes should be opened and examined twice in the twenty-four hours, and the conjunctival sac gently irrigated with warm normal salt solution, or warm sterilized boracic acid solution, and then the eye should be immediately rebandaged.

V. In operating upon the eyeball in the presence of an apparently normal, sterile conjunctival sac, the following steps should be taken:

1st. The forehead, eyebrows, temple, cheek, bridge of the nose, and external surface of the lid should be carefully cleansed with hot water and soap, and dried with aseptic cotton pads.

2d. The margins of the lids should be carefully but gently rubbed with sterilized moist cotton pads, and simultaneously irrigated with a warm sterilized physiological salt solution.

3d. Careful irrigation of the conjunctival sac with the same sterilized normal salt solution, and then closing the lids with a moist sterilized cotton pad. The lids should remain closed in this way until the speculum is introduced.

VI. In all cases the bandage should be removed and the eye examined under the strictest aseptic precautions, as strict as those employed at the time of operation.

VII. On the first sign of infection of the wound, the edges of the lids are to be thoroughly cleansed in the same manner as at the time of operation; the conjunctival sac is to be thoroughly irrigated with the sterilized normal salt solution; the wound is to be reopened and cauterized through its entire length with the galvano-cautery; and the anterior chamber is to be gently but carefully irrigated with a sublimate solution (1–5000); and then the conjunctival sac must be again irrigated, and the lids must be closed simply under a moist sterilized pad.

47 West Thirty-sixth Street

The Causes of Gout.—Falkenstein has claimed that gout is due to a disease of those glands in the fundus of the stomach which are concerned with the excretion of hydrochloric acid, and in consequence of this, exhibit a diminished power. The absence of one of the main factors in digestion causes an insufficient solution of the fibrin in the food and the peptogenic action is inhibited. This leads to the development of foul gases and organic acids. The various urates are not sufficiently broken up, but are absorbed by the blood and deposited in the tissues. Here they remain until solution results as the cause of some other intermediate factor and the irritation produced by their presence in the tissues leads to the inflammatory disturbances recognized as the gouty attacks. As the result of extended experience, Falkenstein has found that gouty individuals can take considerable amounts of hydrochloric acid for prolonged periods with good results as regards the general health and the disappearance of localized deposits. This treatment may be associated with a generous mixed diet, moderate in amount. The only substances contraindicated are sugar, foods rich in nuclein (such as the internal organs of animals), fats, smoked meats, cheese, and eggs.—*Wiener klinische Rundschau.*

THE USE AND ABUSE OF ATHLETICS.

By ROBERT E. COUGHLIN, M.D.,
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The history of athletics has blended intimately with medicine, and feats of agility and endurance have at all times excited the interest and investigation of capable and reputable physicians, for they are in every sense of the word examples of physiological and functional anomalies. The word athletics was derived from the Greek athletæ which was the designation of persons among the Greeks and Romans who contended for prizes in public games. This was prior to 400 B. C. The system was purely Greek, as were the athletes, although the Romans admired physical skill and strength. No institution exercised a greater influence on molding the national character, and producing that unique type of physical and intellectual beauty which we see reflected in Greek art and literature than the public contests of Greece.

The earliest games of which we have any record are those at the funeral of Patuclus. The belief that the dead would be gratified by the same exhibitions which pleased them in life was a common heritage of the Greeks and Romans from their Aryan progenitors. The competitions were chariot racing, archery, boxing, wrestling, and putting the weight.

In 776 B. C. the Elerians engraved the name of Coræbus as victor in a foot race. This is the earliest record of any contest. Ten months was what all the athletes swore to having taken in preparation for the games at Olympia. Herodicies, who lived 500 B. C., was the founder of medical gymnastics.

The different phases of athletics might be designated as follows:[1] (1) Games and sports that depend wholly or partly on feats of physical strength, such as baseball, cricket, rowing, and swimming. (2) In a restricted sense, feats of strength performed for their own sake, and not as an incident of any game, as throwing the hammer, running, leaping, tumbling, etc., especially outdoor feats in which the maintenance of health is not the prime object. (3) Any system of physical training by gymnastic exercises and outdoor sports.

The physiology of exercise may be epitomized as follows: It increases the action of the heart, causing the blood to flow more freely through the circulation; it increases the rapidity of respiration; dilates the capillaries; increases the activity of the glandular secretions; causes diaphoresis, and incites all the internal organs to act more energetically. It is well to note that exercise calls into play the involuntary as well as the voluntary muscles and that chemical changes are going on in consequence.

Jäger[2] says that gymnastic exercise is most important for the proper development of the muscles and motor power, and ought to be commenced in both sexes at an early age. Systematic muscular activity increases the volume of the muscles and enables them to do more work. The amount of blood is increased with increase in muscular development, while at the same time the bones and ligaments become more resistant. As the circulation is more active in an active muscle, gymnastics favors the circulation. An active muscle also uses more oxygen and produces more carbonic oxide, so that respiration is also excited. The total increase of the metabolism gives rise to the feeling of well-being and vigor, diminishes abnormal irritability, and dispels the tendency to fatigue. The whole body becomes firmer and specifically heavier.

All exercises used in medicine are based on Ling's or the Swedish system, which consists of systematic attempts made to strengthen certain weak muscles, or groups of muscles, whose weakness might lead to the production of deformities. These muscles are exercised systematically by opposing to them resistances, which either must be overcome, or against which the patient must strive by muscular action.

Holmes[3] presents the following as a summary of his paper entitled "The Capacity of Human Muscle for Work": (1) A muscle working under normal physiological conditions is neither "loaded" nor "after-loaded." (2) A muscle will not contract isotonically nor isometrically under normal physiological conditions. (3) When an ergograph is used, a large part of the energy expended by the muscle during a period of work is lost; this loss occurs in easing back the weight or the spring to its position of rest or to the zero point. (4) A recognition of the conditions under which a muscle works and of the end to be attained is necessary when an interpretation of ergographic results is to be made. (5) A normal muscular contraction consists in contraction, relaxation without load, rest. (6) A muscle can work over periods of long duration without fatigue when the conditions are favorable. (7) These experiments confirm the conclusion stated by Maggiora that there is a definite weight with which one can perform the greatest possible work. (8) The physiological limit of a muscle for continuous work is modified by the rate, load, and interval or by rest and work.

Physical Overexertion and Its Effects on Health.—John Knott[4] emphasizes the fact that exercise, in order to do good, must be indulged in with moderation. In analyzing the effects of exercise he says that in an active muscle nutritive changes take place far more rapidly and on a larger scale than in a resting one. The waste products are carried off in larger quantities and new materials are absorbed with greater rapidity. Again, muscle forms so large a proportion of the mass of the body that it is known as the great furnace of the animal economy, about four-fifths of the total heat of the system being involved within it. It is most important to maintain a healthy functional activity of the muscular system. With the increase of the muscular action the amount of waste products is also increased. Up to a certain point the system is able to eliminate this waste, but in overexertion a point is reached beyond which the effete products begin to accumulate in the circulation and in the tissues. Fatigue then becomes manifest.

When the muscular fatigue is carried to excess, the healthy nutrition of the other organs and tissues can no longer be maintained. This condition has a special effect on the nerve centers. When the nutrition of the latter becomes deranged, the nutritional changes and functional capacities of the whole system are disturbed. In the excessive muscular exertion which takes place in running the "brain is overcome by a kind of drunkenness." He believes that the fever of overexertion is due to the poisoning of the nerve centers by the muscular waste products. The heat regulating centers lose their governing powers and the body wastes with slow fever. There are various local affections which are likely to be produced by excessive exercise, such as hypertrophy and dilatation of the heart, aneurysm, and varicose veins. It is necessary for even those who have been blessed with an unusual physique to remember that the overuse of the body may lead to a sudden and permanent breakdown of health.

Violent or prolonged exertion often induces temporary albuminuria. Casts[5] have been found in the urine after a boxing bout when examinations at other times showed nothing abnormal.

Overexertion produces mental fatigue, as many athletes will acknowledge. One instance may be cited in which an individual after a long bicycle ride could not remember his companion's name though

he knew him intimately. This condition is probably the result of an interference in the blood pressure.

Recently there appeared in the obituary column of one of our medical journals the death notices of two physicians who had in their college days excelled in athletics, one at football playing and the other at rowing. The former died of appendicitis and the latter, as the notice read, "of an attack of pneumonia which his weak heart was unable to withstand owing to former hard athletic work in college." Within the past few months the deaths of several noted athletes have been recorded, all occasioned by renal and cardiac disease. One of these was a young woman of twenty-three, who excelled as a swimmer.

A recent writer[6] of an article on "Neurasthenia," in speaking of the etiology of this condition, says: "To the mental training there has also to be added the schoolmaster's craze for athletic development, often carried far beyond the physical strength of the growing boy or girl, and again leading to a depletion of the reserves of energy, which bodes ill for the future capital account of those who, in youth, are compelled to give such hostages to the fortune of their vitality."

In the year 1903 there were thirty-five deaths from football, 500 severe injuries, and sixteen cases of spinal injuries followed by paralysis. Of the 343 fractures, most of them were of the bones of the leg and forearm, ninety-one of the clavicle, nineteen of the femur, and four of the skull. In commenting on these fatalities and injuries, the *Journal of the American Medical Association*[7] says: "The vital question is, does the gain in college pride and college spirit sufficiently outweigh this list of human wreckage?" Dr. Lawrence Johnson has said that a young man in a well-contested rowing race, lasting twenty-five minutes, would use up as much energy as he would actually require ordinarily in a lifetime of eighty years.

An experienced athlete, in a recent conversation with the writer, gave as his opinion that a man sacrifices a certain number of years of his life every time he enters a contest of any kind. He also said that a man when "fit," as expressed by athletes, is in an abnormally nervous condition. In other words, he can never remain at ease for a minute at a time, and like the caged lion is forever on the move during his waking moments. It has been noticed by observers that athletes are often sickly and particularly susceptible to constipation and appendicitis. A case has been related in which a strong man, although sick with phthisis pulmonalis, performed his feats of strength up to a short time preceding his death.

It has been said that the muscles of old athletes are prone to degeneration unless, as is rarely the case, exercise is continued. Cardiac hypertrophy is so commonly found in athletes that the condition has been named "athlete's heart." Like all hypertrophied muscle tissue it is susceptible to degeneration in the same manner as the blacksmith's right arm.

Records kept in gymnasiums show that when a muscle has been hypertrophied by exercise in a short period of time, and the exercise has then been discontinued, the measurement very soon drops back to the original figure. The writer has tried this experiment in two cases with the same result. The changes that go on in the muscle of the pregnant uterus and the tendency of the same toward degeneration when the vital powers of the individual begin to wane are an instance of the great susceptibility of hypertrophied muscle to degenerate.

Valvular murmurs are frequently found in athletes and there can be no doubt that the preceding hypertrophy was an etiological factor in these cases. The writer has in mind at the present time a case in line with the foregoing in which a boy of twelve developed a well-marked murmur after a few weeks' overexertion in riding the wheel.

It is a disputed question whether athletics can cause renal disease. The presence of albumin and casts in the urine upon exertion or overexertion would lead one to believe that renal disease might be the ultimate result, inasmuch as nearly all authorities agree that albuminuria is never physiological. One case occurred in the experience of the writer in which persistent albuminuria was present in a young man of marked athletic tendencies who later developed pulmonary tuberculosis which caused his death after an illness of a few months. In this particular case the family history was negative.

Another case may be cited of a young man who as an amateur sprinter won contests and medals galore. It was a well-known fact that he always fainted as he broke the tape. He is now going through life with a damaged heart as a result of this severe athletic work. Sudden deaths have occurred while wheeling, dancing, wrestling, boxing, running, rowing, lifting heavy weights, and bowling.

It has often been said that many athletes are sexual perverts, and investigation reveals the fact that there are good grounds for such statements. We might explain this condition by stating that severe athletic training and muscle building are at the expense of the nervous and glandular systems.

A few years ago the writer's attention was called to a professional gymnast possessing great strength who was practically impotent. It has been observed by a few that the best athletes possess poorly developed sexual organs. A supposed authority upon matters pertaining to athletics recently made the following satements:[8] "The question of race suicide brings up another point, namely, the effect of severe athletic training upon the sexual power. Physical culture extremists preach that massive masses of muscle are an indication of 'superb manhood.' Facts fail to bear out this theory, the truth of the matter being that severe physical exertion has exactly the opposite effect. This is true, not only in the case of human beings, but also with any animal. It is a well known fact that the surest way to ruin animals for breeding purposes is to compel them to perform hard work.

We need only to look up the records of America's prominent physical culturists and professional athletes, to be convinced of the truth of the above statements. It will be found that comparatively few athletes marry. Of those that do marry, a small percentage have children. A large percentage are divorced by their wives, and it is doubtless true that not a few completely lose the instinct of the normal man."

Benefits of Athletics.—In regard to the benefit derived from athletics one has only to remember the physiology of exercise to become convinced of the fact that exercise *per se* may be very beneficial. The point to bear in mind is to advise the person to stop before fatigue becomes evident. We can do this readily when the athlete is interested in games for the mere exercise, but such advice cannot be offered when his aim is to excel in an athletic contest. Here is where athletics do great harm, and it would be a safe rule to advise against all forms of athletics in the nature of a contest, especially if the person be not in robust health.

Athletics may be said to be beneficial until the heart begins to be markedly hypertrophied; this is the danger signal. A person in such a condition might indulge in light forms of exercise, but should be strongly advised against entering any contest. In

the words of President Roosevelt,[9] "Athletic sports if followed properly are admirable for developing character." Painter[10] says that the elements of noble manhood are a healthy body and a clear intellect. Locke's aim was to give a boy a robust mind in a robust body. "We have overburdened our moral nature," said the Rev. Dr. Percy S. Grant, before the League for Political Education, "We have put too many jobs upon it. Men have to resort to drink, to pleasure, to passion, to relieve their overwrought energies. Good health can do the business, and the direct way to good health is to force young America into camp, gymnasiums, and out-door sports." It would be opportune here to speak of the Japanese as a people among whom athletics have always been popular.[12]

Luther Halsey Gulick[13] calls attention to that class of cases in which the patient is constantly demanding treatment for either real or imagined functional disorders. He says in bicycling alone we do find both the physiologic and psychical conditions adequately met. One of the immediate results of bicycling is a large increase in the respiration. The alternate pressure and relaxation which the diaphragm exerts upon the liver is a factor in promoting the various circulations within that organ. Bicycle riding offers ample diversion and out-of-door air. It provides for exercise of the large muscular masses by a great number of small efforts. It is automatic and so productive of comparatively little fatigue.

Dr. Lucien Howe[14] has said that it is possible to obtain a numerical expression for the general muscular strength of the body. It is also possible to obtain an expression, in terms of a prism, of the strength of the muscles of the eye. The practical application of this knowledge is that, by strengthening the muscles of the body, one could strengthen the muscles of the eye. Dr. E. N. Nash[15] has noted definite and immediate benefit in cases of Bright's disease when patients have played golf as a pastime.

J. W. Dowden[16] says that two factors which greatly conduce to the successful issue of an operation for hernia are the presence of strong abdominal walls and the freedom of these walls from fat. A lax abdomen should be strengthened for a month or more before an operation is undertaken, or if an emergency arise, and an operation has to be performed, exercises ought to be initiated within a week or ten days after the event. The abdomen must be "pulled in" as flat as possible, and this tonic contraction maintained as long as possible. It is astonishing how much can be done in reducing the abdominal girth, especially by the operation of pulling in the abdomen.

Dr. J. Henry Carver[17] claims that faulty metabolism may be restored by proper respiration. In respect to proper respiration and the training of the muscles of respiration, the writer of this paper wishes to state that in his opinion its possibilities in the very young are really remarkable. He has under observation at the present time a child of three years who is able to expand his chest two and one-half inches. These breathing exercises were begun at the age of fourteen months.

Dr. Hermann Weber[18] recently read a paper on "The Prolongation of life" before the Royal College of Physicians (London) in which he said that "regular exercise every day in all weathers, supplemented in many cases by breathing movements, and by walking and climbing tours" are conducive to a long life.

Clifford Allbutt,[19] in a most interesting paper entitled "Rise of Blood Pressure in Later Life," says that "the ordinary man must be warned, as he passes the age of forty, to keep up muscular exercise."

Very full and interesting statistics have been prepared for the *Harvard Graduates' Magazine*[20] by George L. Meylan of Columbia, controverting the prevalent opinion that college oarsmen die young as a result of the excessive strain of boat-racing. Accurate data were obtained concerning all of Harvard crews between 1852, the year of the first race, and 1892. It was learned that of 152 men who had rowed in the university boat during that period, 123 were living on November 1, 1902. Of those who had died, six were killed in the civil war, two had lost their lives by accident, and others by diseases in no way to be ascribed to college athletics. Two died of heart disease, two of apoplexy, one of phthisis pulmonalis, and one of Bright's disease. That is to say, only six owed their death to causes in any manner traceable to the strain of athletic training.

Conclusions:—1. Athletics may be for good or evil and in the same manner as a two-edged sword.

2. The prime object in athletics is improvement of the general health. One writer [21] has said that health, like happiness, does not exist. Each has a goal or limit which, while seemingly attainable, eludes perfect possession. He said the body consists of a number of mechanisms which have the closest and most exact relations, and as they approximate to harmony there is health, but when disordered there is ill health.

3. To obtain good health muscle building is not a necessity. One cannot judge of a person's health by the size and hardness of the muscles. We have seen that the converse may be true.

4. To obtain health one most not be in a perfectly trained condition, owing to the effects of severe training on the nervous system.

5. There is no evidence to prove that athletics and muscle building improve the constitution.

6. One should always keep in mind the fact that built up or hypertrophied muscle has a tendency to degenerate. The heart being a muscular organ shares in this tendency.

7. In regard to the moral side of the question it remains to be proven that athletics *per se* corrupt the morals. Dr. F. R. Sturgis is confident that athletics improve the morals of a community. He has seen cases of masturbation cured by athletics.[22]

8. Although the evidence for and against athletics is contradictory, the whole subject may be summed up by stating that athletics are beneficial when properly and judiciously applied and very injurious when the precautions, above mentioned, are ignored or carelessly regarded.

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A CLINICAL STUDY OF CERTAIN FORMS OF PERICARDITIS, WITH REPORT OF A PERICARDIAL EFFUSION COMPLICATING AN EXTENSIVE BURN OF THE CHEST.

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Pathological conditions of the pericardium are by no means as uncommon as may be inferred from their infrequent ante-mortem recognition. It is true that the symptoms referrable to pericardial involvement are many times completely overshadowed by those of coincident or causal diseases, but with due care and investigation pericardial lesions can be detected in the majority of instances during the lifetime of the patient. Examination of the heart is so often a perfunctory matter and so cursory in its technique, that it is little wonder that little or no information is usually obtained. When pericarditis does occur, however, it is so invariably in connection with certain diseases, notably acute articular rheumatism, pneumonia, pleurisy, and Bright's disease, that the diagnosis of these diseases alone should always prompt more than routine examination of the heart and contiguous structures. In children under fourteen years of age, pericardial involvement should be feared in almost every case of acute articular rheumatism, for it does occur to a certain degree in the great majority of all cases. Likewise in extensive pleurisies in adults, it is rare that the pericardium escapes entirely, though the symptoms may be obscured or ill-defined. The fact is, if pericarditis is looked for, it will be found much more frequently than is commonly supposed, and its occurrence will not be due to the imagination or zealousness of the seekers. Search for any condition with a definite knowledge of what one is seeking for, will prove successful many times, when an aimless investigation will pass unnoticed the most significant signs and prove fruitless. It may be true that pericarditis may exert little or no influence on the ultimate outcome of any disease it complicates, and the therapeutic management of a pleurisy, a pneumonia, or an attack of acute rheumatism may not be changed by the detection of a pericarditis, but there is an infinite amount of satisfaction in knowing all that can possibly be known about a patient's condition, aside from the advantages obviously derived from such knowledge.

There are certain symptoms of pericarditis that occur with a fair degree of constancy, but none of them are subjective. A patient may have pains, precordial distress and tenderness, dyspnœa, dysphagia etc., but these may all be absent even in the presence of the most extensive inflammation of the pericardium The diagnosis must be made from the physical signs alone. The most constant symptom is the so-called friction murmur. In 75 per cent. of all cases of pericarditis an exocardial sound of some character can be heard. I say of some character, for while different writers describe it as grating, squeaking, or rasping, the significant feature is that it is an adventitious sound, usually double—that is, to and fro in its occurrence—and with no definite relation to diastole or systole. It is heard in one place with greatest intensity, and the sound is not transmitted in any direction. Its character or intensity can frequently be modified, or it may be obliterated entirely by having the patient hold a full breath while pressure is made with a stethoscope. Rarely a peculiar sensation or thrill can be felt by pressing with the tips of the fingers between the fourth, fifth, or sixth ribs, one to two inches to the left of the sternum. When practical, and the heart rate can be slightly increased by exercise, the friction sound will grow shorter, and there will be less interval between its back and forth movement. It will be sharper and more clear cut

If the pericarditis goes on to effusion, and it usually does in children from five to fifteen years of age, the friction sounds grow imperceptible or nearly so, and a train of symptoms ensue that make the condition more easily recognized. The area of cardiac dulness increases in all dimensions, but especially in its lateral, and the apex impulse becomes less apparent and soon disappears. In children, bulging of the intercostal spaces soon becomes noticeable and the distension may show itself at the xiphoid angle. Marked dyspnœa and distress is usually evident and the patient complains bitterly of sensations of fulness, in the epigastrium. A peculiar feeling of faintness very similar to that occasioned by palpitation of the heart is frequently described by the patient. The pulse may become feeble and irregular, but it often has an abrupt kick or throb to it every five or six beats. The patient may get very cyanotic, but the face instead of being blue looks red and congested, especially in adults. In this stage pericarditis is usually easily diagnosticated, and careful thorough examination ought never to fail to detect the true condition. The absence or deflection of the heart impulse, markedly increased heart dulness, more particularly laterally, muffled heart sounds, especially at apex, a pronounced dulness to the right of the sternum at the fifth interspace, which varies with change in posture, and a wavy impulse, occasionally felt at the fifth or sixth interspace, make a fairly constant picture of pericarditis with effusion.

The following case is especially interesting because of its etiology and course:

C. B., male, eight years old, had the misfortune to pull a teapot full of boiling tea over on to himself. A severe burn of the left forearm and left chest resulted. The area on the chest was irregularly oval, 6½ to 7 inches wide and 9½ up and down. It was diagonally located, and covered a considerable portion of the left anterior chest wall. The accident occurred about 1 P.M., but I was not called until past 8 o'clock in the evening. The little fellow was suffering severely and had a temperature of 102.4°. I cleaned and dressed his burns, using a soothing ointment, and gave him a hypodermic injection of $\frac{1}{12}$ of a grain of morphine, which controlled his pain nicely. The next morning I saw him and dressed his burns. His temperature was 99.2° and he had little or no pain. For the next five days he got along well, but on the sixth day, about noon, he commenced to vomit and complained of a severe pain in his left side as low as the eighth rib. His respiration was 40 to 44, pulse 128, and temperature 101.5°. The respiratory movement on the left side was much diminished. Physical examination was absolutely negative, but I feared a pneumonia. A twelfth of morphine controlled his pain. I saw him again at 10 P.M. and found him free from pain, but otherwise just about as I had left him at noon, I fancied that there was some dulness behind at the inferior angle of the scapula, but there was no friction sound whatsoever. The heart sounds were normal. The next morning at 9 A.M. there were marked evidences of pleural effusion, and there was

a line of absolute dulness up to the fourth interspace. Respiration was 38, pulse 120, and temperature 100.5°. He had no pain, but his respiration was much embarrassed. The heart sounds were normal. On my next visit, about 2 P.M., I went prepared to aspirate, and finding an increase in the amount of fluid, I tapped him in the seventh interspace in the mid axillary line, and drew off nearly a pint of serous fluid. He received a good deal of relief from the tapping and went to sleep soon after without an opiate. At 9 P.M. the effusion was rapidly filling in again and had reached the fourth rib. The next morning, which was the beginning of the eighth day, I found the little fellow in very bad shape. His respiration was very much labored and his skin was fairly purple. The pulse was 128, regular but abrupt in its character and with its tension much increased. Temperature was only 100.1°. The dulness reached to the third rib and extended nearly two inches to the right of the sternum. There was no apex beat discernible, and the heart sounds were so feeble that they could just be heard. I immediately tapped the pleural cavity again and withdrew more than a pint of fluid. There was considerable relief obtained, but not as much as at the first time. The dulness on the left side cleared up well but the heart sounds still kept muffled and the apical impulse was still absent. Persistence of the dulness to the right of the sternum from the fourth to the sixth interspace left no doubt as to the presence of a pericardial effusion. The burn on the boy's chest was so located that there was no opportunity to do a paracentesis anywhere to the left of the sternum. The indication for the operation, however, was imperative. His respiratory distress was so pitiful and he was so cyanosed that I did not believe he could last many hours without a very great change in his condition. With his parents' consent and a gloomy prognosis, I passed an aspirating needle in at the right of the sternum at the fifth interspace, with an inward and backward direction. Although I pushed it a considerable distance, I did not get any fluid until it passed in over 2½ inches. Then I was able to draw off between six and eight ounces of a cloudy brownish fluid. The relief that followed was one of the most remarkable things I have ever witnessed. The cyanosis cleared at once, his respiration dropped to 26 to 28 and lost its labored character, and in every way he showed that he had been made much more comfortable. I left him shortly after noon, after leaving directions that he was to be given a heaping teaspoonful of Epsom salts in two teaspoonsful of water, every hour until his bowels moved from six to ten times. Shortly after 8 P.M. I saw him again and found him resting comfortably, respiration 30, but fairly good, pulse 104, temperature 100°. His bowels were moving freely, but he was bright and cheerful. There was no dulness above the fifth rib and the apex beat could be plainly seen. The heart sounds were not muffled, but there was a peculiar exocardial sound that I can only describe as a faint sucking noise. It was a single sound and came sometimes at diastole, but more often just after. When the patient took a full breath and pressure was made, the sound disappeared entirely. From now on the boy made a good recovery, and paracentesis of the pericardium or of the pleural cavity was not again necessary. He was kept on syrup of hydriodic acid for over a month, and one year after his heart was normal and free from all evidence of past trouble so far as I could detect. His chest burn took about six weeks to heal perfectly.

I have searched the literature carefully, but I can find no similar case reported in which a burn on the chest was followed by either pleurisy or pericarditis. This case shows, however, that both these complications must be considered as possibilities in chest burns.

Pericarditis as a terminal infection in Bright's disease is of importance clinically only in so far as it hastens an inevitable termination. It is almost always insidious in its onset and course, and often can only be detected at autopsy. The symptoms are more liable to be obscured in Bright's disease by the pulmonary conditions that usually occur late in this malady, but careful examination will many times give strong grounds for suspecting pericardial involvement. Pericarditis when present is often responsible for sudden death in the course of a Bright's disease, and two such cases have occurred in my immediate experience.

In very young children or infants pericardial disease is very apt to assume the plastic form without the development of an effusion. Adhesions follow, and the infant may drag out a miserable existence for several months or a year and finally succumb to inanition. A case of mine that showed extensive pericardial adhesions at autopsy was very interesting to me, for I had excellent opportunity to study it both ante- and post-mortem. A. D., male, aged four months, was a bottle-fed baby that had been a weakly child from birth. For one month previous to the time I first saw it it had had a great deal of diarrhœa. A good share of its food passed through the alimentary canal without the slightest evidence of digestion, although its diet had been carefully regulated by a capable physician of Boston. I saw it at a time when it was particularly bad and was struck by its little old-man face. The baby was fairly quiet, but it gave a little hoarse cry from time to time. It did not cough, but its hoarseness had been noticeable for nearly three months. There was no difficulty in swallowing and the baby was always hungry. The extremities were blue and cold. The rectal temperature was 100, but the pulse was so rapid that I could not count it. The lungs were clear and respiration was about 40. The heart was very much increased in size and there was only one distinct sound. No murmurs could be heard. The abdomen was considerably distended. Treatment really offered little hope, but I was able to help the bowel condition somewhat. Otherwise the condition of the child did not change, though it was able to live a month and several days after my first visit. I was allowed to perform an autopsy and found a tabes mesenterica. The heart was nearly as large as that of a six-year-old child, and was firmly adhered on its under surface to the parietal layer of the pericardium which in turn was completely bound down to the diaphragm. The valves were competent with the exception of the mitral. Where the pericardial surfaces were not adhered there were large numbers of small tubercles. The lungs and other organs in their gross aspects were free from evidences of disease.

I cannot but feel that a good many cases with similar history to the one just cited, would show marked involvement of the pericardium if autopsies were to be performed. I furthermore believe that the majority of all cases of pericarditis occurring during the first five years of child life are tuberculous in their origin, and that tuberculosis is especially liable to attack the pericardium during this period. Every autopsy that I have ever seen of infants dying from inanition or the so-called marasmus justifies this latter conclusion.

In pneumonia pericarditis is a frequent complication, and some authorities go so far as to state that the pericardium seldom escapes in left side pneumonias. I am not prepared to believe this, but I do not doubt that pericarditis occurs far more

often than is generally recognized. That it is a serious complication goes without saying, but it cannot be avoided and calls for little treatment. Its detection is valuable as affecting the general prognosis.

At this point it may be well to speak of the frequent association of pericarditis with endo- and myocardial disease. In acute rheumatism when the pericardium is attacked, the endocardium rarely escapes, and the heart muscle itself may be seriously involved. This fact needs but to be stated to show the paramount need of complete rest in all cardiac lesions complicating acute rheumatism, for we never know how extensive the damage may be, or how extreme the danger.

In conclusion let me say just a word in regard to treatment: The pain of pericarditis can often be relieved promptly by dry cupping or counter irritation over the painful region. Absolute rest in as prone position as possible is a most important regulation. Anti-rheumatics are useless, and nothing approaches the value of Epsom salts in large and often repeated doses, always administered in saturated solution. Heart tonics and stimulants are contraindicated, unless there is evidence of cardiac failure. When effusion takes place and the conditions are not alarming, it is always safe to wait, for it is often remarkable how rapidly improvement may take place by natural processes alone. When the effusion increases to an alarming extent and the patient grows rapidly worse, paracentesis is the thing to do, and the only thing. Carefully done under aseptic precautions, inserting the needle at the point prompted by individual conditions, paracentesis is far less dangerous than to let the patient continue two hours longer in an extremely precarious condition.

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SOCIAL CAUSES OF CRIMINAL ABORTION.*

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That criminal abortion prevails to-day to an alarming degree is patent. For obvious reasons, to arrive at accurate statistics is impossible. The special medical committee appointed by the Michigan Board of Health in 1881, after painstaking inquiry, concluded that one-third of all pregnancies ended in criminal abortion; that at least 100,000 criminal abortions occurred in the United States annually, and that yearly 6,000 women, at the lowest estimate, died from the direct effects thereof.

Not more startling than its prevalence, is the universal indifference, lay and professional, with which it is regarded. In consulting the files of the leading American journal of obstetrics and gynecology for the last decade, I found only three articles upon the subject, this despite the facts that its victims fill our clinics and hospitals; that it is a plague spot upon the fame of the medical profession; that its advertisements contribute a large share to the support of the metropolitan press; that so brazen is its performance that to-day, in the city of Paris, women, making little attempt at concealment, vend its instruments in public thoroughfares; that druggists aid in debauching the public for the profit in abortifacients and catheters; and lastly and chiefly, that it evidences a seriously disordered social state.

All students of the subject to whom I have had access admit its greater frequency among the married, consideration of which class is most germane to the purposes of this discussion. Indeed, resort to criminal abortion by the victims of man's lust and treachery, and their own ignorance and passion, under the stress of threatened dishonor, is by no means of equal significance, as an indication of social degeneracy, to its deliberate and repeated practise in the home.

Our question is at the core neither legal nor medical, nor as a recent medical writer has affirmed, one of moral obliquity, but *social*, and it is only in the light of a scientific study of society, past and present, that its etiology appears, and we gain a foreglimpse of its righteous settlement. An evil so widespread among all classes of people, striking at institutions we deem basic to our civilization, must have roots which spread wide and strike deep. Since time began the dominant biological forces have been economic and reproductive necessity insuring preservation of the individual and the race. This dominance still holds despite the oncoming of an altruism which would place ethical law above physical.

That forms of sex union have ever been determined by economic necessity, that marriage through promiscuity and polygamy to monogamy, has been fashioned according to varying social habit and governmental form, is a fact of scientific demonstration. The institution of the family arose in the dim past out of man's physical and material needs. Its changing constitution mirrors successive stages in his economic history. Large families, prevailingly male, owing to female infanticide, mark the militant phase of primitive existence. In the agricultural, marked discrimination against the female child ceased. To-day, living at the dynamic center of the industrial, the small family is economically (and I think ethically) justified. At first a union for defence, the social and political unit, the family has continuously lost in numbers, power, and cohesion. To-day the individual is the unit; and the State ever assumes more responsibility for the protection, maintenance, and education of the child. Families to-day scatter broadcast. Children, female as well as male, are forced to early enter the industrial field. As a recent brilliant Oriental criticism of our civilization affirms, the family with us rests largely upon a utilitarian basis.

Infanticide, the prototype in the past of present-day feticide, arose out of man's physical necessities. Need of the child primarily, and difficulty in rearing it secondarily, determined for or against its leave to live. Simplest habits among primitive peoples obviated the need of many household workers. Fighting men constituted the supreme need. All superfluous members of the family or clan were a serious handicap. Hence arose female infanticide. In the usefulness of woman in the varied industries of the agricultural stage the female child won recognition of its right to live.

To-day, in the midst of the stupendous material achievement with which scientific invention has invested our civilization, contemplating the ever vaster reaches to which the human mind is attaining in the presence of working forces of moral and spiritual uplift which are distinctively the product of our civilization, we yet maintain a standard of sex relationship consistent only with barbarism. We make merchandise of the bodies and souls of a half million of our women. Venereal diseases in a majority of the adult male population (for the prevalence of gonorrhœa is placed by competent authority at 80 per cent.) exact tribute in health and happiness of themselves, their wives, and, in the case of syphilis, of their children and unborn generations. A million defectives cry out against the crime of unfit marriage. Economic necessity not making necessary the determination of the sex of the child before its taking off, we substitute feticide for in-

*Given as part of a symposium on criminal abortion before the Nebraska State Medical Society, May 5, 1904.

fanticide, and kill it in its mother's womb. The cause of all this is the reaction of the stress of modern industrial conditions upon an inordinate sex instinct developed out of all proportion to its legitimate function, reproduction of the race.

Chiefly responsible for bringing about this enormous exaggeration of the sex instinct must be indicted the economic dependence of women throughout all the past upon the exercise of her sex function. It is a biological law that in the process of time, the living organism becomes adapted to its environment. Man has been woman's environment, her source of food supply, as a brilliant writer upon this subject puts it. All she had, all she could get, came through her sex relation to him. Inevitably sexual characteristics developed to the suppression of human faculties, which were her heritage as well as his, and which only in very recent times have received expression and exercise. It is no wonder that woman, segregated to the exercise of the sex function, became a creature whom an eminent deceased gynecologist some years ago dared characterize before a large class of men medical students as constituted of sexual—and, incidentally, other organs, or that she had given birth to a race of libertines. By this sexuo-economic perversion man, directly and by inheritance, as well as woman, has been sadly handicapped in his progress toward higher living.

I maintain that criminal abortion arises from a perverted sex relationship brought under the stress of economic necessity. Subsidiary to this are disturbed marital relations with consequent weakening of family ties. Dr. J. W. Taylor, professor of gynecology at Birmingham University, in a recent article in the *British Medical Journal*, after indicting the practice of criminal abortion as chiefly responsible for the diminishing birth rate of Great Britain, affirms the latter ultimately due to causes operating in the married life of its inhabitants, to debased ideals therein obtaining. That here, as there and everywhere, something is seriously wrong is indicated by the alarming frequency and increase of divorce (greater in the United States than all the rest of the civilized world).

The assertion that discontent with marriage as evidenced in divorce is but a parallel manifestation to discontent with life shown in increased suicide, and that with modern trade relations in increasingly prevalent strikes and lock-outs, that, in short, it is but one of the inevitable accompaniments of a time of social upheaval, is doubtless true; but there are, besides, specific factors at work. Foremost among these is revolt against that debased idea of marriage, revealed in an institution nothing better than enforced prostitution and slavery, which characterized the primitive stages of human existence, and from the ever shortening shadow of which we have not yet emerged. Economic freedom is opening to woman escape from the degradation of such marriage. False ideas disseminated by fiction and drama, evoking happiness and good out of impossible unions, teaching, as one medical writer puts it, bad philosophy and bad morals in that any alchemy could change the dross of such marriages into gold, inevitably tend to disastrous matrimonial failures.

Sociologists recognize and affirm that the family is in a state of reconstruction, that the old form is proving insufficient to meet new conditions. Readjustment of social relations is ever painful. Into the chaotic organization of the family at present so largely obtaining, it is not to be expected that children will be welcomed. The problem of family relations is complex enough without the introduction of complicating factors. Limitation of the number of offspring by legitimate means, marital continence, will be the exception, and resort to criminal abortion the rule.

It must be conceded that occasionally criminal abortion is the resort of persons of intelligence and, for the most part, high ethical motive, it being deemed by them a lesser evil than bringing into the world children inadequately outfitted in constitution or opportunity for the journey of life. Such inconsistence bespeaks either domination of husband and wife by a lower, while recognizing a higher, law, or a lack of accord between them regarding marital indulgence, and the acceptance of its legitimate consequence. My professional experience confirms the belief that the latter condition not infrequently obtains; and that the husband is oftenest the aggressor both in indulgence and insistence upon criminal abortion. Certainly a majority of the married women who have requested an abortion at my hands have given as a reason their husband's insistence. I can conceive no lower depths of selfishness and brutality to which humanity can descend than is revealed in such a statement.

Responsibility to children on the part of parents and the State is felt as never before. Laws of inheritance are ever better understood. The tide of ethical and intelligent sentiment is turning toward the small family, one commensurate with the well-being of parents and their ability properly to maintain and educate. Remembering, as Ida Husted Harper affirms in an able recent article in the *Independent* on the "Small vs. the Large Family," that there are now thousands of children for whom there are no school privileges, more workers, than work, and well-nigh a million defectives filling our hospitals and charitable institutions; that according to the estimate of Gihon, there are 2,000,000 active syphilities in the country, and that the number of chronic alcoholics is far greater, it is plainly time we are shifting the emphasis from reproduction to becoming worthy to be reproduced. It should not be extolled, nor even admitted ethical, for a woman to bear a large family if it entails sacrifice of the precious heritage of *living*, most certainly not if children be ill-born or handicapped in opportunity; nor for a man to spend his years in drudgery denying every higher need for their half-maintenance. Limitation of the number of offspring is often a duty, but feticide is *not* its ethical method. Marital, as well as social continence, is a crying need of the hour. Nature, unassisted by man, will in the process of time effect this limitation; but for the diseased and degenerate, it will be through the tragedy of survival of the fittest. Nervous energy expended in intellectual and moral activities will lessen the number while improving the kind of offspring. That on the lower planes of living, intellectually and ethically, reproduction will be out of all proportion to ability to rightly maintain children goes without saying Upon the well-born and well-reared, with the added means and leisure that smaller families insure, will fall the burden of care of these unwelcome, unprovided, and often defective wards of society.

To-day in America we exhibit the ultra-materialism of a material age. Home, church, and state are commercialized. As truthfully said in a recent epoch-making book, "The children of the spirit have slipped through the iron net of our destinies, but the children of the world we have gathered into our granaries." However we may idealize, the final test by which to-day all is tried is the economic one. Does it pay to rear children? is the question which negatives parenthood in many homes; and economically speaking, the answer is justified.

Given excessive production, with ever greater congestion of population in cities, these entailing high cost of living; this further increased by control of the necessaries of life by trusts; with the need of industrial workers enormously reduced by labor-saving machines; in the midst of false standards of living set by the very rich, toward which, with a mistaken notion of the prerogatives of democracy, *all* aspire, the rearing of children, economically considered, is a matter of serious moment. Until there shall be readjustment of industrial conditions, with return to the soil of a large portion of the urban population, and a standard of plain living and high thinking replace its opposite, we cannot expect to eradicate the evil under discussion, nor many of its concomitants.

That entrance of married women into the trades and professions is not a considerable factor in the preponderant resort to criminal abortion by married women, has abundant proof. The number of married women as compared with single engaged in industrial work is insignificant. The report of the Illinois Bureau of Labor Statistics, 1892, shows that of women employed in Chicago in all industries, including manufactures, department stores, hotels and the telephone service, 95 per cent. were single, 3 per cent. widowed, and 2 per cent. married. The Fourth Annual Labor Report states that nineteen-twentieths of the working women investigated were either widowed or unmarried. In twenty-one leading American cities there were 15,387 single women, 1,038 widowed, and 745 married. The Chief of the Michigan Labor Bureau reports 90 per cent. single out of 13,139 female workers. In England, where in certain towns a very large proportion ($\frac{1}{4}$ to $\frac{1}{3}$) of married women work in textile factories, it is not reduction in birth rate through criminal abortion that is so alarming (they have not the price), but the frightful infant-mortality which prevails, for example, Manchester and Preston in 1891 showing a mortality of 220 to the 1,000.

Investigation does not warrant the statement frequently made, upon which much stress is laid by certain writers, that among single women entrance into the trades and professions tends to increase illicit sex relations, and thereby criminal abortion.

On the contrary, careful investigation establishes the higher than average morality of working girls and women. The Seventh Biennial Report of the Bureau of Labor Statistics of Illinois, 1902, says, "There is clearly small occasion for apprehension concerning the moral influence of industrial employment upon young women as a class, when 95 per cent. of them are securely sheltered within the home circle and when 75 per cent. of them are assisting their parents and thus giving daily outward expression of the cardinal virtue, filial piety." Commissioner Tobin of California, quoted by Prof. Helen Campbell in her "Women Wage Earners," states that working women and girls, as a whole, are found to be hard-working, honest, and moral members of the community. Investigation by the Massachusetts Bureau of Labor Statistics in fourteen cities demonstrated the high moral standing of working women, and the fact that a very small proportion of working girls recruit houses of prostitution, and that this small percentage is drawn largely from girls employed in domestic service or the notoriously underpaid industries, shirt and coat making and the like. This latter statement is verified for England by Mrs. Amie Hicks, President of the Rope-makers Union of England, in her testimony before the International Council of Women.

That among the young and ignorant and the victims of inherited tendencies, many will offend against the law of chastity, goes without saying. And until a righteous public sentiment shall aid the unfortunate girl to rehabilitate herself as a respected member of society, criminal abortion will be the resort of this class. And we cannot blame them. Positive morality has ever been born of contact with and resistance to evil. Out of woman's increased contact with the world will in time arise a more intelligent, honest, and courageous womanhood, divested of that pettiness of mind and heart entailed by her long segregation in the home to the exercise of sex and primitive industrial functions.

Of institutional and personal influences which must be enlisted if we would successfully oppose this evil, chief are those of the press, the church, and the medical profession. A generation is still with us that knew the American press in the day of its greatness, its dignified and ardent championship of moral issues, when through its columns leaders forged a path direct to the heart of the masses. To-day we may well bow in humiliation at the transformation fifty years has brought—a press which is either a capitalistic enterprise or the register of a party machine; whose editorials are made, not felt, to meet the exigencies of financial control; the bulk of its matter pandering to the lowest taste of its constituency; its expense largely borne by a mass of advertisements of doubtful character or positive immorality.

It needs no argument to prove that the church in the ecclesiastical sense, that of an institution endowed with disciplinary authority over the acts and beliefs of its adherents, has well-nigh passed, the Catholic alone, amongst Christian churches, claiming and exercising, to any considerable extent, such prerogatives. At the best, the church stands before the community for moral uplift and organized service; at the worst, an aid to business, an impetus to social preferment, a cloak to cover a multitude of sins. Modern science in a century has overthrown the foundations of past theologies; but unfortunately gain in ethics has not been proportionate to the lopping off of superstitions. In the interregnum, till men shall have replaced the outer authority of the church they no longer recognize by an inner ethic sense, society will miss the fear o' hell, the whip "to haud the wretch in order." That the Catholic Church does exert a considerable deterrent influence on the practice of criminal abortion is admitted. If the Christian Ministry would justify its continuance, let it bring to the people the gospel of clean living and fling aside the dry husks of doctrine devoid of soul-sustenance. Let it order well its life. The example, unhappily too frequent to be exceptional, of a minister of "the earth, earthy," the husband of a pale, worn mother of many living children, or of as many destroyed in utero, will efface from the memory much godly precept. Mayhap the true minister to his people will be asked to seek another field of service, but he will have left behind the mite of leaven in the lump.

When all is said, it remains true that chief responsibility for the prevalence of criminal abortion rests upon the medical profession. It is a matter of common knowledge that in every community members of the profession live by its induction. Not infrequently one learns of those in high places who have their price. But far greater than sins of commission are those of omission. That the profession has failed to assume the responsibility of speaking in certain tones and with an authority founded upon supposed fitness of training and adequacy of knowledge on the vital questions of sex which vex our civilization is, in the light of its history, explicable. Traditions long surrounding medical schools were

not those exalting chastity. Not infrequently professors counselled students to libertinism rather than virtue, and lent the force of example to that of precept. The name of medical student was a synonym for license. With higher requirements for entrance to the profession, and co-education, moral standards have risen. No more striking proof of this is needed than the medical declaration concerning chastity published in the *Philanthropist* some years ago, and signed by sixty-seven of New York's leading men practitioners. For sins of commission an over-crowded profession containing a large percentage of the unfit, intellectually and ethically, is responsible. With poverty confronting not alone the physician, but his helpless wife and children, we cannot expect that he will be scrupulous in his choice of work. Certainly many men and women would be deterred from the commission of abortion by instruction from their medical attendant regarding the dangers involved to the mother, and an understanding that the distinction between the quick and the non-quick fœtus held by the ancients, and handed down to us in English Common Law, is purely arbitrary and unfounded. That this distinction dominates the thought of the ignorant is known to all of us; and it is a matter of personal knowledge that sometimes for this mistaken notion the physician is responsible. Few abortions, even among the illegitimately pregnant, where there is every incentive, are induced after quickening, a fact for which the greater difficulty in induction does not account.

The practice of medicine enjoins much knowledge that is not technical, and much prescribing that is not of drugs. It implies investigation and understanding of the hidden social sources of disease.

THE GENESIS OF SLEEP.

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"How wonderful is Sleep" once said that British child-poet Shelley—"Sleep and his brother Death." Like death, sleep is shrouded in mystery, and presents the same difficulties of examination—difficulties which have their basis in the failure of the subject to observe itself as the object; the self-conscious man to identify himself with the subconscious man. As he enters the strange sphere of this inner life, he obliterates his tracks by abandoning himself to the guidance and protection of an undefinable, and so far, entirely uncontrollable conveyance. The fearlessness and complacency with which he surrenders his personal identity to unknown agencies would remain wholly inexplicable were it not for the presence of a constitutionally resistless necessity which subdues any feeling of fear and uncertainty.

The great questions which the sphinx of sleep holds up before us refer especially to the necessity, the cause and determining conditions of sleep. Perhaps the personal experience of a great majority of men has already satisfactorily answered the first of these questions. Sleep, at least in the present stage of evolution, seems even more necessary for the maintenance of life than food itself. Thus Dr. Marie de Manassein of St. Petersburg, in numerous experiments in this field of research, has found that puppies, while capable of sustaining life, even after a twenty days fast, break hopelessly down after an absence from sleep of only five days.

In the progress of these experiments the bodily temperature of the sleepless puppies went down rapidly, followed by a decrease in the number of red blood corpuscles and an arrest of leucocytes in the lymphatic channels. As the experiments drew to a close the amount of hæmoglobin increased, followed by a thickening of the blood mass, the latter fact perhaps being due to the refusal of the animals at this stage to accept food in either liquid or solid form, while the kidneys still continued to functionate. *Pari passu* with the fall of body temperature, the general reflex movements assumed the character of a marked periodicity, manifesting alternately in the opposite sides of the body, and thereby demonstrating the possibility of the two cerebral hemispheres, during certain conditions, to act in turn. Thus it was noticed that the pupils of the eyes reacted with alternating power to external stimuli. While from the very beginning a serious derangement of nutritive processes was observed, the main effect from the want of sleep appeared in a series of pathological changes in the centers of celebral cortex.

In their experiment on human subjects where subjective experiences shed new light on the field of research, Prof. R. Patric and Dr. J. A. Gilbert of the Psychological Laboratory of the University of Iowa, ascertained that there is an exception to the rule of a general weakening of functional reflex actions. Thus it was found that vision in place of weakening through an enforced sleeplessness, actually increased in acuteness. On the other hand, memory and the power of attention suffered greatly, and one subject, "after eighty hours of sleeplessness, found it impossible to commit to memory in twenty minutes what normally required two minutes." These formidable inroads in the field of the "psychic centers" were furthermore evidenced by uranalysis, which showed an enormous increase in the output of phosphoric acid.

Another fatal change in metabolism, resulting from absence of sleep, lies in the failure of the blood to "fix" oxygen. The gaseous exchange in metabolism being thus impeded, the support of the cell-structures requires a compensatory increase of hæmoglobin—a fact which explains the strange acceleration of the blood-stream so universally observed in persons subject to sleeplessness.

The necessity of sleep has thus a basis in the rest required by the system for the repair of broken-down tissue and subsequent reëstablishment of a disturbed equilibrium. The real problem in sleep, however, does not so much concern its necessity, as the *part of our nature which is subject to this necessity.* By repeated experiments the fact seems to be established that sleep only in a very slight degree interferes with the functional activities of sympathetic life. The abdominal reflexes remain constant, and the respiratory movements increase in depth and become more rhythmical. Some physiological processes, as, for instance, the action of the sudoriferous glands, become in sleep even more energetic than in waking—owing perhaps to the fact of an increased blood-pressure in the peripheral vessels, resulting from a lessened demand for blood in the brain and digestive apparatus. And as the sudoriferous center is located in the medulla oblongata, it logically follows that the vital processes unfolding in this center, in place of relaxing during sleep, have actually increased in vigor.

Most investigators of the phenomena of sleep have agreed to find its immediate cause in cerebral anæmia. Perhaps, however, it is largely due to the genius of the famous physiologist Hilton, that cerebral anæmia as the cause of sleep, from being a mere theory has attained a scientifically demonstrable basis. One feature of his experiments consisted in compressing the jugulars, and from the circulatory changes ensuing obtain a means to determine that cerebral anæmia is due, not to venous stasis, as had

been supposed, but to the spontaneous contraction of the arterioles, *i.e.* to vasomotor action.

So far sogood. The next step was to find the cause prompting the vasomotors to their unwonted action. Girondeau of Sorbonne offered as explanation the theory that the lymphatic spaces around the cerebral vessels, being filled with lymph during sleep, exerted a pressor effect on the blood stream and thereby retarded the circulation. On the other hand Professor Pflüger of Berlin believed that in the special action of carbon dioxide (CO_2) on the blood and tissues, a strong cause was found for sleep. Having ascertained that cellular activity ceases the moment oxygen is used up and replaced by carbonic acid, he associated this fact with the phenomenon of sleep. For as the brain requires an enormous vital energy to sustain mental action, and this energy is generated by the series of violent oscillations or explosions caused by the formation of CO_2 through the action of oxygen, it would follow that the exhaustion of oxygen would asphyxiate the brain, bring consciousness to a stop, and thus cause sleep.

Lately Dr. Howell has published a theory which holds that the immediate cause of normal sleep lies "in a vascular dilatation in the skin, causing a fall of blood-pressure in the arteries at the base of the brain and thereby producing an anæmic condition in the cortex cerebri."

A still more recent view has been advanced by Prof. Leo Ferrare of Brussels, who regards sleep as essentially a process of physiological intoxication. He bases his theory on the ascertained presence in the blood of poisonous alkaloids, generated in the breakdown of tissues in the tired body. When in the course of time these alkaloids have increased to a degree exceeding the checking influence of oxygenation, they are retained in the cerebral tissues where their narcotic action at length produce fatigue and sleep.

Professor Ferrare's view, with more or less modification, is the one mainly supported by subsequent investigations. It assists to a greater extent than any other theory in the admirable working out of a large number of otherwise inexplicable phenomena. Through it we are in a position to look upon action, fatigue, sleep, reparation, equilibrium, and awakening, not merely as chronologically successive events, but as phenomena chained together in a cycle of causative order.

And. as in a thunderstorm, the very intensity of the elementary discharges generates a new energy, the action of which is to neutralize the generating cause itself and thereby bring the storm to a close, so in the cellular activities of the waking man are formed catabolic products whose toxic influences on the vasomotor system introduce chemical and mechanical changes of the blood, leading to fatigue and sleep.

These researches, however valuable in themselves, do not strike at the very heart and center of the problem. We are not informed what sleep is *per se*, but only what are the metabolic changes which lead up to, and culminate in, the phenomena of sleep. We have ascertained that the physiological reflexes under the control of the medulla oblongata remain largely intact, while the functions belonging to the volitional group, with their controlling center located in the cerebral cortex, are held suspended during sleep. Hence it may be stated that sleep is a cerebral, rather than a spinal-sympathetic process. All investigators, from Hammond with his watch-glass inserted to cover the exposed brain in the trepanned skull of a dog, to Professor Torcheneff with his experiments by electrical stimulation of the cerebral cortex of his sleeping human subjects, have agreed that cerebral anæmia is coincident with sleep, while the medulla retains its supply of blood undiminished. And as the medulla stands to the involuntary or sympathetic life of the body in the same relation as the cerebral cortex to the volitional or cerebrospinal, there is certainly a strong reason for connecting the necessity of sleep with the position in which the two systems stand to each other.

In the life-history of this planet the sympathetic consciousness precedes the cerebrospinal. The purely vegetative life, after having reached a certain degree of individual survival-value, required a devising agency as protection against alien environments. The supply, which in the history of life always follows upon true evolutionary demands, took form in the unfoldment of the cerebrospinal system. Henceforth while it remained the function of the medulla to sustain and keep in repair the evolutionary vehicle, it became the function of cerebral cortex to direct its progress.

At its first emergence, a mere overshadowing, hardly perceptible impulse, this directing center gradually fixed itself in the animal consciousness and proceeded to evolve centers of motor control. Having firmly established itself in the cerebrum, this new evolutionary factor expanded its dominion into the very center of the organism in the form of the magnificent spinal column. By a series of equilateral and equidistant projecting fivers, this column provided an agency under cerebral control of peripheral motor functions, using the corresponding organs as a means of locomotion, protection, and support. Even to internal functions, this powerful system has extended its controlling influence, as is witnessed in the workings of the lungs which half the time yield to the cerebral consciousness. Likewise the movements of the heart and intestine in exceptional cases have been found susceptible to volitional efforts. And, as in every effort of nature is contained a prophecy, it is evident that the course of natural evolution aims at a gradual, but complete conquest of the sympathetic system—the impulses of the senses to be subdued by the master-touch of *will*.

Now in this unceasing pressure of the cerebral consciousness on the sympathetic we find the cause of the phenomenon of sleep. Its necessity springs from the friction, the wear and tear resulting from the expense of one power at the expense of the other. *Volitional* life advancing on *instinctual* life, the life of *culture* imposed upon the life of *nature*, cause a break in the rhythm of vegetative existence, and the ensuing rupture of physiological balance finds in sleep a condition for the reëstablishment of a disturbed equilibrium.

For the sympathetic life may in this connection not unfitly be compared with the expanse of a shoreless ocean in which the cerebral consciousness constitutes the advanced jetties preparatory for the upbuilding of permanent structures. The rhythmic waves of vital energies, manifesting in the sympathetic life, batter the foundations of the cerebral mind-structures as the latter fashion themselves into a new order of existence with its good or bad habits of life; its indulgences, tendencies, violations; its constructive or destructive modes of operations.

The effort of this new consciousness to actuate its impulses through the sympathetic agency has a direct bearing on the physiology of the structures involved. The lines of pressure are strewn by cellular wrecks, disturbances which in a short time would result in a general destruction of the organism were it not for the

subtle metabolic mechanism, brought into operation by the very output of the destructive process itself, *i.e.* the toxic substances generated in the ruptured cell-structures. These toxic substances impinge on the vasomotors, which under the stimulus of this irritation assert their constrictive qualities and close up the cerebral vessels. The anæmia which thus ensues unfits the cerebral cortex to functionate as a vehicle of self-consciousness, and hence give rise to the suspension or cerebral activities known as sleep. This suspension lasts just as long as is required for the sympathetic system to neutralize and remove the toxic substances from the involved tissues and to repair the broken-down cell-structures.

This view is borne out by the fact that the lower animals whose cerebrospinal system is yet too undeveloped to offer any telling resistance to the sympathetic life-current, do not require sleep. Fick and Neumann, well known in the world of science, have dealt exhaustively with this subject, and come to the conclusion that to the animal sleep is the less necessary the more the sympathetic system with its reflex movements predominates over the brain with its voluntary movement. The same indifference to sleep is recognized in an animal part of whose brain has been removed. Thus Goltz, by experiments with his famous brainless dog, and Stephani with his pigeons, have collected evidences that seem to establish the fact that the necessity for what we term sleep has its basis and determining conditions in the struggle of the cerebral consciousness to extend its dominion in the sympathetic life—a struggle which ultimately must result in physiological fatigue of the cerebral structures, with the subsequent departure of self-consciousness.

Hence it is self-consciousness—that endless sliding scale of intelligence, running through the progressive stages of an advanced evolution and furnishing a register for the power of individual self-analysis and self-realization—it is self-consciousness in its strenuous efforts to extend its dominion and intensify its power of vital control, that causes a weakening of the tenacity of the cell-structures which form its physiological center, and hence brings about the necessity of sleep with its rest and repair.

Considered *per se*, as an integral energy, the cerebral consciousness, by virtue of its power to evolve self-consciousness, transcends by far the consciousness of the sympathetic. And as the latter has been demonstrated to carry on its regenerative work in defiance of sleep, it would be illogical to accredit the cerebral consciousness with wielding a less degree of self-generating energy. Hence it is not in consciousness as such we shall search for the necessity of sleep, but in the cerebral vehicle which furnishes the machinery for its operations. Consequently any fixed, monotonous attention tires and exhausts. The stress of insomnia which an individual may experience after an intense and protracted attention, only apparently contradicts this fact. For when self-consciousness, in pursuit of some fascinating goal, becomes heedless of the warning signals sent up by the sympathetic center, the strain may result in a partial disconnection between the cerebral and the systemic circulations—a condition which means that the blood-currents in the cerebral arterioles under the overplus of volitional stimuli have overcome the natural checking influence of the vasomotor constrictors. A stream of blood is thus surging about the cerebral vessels, continually adding new fuel to the flames of a high-wrought imagery. The medulla has lost its grip on the cerebral engine, and the latter, if not counterpoised, may end its mad career in the ditch of mental aberration.

And as thus mental overwork or too strenuous attention may give rise to insomnia, so mental inertia or lack of attention opens the mind to the influence of sleep. In the one case, however, there is fatigue without sleep, and in the other, sleep without fatigue. Yet the incongruity in these relations are merely apparent, as the inattentive or weak mind, having no firm hold on the cerebral dynamo, is readily dislodged by the waves of vegetative life rolling in over the sympathetic conduits.

But to the normally active mind, fatigue and sleep follow upon protracted attention. This, however, does not mean that the individual should resistlessly yield to the first impulse of sleep. For the brain cells must be trained to endurance and resistive power in their struggle for cerebral independence. And by virtue of the power of concentration, innate to most individuals, the mind is capable of forcing the instrument to yield a moderate amount of work in excess of its normal limits.

From this it naturally follows that the necessity and length of sleep depends on the strength and intelligence of the consciousness engaged. The firmer the hold, which the self-conscious *ego* through the action of the mind exerts over its brain-vehicle, by conforming to the laws and principles governing the sympathetic life, the less friction ensues, the less time is needed for repair, and consequently the need is less of the condition called sleep. Hence the power of some strong minds to exist normally on a very small amount of sleep.

For there is an unmistakable tendency in the course of a higher evolution—the evolution of the will—to encroach upon the domain of sleep. Men of towering intellect and singularly pronounced individuality, during all times and ages, have been able to sustain their life with a measure of sleep which to ordinary men would have meant physical and mental breakdown. Thus in Dr. Binn's book on the "Anatomy of Sleep" we find a long line of epochal minds who were able to sustain a gigantic mental activity on an incredibly small amount of sleep. The sleep indulged in by Lord Coke, Sir William Jones, Bismarck, Gladstone, Zola, seldom exceeded the limit of six hours, while Wesley, Goethe, Schiller, Napoleon, Balsac, Humboldt, Mirebeau, mostly contented themselves with four or five hours of sleep out of twenty-four. Jeremy Taylor, Baxter, and Bacon, we are told by the same authority, seldom allowed more than three hours of sleep a day.

The fact, already referred to, of the absence of ordinary sleep in animals of slightly developed or non-developed cerebrospinal system, and in animals whose brains have been partly removed, does in no way contradict the other fact just mentioned of the power of a highly-developed cerebral consciousness to approach a similar independence in relation to sleep. For while in the former case the unhampered sway of the sympathetic system precludes friction, and thus renders the restorative and readjusting phase of sleep unnecessary, on the other hand the development and ascendency of the cerebral consciousness into a controlling and self-adjusting power also preclude friction, by overcoming it. The central fact by and through which the whole complexity of sleep receives its logical meaning and explanation is found in the presence of an untiring self-consciousness, which in its manifestation through the cerebral cortex in terms of a feeling, sensing, perceiving entity, causes friction in the cell structures of its limiting vehicle—a friction which gradually, through the irritation of the vasoconstrictor center, leads to cerebral anæmia and sleep.

Nature's motto for mental growth is spelled *attention*. The inattentive and sluggish mind is always sleepy. At odd intervals the tired-out or inattentive

individual will find strange symptoms assert themselves in his functional mechanism. A series of pharyngeal and respiratory movements start with a deep irrepressible inspiration; the mouth is thrown wide open and the glottis is contracted, and this is followed by an energetic, almost convulsive stretching of the body and limbs. This movement constitutes what is termed yawning.

The phenomenon of yawning lends scientific strength to the view of sleep here taken. It graphically demonstrates the character of the subconscious conflict going on between the two nervous systems. The individual yawns when bored, *i.e.* when inattentive. The self-conscious *ego*, if working through a weak mind and in absence of external stimuli, will gradually lose its grip on its sense-functions, which thus glide into a condition of inertia. For a moment the volitional phase of respiration is on the verge of arrest, when the medulla, informed per vasomotor connections of a threatening asphyxia through the retention of carbon-dioxide in the hæmoglobin, saves the situation by assuming entire control of the respiratory function, and with a deep energetic breath inflates the lungs. The imprisoned carbon thus liberated by the sudden inrush of oxygen gives rise to a series of cellular explosions which may attune the retiring mind into a new rapport with its sense organs, and thereby cause the half-sleeping individual to wake up with a start. Should, however, external conditions be favorable for permanent repose, the relief of the cerebral consciousness from the function of breathing, may end in the entire surrender of its functional domain to the sympathetic consciousness. And this is sleep.

Another not less graphic illustration of the rationale of sleep lies in the involuntary closure of the eyelids of the sleepy person. The mechanism involved in this phenomena is initiated by the relaxation of the motor oculi, with the subsequent release of the orbicularis palpibrarum which thus close the moment the volitional center in the cortex, through cerebral fatigue and anæmia, is unable to transmit the corresponding motor impulse. And as the orbicularis palpebrarum, like every other sphincter muscle, is suspended between the action of two opposing sets of nerves, the voluntary cerebral and the involuntary sympathetic, it follows that the inhibition of the former will turn the power of balance over to the sympathetic center, and thus result in the dropping of the eyelids.

Hence we find sleep corresponding to the removal of self-consciousness from its cerebral vehicle. This shifting of consciousness insures rest and recuperation to the set of functions connected with its normal activity, leaving the medulla in undisputed control and responsibility of the entire sensuous apparatus. Quietly, harmoniously, this powerful, though subconscious nerve center leads the life-current over the unobstructed nerve circuits, removing broken-down cell rubbish, replacing old structures, and healing and upbuilding the disordered elements of the body.

"The medulla," says Dr. Leonard Hill in his book on "Cerebral Circulation," "is the hub around which turns the wheel of a man's vital functions." Like an unsleeping sentinel the medulla posts at the threshold of the vegetative life, maintaining through constant adjustments the orderly course of functional activities. It holds the keyboard to the network of nerve-threads, along which waves of messages sweep up and down, from and to the sensory relay-stations and subcenters of the body. Situated at the upper end of the spinal column, the medulla guards the entrance to the higher "psychic centers" during sleep. To the relations occupied by the medulla to these centers, the scientists of all lands have lately paid the keenest attention. With a mathematical nicety, precluding any possibility of error, the famous Italian savant Dr. Masso, by the aid of his ingenuous plethysmograph, has recorded the variations which take place in the volume of the brain during the condition known as sleep. He found that "while its size diminished during sleep, every sudden noise or light disturbed its repose, causing an instantaneous increase in its volume, yet without the awaking of the sleeper." The vibratory waves of sensation rolling in from the exposed senses were interceded by the medulla, the faithful watcher of the subconscious life, adjusted and silenced.

Thus the connection between the cerebral consciousness and the general sensorium, though suspended during sleep, is still intact. At any moment the medulla is capable of reaching the retired mind. Hence a pain the intensity of which may indicate a deeper change in the physiological situation and therefore requiring the attention of self-consciousness is instantaneously translated into terms of vasomotor movements, resulting in the loosening of the constrictors with the subsequent effect of flushing the cerebral centers with blood—and the thereby induced self-consciousness returns to the field of action. Again, if the sensation be only of a trifling character, as in the form of a light sound or surface touch, the stimulus is too weak to impress the medulla with any sense of danger, and is therefore only faintly reechoed in the mind, where it yet may form material for dreams. Thus dramatized into events, such stimuli largely furnish the *dramatis personæ* on the stage of our ordinary dreams.

In this dream life we find irrefragable evidence of the continuation of self-conscious existence beyond the border of ordinary waking consciousness. The dreamer has at his disposal a full set of sense-functions, through which he sees, hears, feels, and moves without engaging his ordinary physical sensorium. The difference in waking or dreaming life lies, therefore, evidently not in the changes in the *ego* itself but rather in the respective media through which it manifests. Hence we find the same perceiving, judging, willing self-conscious center, the same powers of joy and sorrow, of approval and disapproval. Only the categories of time, space, and substance differ in the two conditions. Thus the sequence of dreams proceeds in neither past nor future tense, but unfolds in an interminable present, while space to the vision of the dreamer expresses an entirely new order of perspectives. The cause of this difference is to be found in the simple relation between the object perceived and the sense-function through which the perception takes place. In waking the perception objectivizes into form and substance, while in dreaming the same perceiver, by using different channels or media of observation, views things in terms of images and symbols.

In the phenomena of hypnotism and anæsthesia in general, a flood of light is thrown upon the genesis of sleep. If sleep is the result of a temporary shifting of a self-conscious center, then hypnotism and anæsthesia must from their very mode of operation be regarded as phases or aspects of the same vital process. In either case the departure of self-consciousness from its ordinary sensorium is preceded by cerebral anæmia, though the method of inducing the constrictor action differs in accordance to the agent initiating the process.

Now, in the case of general anæsthesia, the sleep-inducing drug, through the process of respiration, is brought into contact with the blood, and thence, through vasomotor action, is caused to exert an in-

fluence on the medulla. Responding to the impulse, the latter reacts by sending out a constrictor impulse along the fibers of vascular innervation. On functions under sympathetic control the effect of this reaction will, of course, amount to a mere passing phase, as the systemic balance of blood pressure is speedily restored by a rebound of the vasodilators. But on the cerebral consciousness, which is trembling in the balance of opposing powers, the shock from the constrictor action has a more intense and permanent effect. The dilator rebound fails to restore the circulatory balance, and anæmia dislodges self-consciousness from its operative centers. If the mind of the subject, however, is of a firm and positive nature, with a strong grip on its vehicle, it may successfully resist the mechanical or vital changes which in weaker minds would result in immediate surrender. Hence the different action of the same anæsthetic when applied to different individuals.

Principally, the action back of the anæsthetic sleep differs in no way from the action inducing the hypnotic sleep. The hypnotist, by engaging his subject in the monotony of visual, auditory, or tactile sense-impressions draws away his attention from the vital-dynamic relations, essential to waking life, thereby causing his mind to lose hold of its function. The cerebral mechanism thus released from self-consciousness is rendered receptive to the sympathetic life-impulse, becomes merged into the subconscious life, and goes to sleep. So far, hypnotism stands merely for an artificially induced sleep. But when the hypnotist, through the power of his will, usurps the field vacated by the mind, and introduces alien impulses into the cerebral life—impulses to be taken up, vivified, organized, and actuated by the sympathetic agency—a morally undiscerning and irresponsible factor—the process of hypnotism assumes its true ethical and moral significance.

For hypnotism by its personal character involves an element of motive, which gives to its operations a wholly unique and even dangerous character. The surrender of a hypnotized brain to the volition of an alien consciousness may permanently disturb the normal relations between the *ego* and its vehicle, and give rise to an enfeebled intellect. It may also occur that persons subjected to hypnotism become so habituated to hypnotic arrests of self-consciousness, that the mere sight of a bright object or the sound of a slight concussion may introduce the hypnotic state.

It has been stated by authorities on the subject that in a number of persons the susceptibility to hypnosis is found to be in an inverse ratio to the general mental development. According to Matthei, in the year 1815 only one person out of fifty was found refractory to hypnotism, while Professor Hansen in a recent lecture at St Petersburg, made the statement that at present only three out of ten fall under its influence. "The contagious psychic disorders and crimes of crowds," observes Manasseine, "as studied of late by Sighele, Le Bon, and Tarde, become less and less possible as self-consciousness predominates in a community, for what above all favors the propagation of such psychic epidemics is the presence of a considerable number of people with feebly developed self-consciousness—people of the spinal-sympathetic rather than the cerebrospinal type." And this because of the susceptibility of the feeble-minded people to the hypnotic currents of morbid moral and mental states, such as suicides, murders, superstitions, illogical theories, and general egotistical tendencies. Hence the susceptibility to hypnotism marks the same mental weakness of the individual, as the susceptibility to bacterial invasion marks his physical weakness. Hypnotism is a moral bacterium, and the only safeguard against its mental inroads lies in the maintenance of perfect moral and mental health, and the acquisition of high ethical and spiritual ideals.

The accuracy of a principle is evidenced by the universality of its application. This means that any expression falling within the range of a certain vital activity must find its true explanation in the laws and principles which are found to govern every separate phase or aspect of the phenomena as a whole.

Hence the principal back of sleep in general does not differ from any of its special aspects. The rendering of a part of the body insensible by injection of narcotics proceeds under the operation of the same principle of suspended or shifted consciousness as is involved in normal sleep. Only it is to be noted that in local anæsthesia the barrier to consciousness is not interposed between the cerebral and the sympathetic life, but between phases of the sympathetic life itself, and its adjusting center—the medulla. The narcotic agent has a power to rupture the chemico-vital associations which serve as conduits for the streams of sensuous life oscillating between the great sympathetic center and a given function. Hence in normal sleep, or anæsthesia in general, the cerebral consciousness is related to the medulla, as the latter in local anæsthesia is related to the part or function of the sympathetic system, subject to the narcotic action.

Yet the withdrawal of the sympathetic life does not leave the isolated function lifeless. The microscope reveals the presence of still deeper vital processes. Cellular action proceeds unimpeded by narcotic influence. The elaboration of protoplasm into cell-stucture is continued on all levels of manifested existence. Hence life, with its concomitant sleep, yields logically to the threefold division of a protoplasmic, sympathetic, and cerebral nature, with the phenomena of sleep marking off the ascendancy of consciousness to ever higher vehicles of expression.

The character of sleep must therefore naturally depend upon the degree of consciousness manifested in the stage of life related to it. Thus while the sympathetic system with its unruptured harmonious flow of life needs a sleep of mere oscillations, the cerebral system under the pressure of an aggressive self-consciousness requires hours of sleep for the rest and repair of its structural elements. And hence, while in the sympathetic system sleep proceeds without requiring a separation of its controlling consciousness (the medulla), in the cerebral system such a separation appears more or less necessary.

To sum up our argument, consciousness is the name by which we designate the power of life manifested under conditions appreciable to our intelligence, and when these conditions, in the course of evolution, have reached a degree of refinement permitting the expression of individuality, we call this expression self-consciousness.

Now sleep ensues when, in the course of individual development, the struggle of self-consciousness to control over larger fields of sympathetic life, wears out the material through which it manifests. From this it must logically follow that the amount of sleep needed by an individual depends on the intensity by which self-consciousness urges its mandate, *i.e.* attention, and on its power of volition in holding its own. With the increase of mental power and strength of character, the time allotted to sleep can be correspondingly decreased, which

finally would lead to a condition when, at the final conquest of cerebral self-consciousness over the sympathetic subconsciousness, sleep would be substituted by consciously and voluntarily administered rest.

The practical aspect in the study of sleep lies in the realization that existence is and becomes whatever we resolve to make of it. Self-consciousness is the crowning glory of life, and sleep is at once its means and impediments. By intelligently using it as means, we shall some day, in the course of universal evolution, overcome it as impediment. But the intelligent use of sleep is possible only through the intelligent use of life, which again means a devotion to universal and interhuman interests. "Not what I have, but what I do is my kingdom." The evolutionary man, the man of imperishable survival-value, is not the dreamer of dreams, but the doer of deeds. The man, to be of service to human life, must fashion the events to suit his purpose, rather than fashion his purpose to suit the events. He must learn to take hold of himself, to know himself, to lead rather than to follow, to administer rather than to be administered to—in a word to be a self-conscious factor in the higher evolution of the race, and to use time and space, sleeping and waking, as controllable and adjustable means for the attainment of the great end—the moral conquest of humanity.

ICTERUS IN SECONDARY SYPHILIS.

By B. C. HYDE, A.M., M.D.,
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While icterus in secondary syphilis has long been known, the literature on this subject is comparatively limited. From the literature at my disposal it would seem that the number of cases reported have shown the condition to be also of comparative infrequence. Lausch reported 46 cases from literature and 3 of his own; Neumann 14; Lowenstein 1; Werner 57; Aschner 3; Jaumenne 2; Calvert 1; a total of 127.

The etiology of this disturbance is not known, and the various writers have not agreed on this point. The following have been stated as causes of the ichteroid manifestation: (1) Enlarged glands pressing on the bile ducts; (2) secondary eruptions in the intestines cause an obstruction in the flow of bile; (3) a general catarrhal condition, such as is found in other infectious diseases; (4) hyperæmia of the bile capillaries, due to inflammation of the liver; (5) changes in the blood and blood-vessels; (6) changes in the nervous system.

The jaundice varies from a slight tinge to a deep discoloration. Its course usually is accompanied by the customary secondary symptoms, but it may be unaccompanied by syphilides, as in the case reported below. Its character is not constant, and it may recur like the eruptions. Its duration is from a few days to a few months, and if untreated it may become chronic. It may assume a malignant type, and after the fifth or sixth day death may supervene, preceded by delirium, hemorrhage, purpura, or coma.

If the manifest secondaries are present the diagnosis may be easy, but in the absence of any of the syphilides, or in the presence of complications, the diagnosis may be difficult. The clinical proofs are the history and other syphilitic lesions. The best criterion for the diagnosis is the success of the anti-syphilitic treatment.

The following case came under my care on July 10, 1903: L. L., æt. 21, unmarried, bank-clerk, has a discharge from a gonorrhœa, which he contracted in March, 1903. In two or three weeks after the discharge began, a small ulcer appeared at the corona glandis, which was diagnosticated a chancre by a physician. At that time he was given anti-syphilitic treatment, without waiting for any secondaries, and he was also given anti-gonorrhœal treatment. There is slight adenitis of the inguinal glands on both sides. There is no scar at the site of the suspected chancre. Anti-syphilitic treatment was suspended to await secondaries, and treatment was directed toward relieving the gonorrhœa. He says he has lost weight since March.

July 29. Jaundiced. Nausea after meals. No vomiting. Discontinued work, but able to walk around. Phosphate of sodium prescribed. Discharge from urethra very slight. No pain in urethra. Has had slight left epididymitis during last few days.

August 4. Jaundice increased. Discontinued phosphate of sodium. Appetite fair. Sleeps well. No pain in region of bile ducts. No fever. No discharge from urethra. Left epididymitis giving considerable discomfort.

August 15. Jaundice increased, and very marked. Scleræ heavily stained. Stools light-colored and whitish. No skin eruption. Patient depressed and weakened. Inguinal glands enlarged on both sides and cervical glands can be palpated. Left epididymitis abated. Pain in intestines after meals. Temp. 99.4°. Suspecting syphilitic infection, I ordered potassium iodide gr. x, three times a day, increasing one grain each day.

August 18. Complexion slightly clearer. There is a slight papular eruption over scapulæ.

August 19. Pain in right epididymis. No discharge from meatus since August 4.

August 29. Complexion clearer. Jaundice slight. A slight papular eruption on face, probably from the iodides. There are a few mucous patches in mouth and a few papules on back. The appetite is good. He takes a hot bath every day and continues potassium iodide. Right epididymitis abated.

September 1. Skin clear. The remnants of jaundice seen in scleræ, which are slightly tinged. Appetite good. The iodide eruption on the face was a little more prominently seen, and accordingly all medicine by the mouth was discontinued and unguentum hydrargyri, ½ drachm was rubbed in once daily.

September 4. Condition improved. Inunctions continued.

September 14. Complexion normal. Scleræ clear. Inunctions continued. There is a slight papular eruption on face. There was no subsequent icteroid manifestation.

The patient concluded he would go to Hot Springs, Ark., where he was given baths, inunctions, and potassium iodide. He returned to Kansas City October 20, in good condition, but quite thin, complexion normal, the only complaint being two or three small sores in his mouth. He was given an iron tonic, and all the other medicine discontinued.

On October 27 the first symptoms of typhoid fever were noticed, and he died on the twentieth day of the disease, the immediate cause of death being hemorrhage of the bowels.

No autopsy was allowed.

Enlargement of the Spleen in Syphilis.—Sorrentino says that the almost constant enlargement of the organ during the first part of the second stage of syphilis may serve as a means of diagnosis when other symptoms are lacking. Morfan considers syphilis to be the chief cause of enlargement of the spleen in infancy, even more than in rickets. He had found it in about 50 per cent. of cases of congenital syphilis. Carpenter considers syphilis comes next to rickets as a cause of splenomegaly.

POLYMAZIA AMONG ENLISTED MEN OF THE MARINE CORPS.*

By RAPHAEL O. MARCOUR, M.D.,
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On the morning of January 26, 1904, while examining a patient in one of the wards of the hospital of the First Regiment, U. S. Marines, stationed on the Isthmus of Panama, I discovered that he had a supernumerary nipple and areola. I questioned the patient, and he informed me that he had never noticed that before. During the same afternoon, while overhauling some fifty men (who had been ill with fever), two more cases of polymazia came to my notice.

Case I.—W. F. F. Private marine, Co. G, First Regiment, U. S. Marines, age thirty-four years, native of Germany. Enlisted August 24, 1900, at Buffalo, N. Y. Somewhat emaciated; hair, dark brown; eyes, hazel. Normal nipples $\frac{1}{4}$ of an inch in diameter; normal areola (each) $\frac{3}{4}$ of an inch in diameter. Supernumerary nipple $2\frac{3}{4}$ inches below, and $\frac{3}{4}$ of an inch to the left of the right nipple; this nipple was $\frac{1}{8}$ of an inch in diameter; its areola was $\frac{7}{16}$ of an inch in diameter.

Case II.—W. H. R. Private marine, Co. C, First Regiment U. S. Marines age twenty-two years. Native of Cape May Court House, N. J. Enlisted September 26, 1903, at Philadelphia, Pa. Strong, and of good weight; hair, light brown; eyes, blue. Normal nipples $\frac{3}{16}$ of an inch in diameter, and normal areolæ $\frac{7}{8}$ of an inch in diameter. Supernumerary nipple $2\frac{1}{2}$ inches below, and $\frac{3}{4}$ of an inch to the right of the left nipple. This nipple was $\frac{1}{16}$ of an inch in diameter; its areola was $\frac{3}{8}$ of an inch in diameter. This person states that his attention was first called to this peculiar mark some time in October, 1902, while being examined physically, in Camden, N. J., for entrance in the Young Men's Christian Association.

Case III.—R. J. O. Private marine, Co. B, First Regiment, U. S. Marines, age twenty-two years and nine months. Native of Springfield, Ohio Enlisted September 8, 1903, at Scranton, Pa. Strong, and of medium stature. Hair, light brown; eyes, blue gray. Normal nipples, $\frac{1}{4}$ of an inch in diameter; normal areolæ, 1 inch in diameter. Supernumerary nipple, $2\frac{3}{4}$ inches below, and 1 inch to the left of the right nipple. This nipple was $\frac{1}{16}$ of an inch in diameter; its areola was $\frac{1}{4}$ of an inch in diameter. This person states that his brother, who is about twenty-five years old, has a similar mark on the left side of his body about the same distance from the nipple, as in his case.

All three of these supernumerary nipples were well marked, but were devoid of hair around the areola In this regiment there were 750 men and officers, and I am sorry that time prevented me from going over all the command, for probably more supernumerary nipples would have been discovered.

*Published by permission of Surgeon-General Rixley, U S. Navy.

Cost of the London Asylums.—What Londoners spend annually on doctors will probably never be known. But the report annually issued by the Metropolitan Asylums Board shows that they expend more than a million a year on the public treatment of imbeciles, the infectious sick, and the incidental establishment charges. Moreover, the sum, like the population, is annually increasing.—*The Daily News.*

The Action of Sunlight on Skin and Conjunctiva.—K Kreiblich presents a contribution to the pathology of the so-called hydroa vacciniforme and summer prurigo, both vesicular eruptions of the skin which are histologically closely related to the wheals of urticaria. He also reports two cases which were clinically distinct from the first-mentioned, but could be traced to the action of the sunlight. Both were marked by a course extending over several years and presented evidences of lichenification combined with eczematous eruptions. Connective-tissue infiltrations could also be traced to the action of the sun's rays, as they rapidly disappeared under an occlusive dressing. The author believes in addition that the catarrhal conjunctivitis met with in the spring is produced by sunlight, and suggests occlusive dressings as a curative measure and the wearing of red eyeglasses as a prophylactic.—*Wiener klinische Wochenschrift.*

Asthmatic Dermatitis.—T. B. Beddoes declares that it is well known that skin eruptions and rashes alternate with attacks of asthma. He reviews the opinions of a number of authorities on this subject. They associate asthma with urticaria, psoriasis, xeroderma, ichthyosis, eczema, and acne. Histological examination of the skin affections associated with asthma shows one common feature—alterations of the collagen, white fibrous tissue. The variability of the skin affections that accompany asthma is explained by there always being a change in the collagen of the cutis; following on this change in the cutis are other changes in the epidermis visible to the naked eye. In one case there is rapid alteration in the collagen, and localized œdema ensues, which produces the clinical manifestation of urticaria. Again, the change may be slower, so that fluid is effused on the surface, and eczema results. The slowest change is so tardy that the horny layer is increased, and there results xeroderma and ichthyosis. Cases of asthmatic dermatitis begin in early life—generally from eight to sixteen years. The association with acne may be only accidental. Later on in life this form of asthma ceases to give active trouble but leaves behind emphysema and a tendency to chronic bronchitis Asthma and skin disease, when associated, are relieved by thyroid: when they alternate, they are cured by it.—*Treatment.*

The Formation of Bone Tissue within the Brain Substance. A Contribution to the Inclusion Theory of Tumor Formation.—D. J. McCarthy speaks of the presence of true osseous tissue with all the histological structure of bone within the brain as being of great rarity. He reports experiments made to determine the results in the lower animals of constant cortical irritation. Small pieces of ser rated copper wire were sterilized and inserted beneath the dura of growing cats. In one kitten, a month old, the wire penetrated the brain substance near the superior longitudinal fissure, about 1 cm. behind the motor area. The animal died four months later after repeated convulsions. The brain was hardened in formalin and a section made through it at the point where the wire had penetrated. There was a hard mass the size of a small bean in this area. The growth was doubtless of recent formation. There was absence of calcification in the central areas of the tumor and the beginning of calcification in the peripheral areas. The growth was very vascular. There were capillary hemorrhages, round-cell infiltration, and rarefaction of surrounding brain tissue to be seen in the puncture wound. It would seem almost positive that the presence of the wire was in direct causal relation to the presence of the tumor mass. If this be true, the writer thinks that either a small bit of dura or periosteum, or possibly, some grains of bone from the needle opening, were carried down into the cerebral tissues with the wire, and as these tissues so early in life are very vascular and active, they continued to carry out their primary function of bone formation. There was no displacement of the bone and the tumor was $\frac{1}{2}$x$\frac{3}{4}$ cm., and of irregular spherical shape, so there could be no question of mere transposition of bone from the skull.—*University of Pennsylvania Medical Bulletin.*

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THE COPPER TREATMENT OF PUBLIC WATER SUPPLIES.

POPULAR interest in the alleged purification of water supplies by Dr. Moore's copper treatment, as detailed in a recent bulletin of the Department of Agriculture, has been re-aroused by an epidemic outbreak of typhoid fever in the city of Washington. It appears that Dr. Moore has gone on record as stating that his method of treatment will infallibly destroy all typhoid germs in public water supplies, and that epidemics of water-borne typhoid fever are hereafter to be regarded as unnecessary. In support of his claim, Dr. Moore brings forward the results of certain laboratory experiments—which, by the way, are not known to have been verified by other observers, and also quotes extensively from letters from certain physicians who have successfully used copper salts in the treatment of typhoid fever; and he further refers to instances in which his copper treatment is alleged to have destroyed the algæ in large public water supplies. All these later claims have, of course, no relation to the question at issue, and their introduction by Dr. Moore tends to impair rather than strengthen scientific credence in his other contention relative to the infallible destruction of typhoid bacilli in drinking water, under any and all conditions. Briefly, Dr. Moore's method consists in adding copper sulphate to the water in such strength as to make a dilution of one in several millions. Usually, the proper amount of copper sulphate is placed in a bag and dragged, until dissolved, at the stern of a boat over the water supply to be treated. The same results, according to Dr. Moore, may be obtained by causing the water to flow over copper plates. The proportion of copper added to the water in any case is so insignificant, it is said, as to be negligible in connection with any effect upon the health of persons drinking water so treated.

In his original brochure, which appeared about six months ago, Dr. Moore was much more conservative in his claims than at present. He advanced the treatment as a means of destroying algæ—notably *Uroglena*, *Synura*, and *Asterionella*—and preventing the fishy taste and odor which such algæ impart to drinking water. The alleged positive germicidal effect of highly diluted copper solutions upon the bacilli of typhoid fever and cholera was touched upon, but the whole proposition of the distruction of algæ and bacteria by this means was apparently regarded at that time as experimental and requiring to be worked out under practical conditions on a large scale. To this end, the Department of Agriculture offered its assistance to municipalities applying for it. If, during the past six months, Dr. Moore has succeeded in getting that practical experience which was previously lacking, it is certainly unfortunate that in the present controversy he has not deemed fit so to inform his opponents and give the places, dates and results obtained. The claim is one of such far-reaching significance that it should be amply investigated without delay, and it furnishes a practical sanitary problem which it is earnestly hoped may be independently attacked by State and municipal boards of health through their chemists and bacteriologists. Pending the attainment of a more comprehensive and accurate knowledge of this matter, the health officer of Washington is to be commended for not being carried away by popular clamor. It is not that the occasional "dosing" of the drinking water supply of Washington, with the relatively infinitesimal quantity of copper sulphate recommended, would perhaps do harm to the health of the citizens of that city, but the knowledge that the water had been so treated would inevitably give rise to a certain fictitious sense of security and interfere with the carrying out in many homes of the certain and easy destruction of any typhoid germs by boiling. The time of a typhoid epidemic is not the time for the institution of untried and problematical measures of water purification.

If Dr. Moore has devised a simple and harmless way for destroying algæ in water, as seems likely, he has done a most important service. It is to be hoped that he has not allowed professional enthusiasm to entrap him into assuming a too advanced and untenable position with respect to the alleged easy destruction of typhoid germs in large public water supplies. Pending further investigation into this matter, Dr. Moore occupies the position of one who has either conferred upon humanity a boon of incalculable value, or one who has rendered himself and the Government bureau he represents ridiculous.

INVESTIGATIONS OF THE DIARRHŒAL DISEASES OF INFANCY.

THE Rockefeller Institute for Medical Research some time ago undertook the bacteriological investigation of children afflicted with various forms of diarrhœa. The investigation was carried out directly by twelve bacteriologists in the cities of New York, Philadelphia, Boston, and Baltimore under the supervision of Dr. Flexner. During the summer of 1902 Messrs. C W. Duval and V. H. Bassett undertook investigations for the purpose of studying bacteriologically the complaint known as "summer diarrhœa" of infants. These investigators reported the discovery in the dejecta and intestines of a high percentage of children suffering from this affection of a bacillus agreeing in essential properties with *Bacillus dysenteriæ*, Shiga.

A year earlier—the summer of 1901—Vedder and Duval investigated several outbreaks of dysentery in adults in this country, and found the dysentery bacillus in two institutional epidemics and a number of sporadic cases of the disease. The previous studies of Dr. Flexner upon tropical dysentery, made in 1900, had led him to experiment with the production of a vaccine of the dysentery bacillus, which experiments were later continued by Dr. Gay under the

direction of Flexner in the Pathological Laboratory of the University of Pennsylvania.

The experiments conducted during the summer of 1903 consisted in an exhaustive investigation of the bacteriology of diarrhœal diseases occurring in a large number of children.

The conclusions arrived at by Flexner, from a consideration of the findings of the various investigators, are as follows:

(1) *Bacillus dysenteriæ* can be isolated from the intestinal discharges and the intestinal mucosa of a large percentage of children suffering from the diarrhœal diseases prevailing along the Atlantic seaboard of the United States during the summer months. (2) *Bacillus dysenteriæ* is to be sought especially in the mucus thrown off by the intestinal mucosa in these diseases and in the substance of the mucous membrane itself. The bacillus exists in smaller numbers in, or is recovered with far greater difficulty from, the fecal matter that often is admixed with the mucus. (3) Blood admixture makes the isolation of the bacillus of dysentery from the intestinal discharges more readily accomplished, as it generally indicates infections of severer grade; but the mere presence of blood is of less moment than the occurrence of mucus, since it is in the latter material that the bacillus of dysentery resides. (4) The number of colonies of *Bacillus dysenteriæ* recoverable in cultures is in a general way indicative of the severity of the lesions and symptoms of the disease. Some cases, however, of marked severity yield few colonies, and others of marked mildness a larger number of colonies of the bacillus. (5) The total number of colonies of *Bacillus dysenteriæ* obtainable, is, as a rule, far below the number of colonies of the usual intestinal bacteria which develop upon the plates; but in a very few instances the number of colonies of the dysentery bacillus equals or exceeds that of all other organisms, and in exceptional specimens the bacillus alone appears in the cultures. (6) The type of *Bacillus dysenteriæ* which preponderated in the children is the so-called "Flexner-Harris" organism. The "Shiga" type of the organism is exceptionally met with, and occasionally both types are found in association. (7) Types of *Bacillus dysenteriæ* of less well-established properties have also been encountered. Among these are bacillus "*x*" of Hiss and Russell and another indistinct type which demands additional study before admission to the group, whose special property is its power to act upon lactose with acid production. (8) The blood of the children suffering from diarrhœal diseases agglutinates at times the bacillus of dysentery in high dilutions; but this agglutination by the blood does not proceed hand in hand with the occurrence of the bacillus in the intestine. The agglutination reaction is not to be treated as an index of the presence of, or infection with, *Bacillus dysenteriæ*. (9) The close association of *Bacillus dysenteriæ* with the intestinal mucosa, and the increased numbers of the organism found under definite pathological conditions, the established pathogenic action of the bacillus for human beings, and the specific blood changes met with in many of the cases of diarrhœal disease, all speak for a relationship of cause and effect between the bacillus of dysentery and the lesions of the intestine. (10) It is probable, although it is not proved, that *Bacillus dysenteriæ* appears at times among the saprophytic bacteria of the contents of the intestine. The frequency of its isolation in all grades of diarrhœal disease in children would be in conformity with the view of such a saprophytic existence and the acquisition, under pathological conditions, of pathogenic and invasive properties. (11) Should it be established that *Bacillus dysenteriæ* is occasionally or regularly to be found among the bacteria of the cavity of the intestine, the dangers of the entrance from without of specially pathogenic examples of the organism are not to be disregarded. The contagiousness of bacillary dysentery among adults and the rarer instances of diarrhœal contagion among children, prove the necessity of recognizing such an extra-infectious origin of the disease. (12) Streptococci in large numbers are found frequently associated in cultures with *Bacillus dysenteriæ*. Both organisms survive side by side and would seem not mutually to inhibit each other's development. What part is to be ascribed to each in the production of the lesions of the intestine and the symptoms of disease is not established by this investigation. Nor is the possible action of any other of the many bacteria of the discharges excluded by the special findings of the investigation. (13) The central fact brought out by this collective investigation is the frequent occurrence in the diarrhœal diseases of children of a specific microorganism, which hitherto has been held to be of special pathogenic action in human beings, and to be the cause of that form of dysentery among adults and also among children which is characterized by neurotic and pseudomembranous lesions of the intestine and marked infectiousness. (14) The lesions of the intestines observed in the children who have succumbed to the diarrhœal diseases treated of in this investigation have been very varied in character; but there has rarely been found among them the particular kinds of pathological changes which characterize pseudomembranous enterocolitis.

An important feature of the report was that Dr. Duval found the bacillus of dysentery in the stools of two healthy children. The intimate relationship of the bacillus of dysentery to the substance of the mucosa of the intestine, in which locality, under pathological conditions at least, it seems easily able to survive and multiply, is another fact discovered of considerable significance.

In the course of the investigation carried on during the summer of 1903, 412 cases of diarrhœal disease among children were studied bacteriologically with reference to the presence of the bacillus of dysentery. Of this number positive results were obtained in 279 or in 63.2 per cent. of all cases examined.

The conclusions arrived at by Duval and Bassett in 1902 were in part upheld, but that the character of the materials in which the bacillus is sought affects the result to the extent believed by these workers was not substantiated. Again the mere presence of blood in the stools is of less moment than Duval and Bassett supposed.

The Rockefeller Institute has commenced its work well and bids fair to develop into one of the foremost agencies of the world for the prosecution of medical research work. It has a

sufficiency of money to carry on investigations thoroughly, and the best known bacteriologists of this country are at its command. The result of its studies up to the present has been encouraging, and the reports of the several investigators on infantile diarrhœa form a valuable contribution to the literature on the subject.

Jaundice and Its Treatment.

Dr. William Henry Porter, at a meeting of the New York Post-Graduate Clinical Society, held last spring, read a paper on obstructive jaundice, in which he considered the subject from the medical point of view and summarized as follows: (1) All forms of jaundice are due to obstructions of the ducts; (2) there are two distinct forms: one in which the obstruction is within and one in which it is outside the liver; (3) some are amenable to surgical interference only; some to medical treatment only; some can be reached by medicine and by the surgeon's knife; (4) the intralobular occlusion form bears surgical interference badly; while the extrahepatic form usually does well under the surgeon's knife. The intralobular occlusive variety of jaundice can be treated successfully only by medical measures. In this class the digestion must first be improved, and the abnormal fermentative processes in the intestines arrested.

According to the author, the cardinal principle governing the dietetic treatment of these cases is, that the different classes of foodstuffs, such as the starches, sugars, fats, and proteids, must be furnished in such quantities only that the digestive functions will not be overtaxed, nor the oxygenating capacity of the system exceeded. In some the exclusive skimmed milk or buttermilk diet is the most valuable; this to be followed as soon as fats can be assimilated, by unskimmed milk. Some will be able to take with the milk, beef tea and plain meat broths. Raw eggs are very serviceable in these conditions. As soon as the system will digest them, cooked eggs and meats should be given, and last of all bread, in the form of dry toast or plain wheat bread from twenty-four to forty-eight hours old. If milk in its natural state cannot be tolerated, some form of fermented milk may be ingested. Beefsteak is taken as the standard meat to work from, as it is the most easily digested and assimilated. Dr. Porter strongly warns against the eating of fruit and many of the vegetable foods in all forms of intestinal indigestion, as these give rise to acidity and fermentation. Even with the diet carefully regulated, nature unaided is unable to digest perfectly the foodstuffs, which must, therefore, be artificially digested within the elementary tract.

An indispensable factor in the successful treatment of jaundice is that the bowels should be kept in good working order. Movements should be secured from one to three times a day. When the bowels fulfil their functions freely, the toxins will be carried out with the fæces, and their liability to enter the blood-stream is reduced to the minimum. The cathartics and antiseptics, in the opinion of the author, work best when combined with the bile and pancreatic extract, and should be administered before each meal. The sluggish action of the heart and circulation is best overcome by the use of muriate of caffeine and strychnine. Last, but not least, in the treatment, is that which directly influences the enlarged and degenerated cells of the liver, which are occluding the biliary radicles. These are best reached by calomel in varying doses alone, or in combination with arsenic, bichloride of mercury, and ipecac. Another point to be borne in mind in the treatment of jaundice is that all patients do best when they are in the open air and light. On occasions, a stay in the country, at a considerable altitude, will work wonders with a person suffering from jaundice.

In the discussion which followed the reading of Dr. Porter's paper most of the surgeons present took exception to the opinions expressed as to the need of medical treatment alone for intralobular jaundice. They argued that the author laid too much stress on intestinal fermentation as a cause of the condition, and contended that intestinal fermentation plays by no means so prominent a rôle in jaundice as implied by Dr. Porter. Surgeons are more and more frequently invading the domain of medicine, and the treatment of intralobular jaundice by surgical measures is a matter of not uncommon occurrence. As to whether the surgeon is not apt to use the knife with somewhat too great freedom, is a point which is open to discussion. Bold measures are indicated in desperate cases, but on the whole, perhaps, a judicious conservatism meets all phases of the situation the best.

Destruction of Rats and Mice.

The Pasteur Institute, according to United States Consul-General J. K. Gowdy at Paris, claims to have discovered a method of destroying the rats and mice which have almost decimated vines and crops. Mr. Gowdy says that the claims of the Institute can be established by facts, so far as the destruction of rats and mice is concerned, but it does not yet appear to be proved clearly and unmistakably that the means employed for destroying animals mentioned is not hurtful to other forms of animal life to be found in agricultural and vine districts. However, the results so far obtained have been entirely satisfactory to the French Government.

On the 28th day of January last, Drs. Roux and Chamberland, in company with a general inspector of agriculture, proceeded to the Department of the Charente, which district has suffered most severely. Dr. Roux brought with him to the scene of operations a large quantity of "bouillon" swarming with rat microbes. He and his assistants dipped quantities of wheat, oats, and small pieces of bread, about 0.3937 inch square, into the bouillon and which immediately became impregnated with the microbes which the bouillon contained. Then the poisoned wheat, etc., was placed in and about the holes in which the rats and mice were known to be. The quantity of poisoned "paste" distributed amounted in all to 4.2 metric tons of bread and 9.3 metric tons of oats, while the quantity of bouillon used was 1,190 bottles. The total area of these experiments was 2,965 acres. To determine the effect of this poisoned paste on the animals, Dr. Roux had the fields ploughed up in order to see the condition of the rodents after they had eaten the paste and to fix approximately the number of rats and mice that had succumbed to the poison. The results obtained surpassed all expectations on the part of the farmers. Rats and mice were dead in almost alarming quantities, and became quite as much of a pest when dead and putrefying as when they had been alive, but happily in another sense of the word. Dr. Roux estimates that he destroyed no less than 95 per cent. of the rodents by these experiments.

The minister of agriculture, being satisfied with the results thus obtained by Dr. Roux, and acting on the advice of the eminent scientist, proposes to

introduce into the Chamber of Deputies a bill for the purpose of compelling farmers in rat-infested districts to coöperate in using the above-described paste.

Subcutaneous Injections of Mercury for Syphilis.

In the *Scottish Medical and Surgical Journal* for May, 1904, notice is taken of this method of treatment of syphilis. In England, and especially in Scotland, such treatment is little used, although the medical services pursue it. In the article referred to, the objections to the method are discussed, a recent lecture by Julien at the University of Paris, supplying the subject matter. Julien has used the injections for twenty-five years, and is a strong advocate of the treatment.

The objection most usually brought against injection is the risk of the formation of abscesses at the seat of puncture. According to Julien, these occur only when calomel is used. They are, however, becoming increasingly rare, with the more general improvement in technique. Julien nearly always uses the insoluble, and less quickly absorbable, preparations. The three that he uses are calomel, gray oil, and the insoluble salicylate. When rapid, powerful action is required, calomel is used. For slower action without any danger of intoxication, he prefers the salicylate or the gray oil. The dose of calomel should depend on the weight and condition of the patient. Thus, one grain is about the dose for a patient weighing 132 pounds. As a rule, the first three or four injections should be given at intervals of eight days. Later, the intervals should be prolonged to ten, twelve, and fifteen days, and finally to a month. Gray oil is more active than the salicylate. A course of four to six hypodermic injections of about $\frac{1}{5}$ of a grain of mercury, at intervals of eight days, should be given three or four times a year. Julien remarks that the salicylate is remarkable for the wonderful tolerance for it exhibited by all the tissues.

Mercurial treatment should be continued for at least five or six years after the acquirement of syphilis, by monthly injections. Julien claims two great advantages for injection, especially of calomel: (1) For the rapid diagnosis of syphilis in cases in which there is a question of operative interference, if the condition should prove non-syphilitic. This therapeutic test is now recognized in France as one of the best. (2) It is certain that it produces an abortive effect upon syphilis, in many cases, if used at the very beginning of the disease.

Flash-light Signs.

A new form of electric sign has been introduced in this city lately, which should be suppressed now before it becomes general. We refer to the large-lettered electric-light sign which flashes out brilliantly for a few seconds and is then extinguished for an equal period. The effect of this alternation of light and darkness is most trying, not only to the eyes of the passers-by, but also and especially to residents in the neighborhood whose windows look out on the signs. One may sleep in a bright light or in darkness, but no nerves can stand the strain of a momentary illumination of the sleeping apartment recurring several times a minute. This is a nuisance which it would seem to be within the province of the Board of Health to abolish, and the Commissioner may well give his attention to it while as yet the offenders are few.

News of the Week.

Fifteenth International Medical Congress.—We have received the second and third numbers of the Official Bulletin containing a report of the work of the Committee on Organization. We learn from this that the work is progressing favorably and that, so far as it lies in the power of the committee, the day the congress opens will see everything ready and in good running order. Two members of the committee have died since its formation. The first death was that of Prof. Costa Simões of Coimbra, which occurred in November of last year. The second was of Prof. Hygino de Sousa, secretary of the Section on Ophthalmology. During the sessions of the congress a Colonial Exposition will be held in Lisbon under the auspices of the Section on Colonial and Naval (Tropical) Medicine. The Section on Psychiatry has begun an investigation on pellagra in Portugal, the conclusions of which will be ready for presentation to the congress.

Impeding the Work of Sanitation on the Isthmus.—It is stated in the *Herald* that the sanitary work of Colonel Gorgas on the Isthmus is being seriously hampered by the unreasonable opposition of General Davis. It has been a matter of comment that the military insisted upon appropriating all the supplies consigned to the sanitation department and refused to give them up except on requisition made in the usual manner in the army. Colonel Gorgas is also reported to be aggrieved over the treatment given to the nurses at the hospital. They went to Panama under stipulated salaries, but at the end of the first month were notified by the governor of a reduction. We hope these reports are exaggerated, or else that Colonel Gorgas, who is now in this country, has obtained assurances from the authorities in Washington that he will be allowed a freer rein in his arduous task. It will not do to risk a yellow-fever outbreak by tying up with red tape the man who has proved that he can prevent it if given a free hand.

First Aid in Chicago.—Plans to train the public in the science of rendering first aid to the wounded in emergency cases are being pushed by a newly-formed organization of physicians and laymen, the Chicago First Aid Society. This society has undertaken to make an organized effort to deal with our appalling and ever-growing casualty list incident to the rush and hurry of modern industrial life, and it proposes to establish throughout Chicago classes of instruction in first emergency methods for the treatment of the injured. The following physicians and surgeons compose the medical board: Drs. Nicholas Senn, Chas. Adams, R. N. Foster, Arnold C. Klebs, Henry B. Favill, James B. Herrick, N. S. Davis, S. C. Stanton, John Ridlon, John B. Murphy, Wm. E. Quine, and Geo. W. Webster. The course of instruction will consist of a series of about fifteen lectures. These lectures will include a short elementary course in anatomy and physiology, to be followed by demonstrations and instructions in the correct emergency methods of treating broken bones, sprains, and dislocations; how to arrest bleeding and treat wounds and cuts; instruction in bandaging; how to treat shocks of electricity and lightning, etc. At the end of the course examinations will be held and certificates and badges awarded to graduating members. There will be no charge for instruction.

Opening of Columbia University Medical School.—The opening exercises of the academic year 1904–5 of the College of Physicians and Surgeons will be

held in the Lower Lecture Room on Thursday, September 29, 1904, at 3 o'clock P.M. After a brief address of welcome by the President of the University, an address will be delivered by Dr. John G. Curtis, Acting Dean and Professor of Physiology, upon "Our Medical Training in the Light of Ancient Error."

Cornell University Medical School.—The work of this college for the year 1904–5 will begin on September 28. The number of students registered for the first-year class is greatly in excess of that of any previous year; it is noted also that the preliminary education of the applicants is improving. Dr. Frederick Whiting has been appointed professor of otology in place of Dr. Gorham Bacon, resigned, and Dr. Adolf Meyer professor of psychiatry in place of Dr. Allan McLane Hamilton, resigned.

Use of Dum-dum Bullets Suspected.—The Japanese have several times declared their belief that the Russians are using the prohibited dum-dum bullets, this belief being based on the nature of the wounds received. This bullet resembles the ordinary service bullet, except that the leaden core is left uncovered, and, by further making the bullet weak at the apex, it spreads out immediately on striking a bone, usually with fatal results. In partial confirmation of this suspicion, Marquis Oyama states that among the ammunition abandoned by the Russians at Liao-Yang were two kinds of dum-dum bullets, each resembling those for the 1891 pattern Russian rifle.

Church Quarrel over a Hospital.—There is much opposition on the part of certain Roman Catholic priests in Orange, N. J., to the project of the rector of the Italian church to establish a new hospital in that city. The cause of the opposition to Father Ronanelli, the Italian priest, is not made public. According to present plans the hospital will be ready for patients early in November.

Increased Powers of the State Board of Charities.—The New York State Board of Charities recently wrote to the Attorney-General asking his opinion as to its jurisdiction over certain institutions in the State which are in receipt of public money, but which are apparently private business enterprises rather than charitable institutions. In his reply Mr. Cunneen says that whenever a public agent employs a private individual or corporation to "care for, support or maintain" one or more persons at public expense the service must be rendered "pursuant to rules established by the State Board of Charities," and that the State Board has all the powers of visitation and inspection necessary to enable it to know whether its rules are complied with. The board, however, has nothing to do with the general business or affairs of an individual or corporation, because he or it may incidentally render a public service.

Opposed to the Carbolic Acid Law.—Pharmacists in New York are aroused by the recent amendment to the Sanitary Code prohibiting the sale of carbolic acid at retail in any more concentrated form than a five-per-cent. solution. The complaint of the druggists is that the prohibition of the sale of the acid, while it will not make suicides more difficult, will inflict a great hardship on the public, who use carbolic acid more than any other agent for disinfectant purposes. At the same time they assert that an intending suicide can go to a wholesale drug house and buy the acid in the original package without question, and a child can do this as easily as an adult. But one who resorts to carbolic acid, usually a woman, for suicidal purpose, generally does so on the impulse of the moment, and if she had to go to a wholesale drug house to get it, she would either get over her wish to kill herself or would find some other means to effect her purpose. In the notice of the new carbolic acid regulation it is stated that if carbolic acid is found by the side of the dead in a bottle bearing the name of a drug firm, the department will take action against such druggist.

Radiotherapy of Cancer.—One of the principal discussions at the International Dermatological Congress, held last week in Berlin, was that on the treatment of cancer. Professor Peterson advocated the ray treatment of epithelioma, but admitted that it was curative only in the early stages of the growth. He preferred the Finsen light as being the safest method, and held that the *x*-rays and radium, though efficacious in many cases, were dangerous and should be employed with great caution. Prof. v. Bergmann was opposed to the trial of radiotherapy in operable carcinoma. He said that any superficial epithelioma could be cured in the early stages by the knife, but only a certain proportion of such cases were amenable to radiotherapy, and he asserted that no inoperable cancer had ever been cured by the *x*-rays or other form of radioactivity.

Dr. Fred W. Lamb has been appointed curator to the Cincinnati Hospital Laboratory to replace Dr. Wm. Muhlberg, resigned.

Professor Escherich in America.—At a special joint meeting of the Chicago Pediatric and Chicago Medical Societies, held September 17, Prof. T. Escherich of Vienna addressed the society on "Tetany in Infants." In the morning of this day, Professor Escherich gave a public medical clinic in the amphitheater of the Cook County Hospital.

Journal of the Medical Society of New Jersey.—The first issue of this journal, the latest among the State medical papers to make its appearance, has been published under date of September, 1904. The editor of the journal is Dr. Richard C. Newton of Montclair; the committee on publication consists of Drs. William J. Chandler, David C. English, and Henry W. Elmer. The first issue contains the address of the President delivered at the annual meeting of the society in 1904.

Dangers of Elevators.—At a recent inquest into the death of a man resulting from the fall of a freight elevator, the coroner said that since January 1 there had been thirty persons killed and many more injured in New York City by faulty elevators. He believed it was time that something was done to lessen the number of these accidents.

Diphtheria in Newark, N. J., has increased markedly in the past two or three weeks, and it is feared, now that the schools have opened, that a still greater number of cases may be reported. In the week ending September 3 there were twenty-seven cases of diphtheria in the city, in the following week fifty-three cases were recorded, and during the week ending September 17 there were over sixty cases. The Board of Health urges the extensive use of antitoxin. It also suggests that whenever one member of a family is suffering with the disease every other inmate of the household shall be inoculated.

Pasteurized Milk Distribution.—The summer season of the Strauss pasteurized milk depots closed last Saturday. The number of bottles of pasteurized milk distributed was 2,149,194, and in addition upward of 800,000 glasses of milk were sold at the booths in the parks and on the recreation piers. The demand was greater in the past summer than in any of the previous twelve years in which the work has been carried on, the increase being nearly

half a million bottles over 1903. The season was also notable for the inauguration of the work in St. Louis.

Sir Felix Semon Banqueted.—On September 15 a dinner was given to Sir Felix Semon at the Chicago Club by the members of the Chicago Laryngological and Climatological Society.

The Russian Sick and Wounded.—Reports of the Red Cross work among the Russian troops in Manchuria show the following proportion of patients suffering from wounds or disease out of the total sent to the hospitals in the area of the military operations: Cases of severe illness, 10 per cent.; slight illness, 56 per cent.; wounded, 34 per cent. The only epidemic disease noted is dysentery, with 6 per cent. of cases.

Prof. A. Wassermann of Berlin will deliver an address, in German, before the New York Pathological Society at a special meeting to be held at the Academy of Medicine on Wednesday, September 28, at 8.30 P.M. The subject of the address will be "A Discussion on Several New Points Concerning the Theory and Practice of Immunity."

Obituary Notes.—Dr. JACOB CHAMBERS of Kingston, N. Y., died at his home in that city on September 15, at the age of fifty-two years. He was a graduate of the Medical Department of the University of Buffalo in the class of 1875. He was on the surgical staff of the Kingston Hospital. He had for many years been the family physician of Judge Parker, the Democratic nominee for the presidency.

Dr. HENRY RIDGLEY of Dover, Del., died on September 17 at the age of eighty-seven years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1839. He had been prominent as a banker as well as a practitioner of medicine.

The Different Kinds of Typhoid Fever Relapse.—Maurice Coste gives Hutinel's classification of the relapses of typhoid fever—simple and pyretic on the one hand, anomalous relapses and relapses associated with wide oscillations of temperature on the other. The simple relapse recalls in its course an ordinary attack of enteric fever, but the symptoms are generally less severe and less marked. The temperature may rise suddenly to its maximum, or it may rise rapidly in "staircase fashion." The fastigium may present several types also, the oscillations being of the regular or irregular remittent, or regular intermittent type. The eruption appears earlier than in the original attack, generally between the second and fifth days. The pyretic relapse differs from the four just described in the absence both of typhoid symptoms and complications. It is manifested by a rapid rise of temperature during convalescence. The temperature can be accounted for only by the action of the typhoid poison on the system. In the anomalous relapses, the temperature curve may present still greater oscillations of temperature. In this variety of relapse, which is by far the commonest, the temperature rises continuously and attains its maximum about the fifth day, between which and the eighth day it remains steady; but on the ninth day it suddenly drops several degrees and may even become subnormal, though it subsequently rises again to its previous level. The temperature remains slightly raised until the fifteenth day, when it again falls suddenly, and oscillates slightly until the twenty-first day, when convalescence sets in. However, the temperature does not always follow this course. The characteristic feature of this type is the irregular course of the temperature and the late appearance of the eruption (tenth day). In the relapses associated with wide oscillations, the difference between the morning and the evening temperatures may amount to from 4° to 6° F. The treatment of the relapse does not differ from that of the original attack.—*Medical Press and Circular.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ROYAL COMMISSION ON EPILEPTICS, ETC.—INFECTIOUS HOSPITALS—RESTORATION OF THE APPARENTLY DROWNED—ITEMS.

LONDON, September 2, 1904.

IT was announced yesterday that the King has appointed a royal commission to consider the existing methods of dealing with idiots and epileptics and with imbeciles, feeble-minded, or defective persons not certified under the lunacy laws; and, in view of the hardship or danger resulting to such persons and the community from insufficient provision for their care, training, and control, to report as to the amendments in the law, or other measures which should be adopted in the matter, due regard being had to the expense involved in any such proposals, and to the best means of securing economy therein.

The commission is hardly a strong one, but fairly constituted as such appointments go, but one would have expected to see more than one M.D. among its members. It is something, however, to see a royal commission on a medical matter.

A question which has for three or four years been intermittently mooted is now exciting attention, both within and without the profession. It is whether the system of isolation hospitals is of any use in reference to scarlet fever. At the recent meeting of the Royal Institute of Public Health there was a discussion on the subject, and the following resolution was carried by thirty-six votes to twenty: "That, as the hospital isolation of scarlet fever has now been tried on a large scale, for a number of years, and as some doubt exists as to whether the results obtained are commensurate with the cost, it is desirable in the public interest that a full and authoritative inquiry into the subject should be held." Although the minority in this division is a strong one, the significance of the numbers is impressive when one remembers that two or three years ago such a motion would have been laughed out of any meeting of sanitarians. In fact, a proposal for inquiry was made by one or two health officers and their suggestions met with an opposition worthy of party politicians. Why doctors and scientists should adopt such an attitude may not appear on the surface, and is a problem perhaps not worth attempting to solve. But the question is one of importance to the public as well as to investigators, and deserves to be considered in the light of dry science. Gentlemen who pose as sanitarians ought not to indulge in contemptuous language toward those who differ from them in opinion, and both sides may as well remember that assertions are not arguments. The great importance of the subject may be seen in the fact that our fever hospitals were erected mainly for the purpose of isolating scarlet fever in the hope of thereby preventing its spread. But these buildings, erected at enormous cost, have proved rather homes for patients during the disease, which seems as prevalent as ever. These hospitals have not diminished diphtheria in the population; that disease has greatly increased since they were established; no one denies this. Why, then, should we not inquire whether we have adopted the right method of dealing with scarlet fever? Is it possible that hospital treatment is unfitted to cope with either or both these diseases? One thing is certain, our fever hospitals are not isolation hospitals, as they are often miscalled. Isolation can be achieved in many a private house; in hospitals never. Institutional treatment substitutes aggregation for segregation.

We are at present living during a period of mild type of scarlet fever, but there is no certainty that this will continue long. We can never predict when a severe epidemic will break out. Still less can we state what are the conditions which produce variations of type. The stoutest defenders of the hospital system do not dare to claim for it the mildness of the type now prevailing or the decrease of mortality resulting. They rather plead that cases are better nursed and attended to than they can be in the average home; but as to that I should like to know what they consider an average home.

It is easy to picture to oneself a home in which a patient would be infinitely better off in his own home, but it is equally easy to speak of cases in which the home does not deserve the name and affords no hope of restricting the infection. Much has been made of what are called return cases, when patients discharged from hospital as recovered and disinfected have carried the infection with them and set up a fresh focus whence the disease has again spread. But these cases are comparatively rare, and with increased care will diminish in number; and home-treated persons are perhaps more often the source of fresh outbreaks. Another danger of hospital cases is that occa-

sionally a patient may contract another infectious fever or even convey it home on leaving. We have had an abundance of statistics of towns, and they do not seem to prove that those where isolation is in vogue have enjoyed more freedom from the disease than those where it is not attempted. The difficulty of diagnosis must not be overlooked. The mildest attack, which is perhaps dismissed as a mere sore throat from catarrh, has not seldom been the first case of an epidemic.

Bathing accidents are of almost daily occurrence, and so we again discuss the methods of reviving persons apparently drowned. The Sylvester and Marshall Hall methods are mostly employed, but Professor Schafer condemns them and upholds a modification of the Howard system. Instead of turning the patient on his back after the first pressure for forcing out retained water, he advises keeping him on his face. This prevents the tongue falling back and closing the larynx, and offers less risk of injury to internal organs by the pressure. Moreover, he holds that artificial respiration so performed effects a maximum exchange of air between the lungs and the atmosphere. The operator's hands being placed on the lowest ribs, he can carry on artificial respiration in the prone position without risk to the internal organs.

The new Sydenham society held its forty-sixth annual meeting at Oxford, Professor Osler presiding. The Clinical Atlas of the Society has, for several years, been put forward as its strongest claim for support, and now it is determined to prolong the issue indefinitely. This naturally absorbs a large proportion of the income, but it is hoped that one printed volume per annum may be issued in addition to four fasciculi of the Atlas. Each plate will, when possible, be complete in itself, but it is not to be considered that any subject will be completely treated in any fasciculus. Dr. Osler expressed great satisfaction at the decision to prolong the publication of the Atlas. These clinical illustrations of disease and the standard works distributed to subscribers are certainly of great value, and it is desirable that the society should increase the number of its members.

Mr. Allardyce, late acting-governor of Fiji, recently lectured here on the curious subject of fire-walking in Fiji, Japan, India, and other places. This power of walking on hot stones, wood, embers, etc., has been claimed from early times. The Hirpi, according to Horace, performed the feat; Iamblicus, in the early Christian period, attributed the power to mediums, and Home, in our own time, seemed to handle red-hot coals in the presence of Sir Wm. Crookes. Mr. Allardyce does not accept the explanations offered by Dr. Rob. Fulton, in the Transactions of the New Zealand Institute; and Mr. Andrew Lang rather chaffs scientific men who have investigated the matter with their reluctance to adopt the test of following in the footsteps of the performers. Dr. Hoeken suspended a thermometer over the pit but it melted, and we hear no more of thermometrical experiments. He and Dr. Smith examined the feet of one of the performers before he entered the pit and found them colder to touch than the rest of the body, but do not seem to have used a thermometer. The soles of the feet were like soft kid, which certainly does not seem the sort of surface for walking on white hot stones. Dr. Fulton got one of the stones and could not hold it in his hand after he had cooled it in the sea for several minutes. Mr. Lang wants to know why the scientific gentlemen who offer various explanations do not do as Colonel Gudgeon and his companions did; who walked with the natives of Raratonga "merely not to be beaten by persons of color." The Colonel reported a sensation of slight electric shocks. Mr. Lang says the savant would be as safe as the Fijians or his explanation amounts to nothing.

"He either funks the fire too much,
Or his belief is small,
Who dares not put it to the touch
To win or lose it all."

The death rate of Liverpool, which has been so high as to cause much anxiety—at one time reaching thirty-nine—fell during the past week to twenty-nine.

A child was attacked by a game cock and one of its spurs seems to have penetrated the skull. Cerebral abscess followed, as testified at the inquest, and a verdict was found accordingly. Another unusual death is also reported—that of a man who was stung by a wasp in the throat when drinking beer, the rapid swelling obstructing the larynx.

Twenty-eight medals have been awarded to retired non-commissioned officers for meritorious service; of these eight have fallen to men of the Royal Army Medical Corps.

Dr. Barton has quite recovered from his accident, and yesterday demonstrated the details, construction, and management of his air-ship to the members of the Aëronautical Society.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

PERCUTANEOUS ADMINISTRATION OF IODOFORM IN PULMONARY TUBERCULOSIS—ANURIA DUE TO HEMORRHAGIC PLUGGING OF THE URETHRA—SUPPURATIVE SINUSITIS—THYROGENOUS TETANY—PATHOGENESIS OF ENDOCARDITIS—DORSAL AUSCULTATION OF THE HEART—PRECOCIOUS DEVELOPMENT—BILATERAL MOVEMENTS—CUTANEOUS TUBERCULOSIS—CURE OF EPITHELIOMA BY RADIUM RAYS—DEATH OF PROF. ANTON DRASCHE.

VIENNA, August 24, 1904.

A NEW method of treating pulmonary tuberculosis has been advanced by Dr. E. Ganea in Steys. Briefly the method is as follows: Ganea uses an ordinary syringe, which is, however, fitted with a sieve-like attachment to be applied firmly to the skin immediately above the infected area in the lung. The fluid injected is a solution of iodoform in the other. The fluid is drawn into the barrel of the syringe, and the latter is fitted into the attachment, the bottom of which is perforated like a sieve. Fairly high pressure, evenly applied, forces the fluid gradually into the muscular layer without apparently injuring the skin. The iodoform is carried to the tuberculous focus and exerts its action upon it. Ganea hopes by this method to inhibit the multiplication of the tubercle bacilli, to limit the growth of the infected areas, and to excite processes of calcification.

At the meeting of the gynecological section of the Budapest Royal Association of Physicians, Kubinyi presented a case of anuria due to varicose hemorrhage into the bladder, with subsequent formation of clots. The hemorrhage occurred after the patient, eight months pregnant, had lifted a heavy weight. The anuria lasted several days, and a merely tentative diagnosis could be made. After dilating the urethra and perforating the clot, the urine, which amounted to several liters, and threatened to rupture the bladder, was evacuated with considerable difficulty. All symptoms disappeared immediately and a cystoscopic examination after delivery confirmed the diagnosis, revealing a dilated vein and alongside of it a dark spot on the mucosa, the probable site of the hemorrhage. Numerous varicose veins were observed on the lower extremities.

Polyak demonstrated a case of multiple suppuration in the accessory nasal sinuses with formation of bone cavities and bilateral atrophy of the optic nerve; the process lasted for five years and simulated a neoplasm. There was occlusion of the left nostril. After the lapse of one year a left-sided amaurosis developed, with protrusion of the left eyeball; later, the same symptoms appeared on the right side; there was also descent of the palate, with deformity of the face. It proved to be a latent suppurative process in the ethmoidal cells, extending into the sinus of the left middle turbinated bone, and accompanied by the formation of bone cavities. Under great pressure the pus entered the posterior ethmoidal cells, and the left sphenoidal sinus, and later the right sphenoidal cells, producing protrusions of the eyeballs with atrophy of the optic nerve. Operation gave exit to 200 c.c. of pus.

A case of thyrogenous tetany, occurring in consequence of lactation, was shown by Ferenczi. The patient, a woman of thirty-six years, mother of seven children, showed a beginning cystic degeneration of the thyroid gland during her second pregnancy. Since then she has suffered from tetany during each period of lactation, the attacks gradually disappearing when the child was weaned. The treatment consisted in the administration of thyroid extract, which the speaker held should be used in every case of lactation tetany, even when no degeneration of the gland can be demonstrated.

Dr. F. Prochazka in Prague, has made some interesting investigations regarding experimental endocarditis. He injected dogs subcutaneously with certain toxins (typhoid, diphtheria, etc.), and when toxæmia resulted, he made intravenous injections of cultures of such organisms as are regarded causative of endocarditis. Nine out of ten experiments were positive, *i.e.* an inflammatory reaction could be demonstrated both macroscopically and microscopically at the sites usually selected by an endocarditis. Both the verrucose and ulcerative varieties were found. Control animals, who were injected only with the toxins, showed no endocarditis; on the other hand, the injection of pyogenic organisms led only to general sepsis rarely localized in the endocardium. These experiments prove that, in addition to the presence of pathogenic organisms, a certain predisposition is necessary, which is created by the toxins. The fact that experimental endocarditis selects the same sites as a natural endocarditis, emphasizes the importance of the mechanical causes of this lesion (such as friction, impact, etc.).

Methodical dorsal auscultation has convinced Dr. W. Libensky that this method enables one to draw certain

conclusions as to the condition of the heart. Lesions of the left auricle give a murmur which is heard loudest at the lower angle of the left scapula. Dilatation of the right heart forces the left ventricle away from the anterior chest wall, turning it inward and backward until it approaches the posterior chest wall. The greater the dilatation, the more unfavorable the prognosis, and the clearer the physical signs. With lesions of the left ventricle, the murmur is heard loudest in both supraspinous fossæ and downward to the third dorsal vertebra; it is inaudible at the angle of the left scapula. This physical sign is, therefore, of great diagnostic importance, especially in relation to the degree of dilatation of the right heart, and it has also a bearing upon the prognosis.

Before the Society of Bohemian Physicians at Prague, Dr. J. Lenz presented a unique case of precocious evolution, the patient being a girl of six and one-quarter years. At birth she was larger than her brothers and sisters, and developed very rapidly. At four months there was distinct swelling of the breasts and hemorrhages from the genitals, which after the sixth month, recurred regularly every four weeks. A growth of hair in the axillæ and over the pubes began at eighteen months. The child is 127 cm. long, and weighs 26.5 kilograms. The mammary glands have a diameter of 14 cm.; they are hemispherical. The nipples are large and surrounded by large, pigmented areolæ. The uterus is only slightly enlarged, but the left ovary is large and nodular. The pelvic shows all the changes characteristic of puberty, the distance between the iliac spines being 24.5 cm., between the iliac crests 25 cm.; the bitrochanteric measurements are 24.5 cm., the external conjugate 15 cm. The epiphyses of the femora are ossified and the ilium, ischium, and pubis are fused in bony union.

At the Vienna Medical Society, Dr. Fuchs demonstrated the rare phenomenon of double motion in a girl of seventeen, whose nervous system was in all other respects perfectly normal. In earliest infancy the mother noticed that the child grasped for all objects with both hands. Later this motor disturbance was limited chiefly to the fingers. Every motion which the patient executes with the fingers of one hand is repeated by those of the other. The patient is unable to spread the fingers of one hand, to adduct or abduct one thumb, or form one hand into a fist. Closing one eyelid is also impossible. Electrical irritation applied to the muscles of the fingers and hand of one side produces the same motions on both sides. Fuchs emphasizes the extreme rarity of this phenomenon in otherwise perfectly healthy subjects, and mentions a few cases hitherto observed. As possible causes Fuchs cites the hypotheses of other observers, such as simultaneous cerebrospinal innervation, disturbances of coördination, encephalitis in early infancy, etc. These double movements prove a great hindrance to the patient when executing more complicated movements, writing, pianoplaying, sewing, etc. It takes the patient hours to dress. Within nine months she made very little progress in learning typewriting.

Before the Scientific Association of Physicians at Innsbruck, Professor Mark presented a man, thirty years of age, who had fallen and struck the dirty floor with his head, receiving a slight abrasion of the skin just above and external to the left eyebrow. The wound did not heal, but was followed by a moderate suppuration of the lymph nodes in front of the left ear. Upon admission to the hospital the affection was diagnosed as cutaneous tuberculosis, being on the boundary line between verrucose tuberculosis and papillary lupus, with subsequent suppurative adenitis, *i. e.* a tuberculous "initial lesion" with subsequent bubo. The patient, a strong, sturdy man, showed absolutely no signs of tuberculous affection of the internal organs and the case was to be regarded as one of direct inoculation into the skin.

Dr. Rusch has successfully treated a flat, benign, epithelioma of the scalp in a patient, seventy-four years old, with radium. The tumor was as large as the palm of the hand and was situated in the exterior portion of the scalp, which was denuded of hair. At the center, the tumor had undergone spontaneous cure by cicatrization, while there was a respiginous extension of the growth along the periphery in the form of thick, slightly depressed, plate-like infiltrations. Many of these infiltrations showed superficial ulceration and numerous prominent vesicular epitheliomatous nodules. Microscopical sections showed chiefly abundant infiltration of the connective tissue with plasma cells and moderate epithelial proliferations, starting partly from the epidermis and partly from the epithelium of the hair follicles and the sebaceous glands. The treatment, which was continued for several weeks, consisted in daily irradiations of every portion of the tumor, lasting from fifteen to twenty minutes, and repeated six times. There was a moderate reactionary redness and swelling, which soon disappeared and was followed by pigmentation and scaling, with retrograde changes in the carcinomatous growth. The ulcerations were first covered with a glistening, adherent membrane; when this was cast off, a growth of new skin resulted over the ulceration. To-day the site of the tumor is covered with a tender, white, shining cicatrix. The action of radium was, however, not uniformly effective, as was shown by the appearance of secondary epithelial nodules in the scar after a few weeks. Under the microscope these showed very scant, but definitely demonstrable epithelial proliferations, starting from the hair follicles. Repeated irradiation was, therefore, deemed necessary to destroy these secondary growths.

Prof. Anton Drasche died here on August 23. Born in Lobendau, Bohemia, in 1826, he studied in Prague, Leipsic, and Vienna, graduating in 1851. He made the struggle with Asiatic cholera the subject of his graduation thesis, as well as of most of his future work. During the cholera epidemic raging in Vienna during 1855, he took charge of the cholera section at the General Hospital and did very creditable work in combating the disease. He became lecturer on internal medicine in 1858, physician-in-chief of the Rudolf Hospital in 1872, and professor extraordinary of epidemiology in 1874. He was a member of the Imperial Board of Health, and for some time of the Municipal Council of Vienna; in both these offices he used his influence to promote hygienic measures. He was a splendid teacher, a zealous investigator, and an extremely popular physician. Notwithstanding his extensive activity, he found time to devote to scientific writings. His most important works deal with Asiatic cholera, and its prevention, with questions of hygiene, with infectious diseases, and cardiac and pulmonary diseases. He also edited the large "Bibliothek der medizinischen Wissenschaften."

Progress of Medical Science.

The Boston Medical and Surgical Journal, Sept. 15, 1904.

The Gynecological Aspect of Mental Overstrain at Puberty, and Its Influence on Development.—Wm. Edgar Darnall emphasizes the great importance of the careful oversight of girls during the period of puberty which is the most critical time in the entire life of a woman. At this period the girl is most susceptible to mental, moral, and physical influences. She may unwittingly expose herself to dangers that will sap her energies throughout life. The average girl at this age is under the pressure of the modern methods of education. The physiological processes of puberty make greater demands on the girl than on the boy. Aside from the strain of school life, the home life is often badly regulated. The girl should not be given work that will overtax her in any respect. Gymnastic work should be suspended during menstruation for fear that it may bring on pelvic disease. Dysmenorrhœa is the bane of the overwrought school girl. Jane Kelley Sabine has found that 75 per cent. of 2,000 school girls suffer with menstrual troubles, and 90 per cent. with leucorrhœa and ovarian neuralgias. The mental or nervous element is a more prominent factor than is generally considered, in relation to these functions. The forced education which is so common in these days, leads to flabby muscular development, poorly developed lungs, anæmia, malnutrition, weak heart, and arteries, poor digestion, nervous irritation, chorea, hysteria, and collapse. The writer concludes his paper as follows: Not until teachers and parents remember that health is more important than knowledge; not until schools realize the futility of the forcing process of education, and guard the health of their girls by diminishing rather than increasing the work of the pubescent period, not until they appreciate more fully that a sound mind depends upon a sound body, can we hope to diminish the pitiable army of suffering neurotics and sexual incompetents, who so largely constitute the womanhood of the land, and who are to be the mothers of the men of our country.

Obstructive Renal Retention with Anuria, and Its Treatment.—Francis S. Watson discusses in this paper only those forms of renal retention with which anuria is associated, and which originate in complete closure of the ureter or of the outlet of the renal pelvis. Although it is customary to assert that the anuria seen in connection with these cases does not occur if the kidney of the other side is normal, there is evidence that this is not absolutely so. Cases are reported which ended fatally, in which the unobstructed kidney was found at post-mortem to be normal or nearly so. Further evidence has been offered that reflex suppression may exist in these cases, by observers who have cut down upon the second kidney, after an operation on the first, and have found it, to all appearance, normal. The most striking feature of obstructive anuria is the length of time it may last without giving rise to uræmic symptoms, and without causing death. In a num-

ber of cases examined, it was determined that this period varied from twenty-four hours or less to sixteen days. The most plausible explanation of the remarkable immunity to uræmic intoxication, the writer believes to be that which is afforded by assuming it to be due to the so-called "internal secretion" of the kidney. Cases in which the obstructed kidney is hydronephrotic are more hopeful than those in which hydronephrosis is not present. There are two general classes of cases: Those in which it is hard to recognize the trouble, or in which it is difficult to determine on which side the obstruction exists, and those which are easily diagnosed. The case may be treated expectantly or operatively. The following measures may be used. Subcutaneous injections of saline solution may be given. In cases of calculus obstruction, hot hip baths and manipulation to aid the passage of the stone are often helpful. Anæsthetics are sometimes used to relax the spasm of the ureter. When there is a kink in the ureter, the patient's hips should be raised, and the abdomen relaxed. In every case in which the obstruction has not been relieved by the end of the first forty-eight hours at most, operation should be performed. As to the nature of the operation, the writer declares that the essential point by surgical intervention is the reëstablishment of the urinary secretion by supplying a free avenue for the escape of the urine from the obstructed kidney by whatever operation will accomplish it most quickly and with the least shock. A quickly performed lumbar nephrotomy is without question the most suitable.

Journal of the American Medical Association, Sept. 17, 1904.

A Method of Dispensing with Rubber Gloves and the Adhesive Rubber Dam.—John B. Murphy presents his second communication on this topic. An impermeable coating, designed to prevent the escape of the epithelium and sebaceous gland secretions from the skin during operations and the entrance of blood, pus, etc., into the crevices of the skin, is made in the application of a four to eight-per-cent. solution of gutta-percha in benzine or acetone—the acetone solution for surface applications at and around the field of operation, the benzine solution for use of the hands. Experiments were reported showing the comparative results between the rubber solution and the gloves, which gave a fair idea of the comparative advantages of the rubber gloves and solution over the naked hands. Since his first report he has used the solution on his hands and on the operative field in all operations, septic and non-septic, and he is convinced that it is a simple and practical means of protection for the operator and the patient.

Boric-acid Poisoning.—Charles I. Best gives a report of a fatal case. Unfortunately the reactions of the blood and secretions were not taken. All the cardinal points of boric-acid poisoning were present, such as profuse vomiting, a papular rash over the face, neck, and chest, and a weak irregular pulse increasing before death. It differed only in its more rapid course; the onset was immediate and the fatal termination occurred in four days. The findings limited the cause of death to one of two things: a toxæmia, resulting either from the abscess in the groin or from the medicinal agent employed, as other recognizable causes were not present. Its resemblance to cases previously reported, together with the demonstrated overuse of this substance, is sufficient to make a positive diagnosis of fatal boric-acid intoxication. The clinical features and the lack of success in cultivating pathogenic bacteria from the blood, eliminate septicæmia, which is the condition most likely to simulate such an intoxication.

A Case of Cortical Hemorrhage Following Scarlet Fever.—E. E. Southard and F. R. Sims report such a case, in which they seek to bring out the predominance of hemorrhage and phagocytosis with destruction of cortical tissue, the focal effect of meningeal suppuration in a case of subinfection with the aureus during convalescence from scarlet fever. The case is one of cortical hemiplegia caught in progress, and brings out the now frequently exemplified inflammatory origin of the disease. There are several characteristics of the lesion produced in the brain by bacteria or their toxins which serve to obscure the issue by drawing attention, on the one hand, to the vascular system, and, on the other hand, to the neuroglia. Thus a recent triadic division of encephalitis into purulent, hemorrhagic, and hyperplastic, is based on the preponderance in the histological picture of suppuration, diapedesis, and hemorrhage, or secondary glia-cell changes. It is, however, probable that all these pictures may be produced by identical agents. The omnipresence of the meningeal and adventitial phagocyte has contributed a false unification of the pictures of bacterial and those of mechanical origin.

Medical News, September 17, 1904.

Treatment of Acute Middle-ear Disease.—John A. Donovan states that acute otitis occurs most often in children, and nearly always follows some irritated condition of the nasal pharynx; of these, the earliest and most common is adenoids, which should be looked for in all cases. The writer prefers the curette, finger nail, or nail curette for removing them. As to the anæsthetic, chloroform is extremely dangerous. Ether is safer, but nitrous oxide is better still. Usually, the first symptom of acute otitis is pain. In infants this is often overlooked. Many develop meningitis before it is suspected. All infants should be watched for manifest signs of earache. In adults the diagnosis is easily made. Active treatment consists in relieving pain, endeavoring to avoid suppuration, and other complications. The writer finally presents the following conclusions: (1) In all diseases affecting the nasopharynx, always use reasonable precautions to avoid tubal infections. (2) Adenoid tissue, in any amount, and tonsils producing any pathological symptoms, should always be removed. (3) With the first symptoms of earache, use heat and dehydrating remedies; this not producing beneficial results in a few hours, treat surgically. (4) When possible, with a catheter use mild continuous stream of hot air early, and repeat in eight or ten hours. (5) If symptoms are not relieved by these methods within ten to twenty-four hours, make free incision through the entire drum, or extend into upper canal wall if necessary. Use aseptic gauze drainage and outside pad for absorption. (6) Never, under any conditions, allow the patient to suffer tortures for more than forty-eight hours, and remain exposed to the risks of complications. N. B.—Considerable experience with the catheter treatment, since writing the above, fully confirms the original hopeful anticipations, and has very much lessened the number of cases requiring opening of the drum.

The Value of Early Incision of the Membrana Tympani in the Treatment of Acute Suppuration of the Middle Ear.—Francis R. Packard speaks especially of twelve cases of this nature that came under his care in the months of February and March of the present year. In the cases in which spontaneous rupture occurred, the patient suffered much pain in the ear for many days after the rupture had happened, and in two cases the discharge continued for four weeks. In the cases in which early incision was practised, there was almost instantaneous relief from pain, and the discharge had ceased in one instance at the end of three days. The plan of treatment was the same after the drum membrane had been opened, whether spontaneously or with the knife. The writer describes it as follows: It consisted in a thorough cleansing of the ear once daily by mopping out with peroxide of hydrogen, full strength, applied on cotton pledgets, followed when the discharge was very profuse by injecting a few small syringes full of bichloride of mercury 1 to 4,000 solution. After thoroughly drying, a wick of iodoform gauze was introduced throughout the whole length of the canal, and left in position until the next day, the nurse or patient being given instructions to remove it if there were any evidence of it damming up the pus. The writer believes that drainage by this method is the most efficient means of avoiding stagnation of the discharge, pain, and mastoid involvement. In cases of great pain, comfort was afforded the patient, if after cleansing the ear and drying it, an anæsthetic mixture consisting of five parts of a ten-per-cent. solution of cocaine, combined with fifty parts of anilin oil, and fifty parts of 5 per cent. of alcohol was instilled. This was allowed to remain in the ear for a few minutes, and mopped out before the insertion of the gauze drain. But as a case of death has been reported from the use of this mixture, it should be employed with great caution. The writer emphasizes the following points in the treatment of acute suppurative otitis media: First, the great value of early incision of the membrana tympani. Second, the many advantages possessed by the so-called dry treatment, and by practising efficient gauze drainage. He believes that douching out the ear by the patient or nurse is distinctly contraindicated from the fact that no one but a skilled aurist can properly dry the ear after such procedures, and that the little pool of fluid which is left is very harmful in that it affords moisture for the furtherance of bacterial growth.

New York Medical Journal, September 17, 1904.

The Susceptibility of the New-born to Measles.—Edwin E. Graham reports a case showing the non-susceptibility to measles of an infant at full term. He calls attention to an epidemic of 107 cases of measles occurring at the Infants' and Children's Hospital, Randall's Island, of which 25, or 23.36 per cent, were one year of age or less. Of these 25, four were six months of age or less. This would tend to show that six months seems to be the age at which distinct susceptibility to the disease begins.

Elevation of the Hips in the Treatment of Placenta Prævia.—Alfred King reports a case of marginal attach-

ment of the placenta, with os patulous and beginning to dilate, and head presenting. The patient was placed in the lithotomy position at the edge of the bed, and then the castors were removed. The side of the bed to which the patient was brought, was elevated and held so by means of two wooden chairs placed under the legs of that side. The plane of the patient's body was now about an angle of forty-five degrees with the floor, and the axes of the pelvic planes were more nearly horizontal Gravity, by preventing the loss of blood and the escape of the amniotic fluid, and by causing the fœtus to settle to the fundus, facilitated turning as well as speedy and safe delivery. The time occupied was not over five minutes. The loss of blood was very slight, not an ounce.

Post-mortem Examinations for Medicolegal Purposes.—I. L. Polozker, after telling the purposes for which post-mortems are held, describes the proper conduct of such examinations, especially for medicolegal purposes. He asks why men should be allowed to go on the witness-stand and pose as experts on subjects that are foreign to them. This is what kills medical expert testimony. Medical men, he says, often have the bad habit of giving an opinion offhand. He claims that the existing conditions can be remedied by having the local society go before the legislature, and demand better laws governing medical testimony. A board of medical experts should be appointed by the court and on the recommendation of the local medical society. The coroner's court should be abolished; this he believes to be simply a drain upon the county. Instead, the prosecuting attorney should appoint a physician to investigate sudden deaths. The board of supervisors should be asked to make an appropriation for the erection of a suitable building for a county morgue, where satisfactory work could be done by county physicians. Post-mortem work should be better taught in our medical colleges, and the only satisfactory way is by demonstrations in the dead house.

Tracoma and Some Diseases Resembling It.—James N. Nydegger states that papillary conjunctivitis, or enlargement of the papillæ of the conjunctiva, is frequently mistaken for trachoma. Upon everting the lid, the hypertrophied papillæ may be seen set closely together and giving the appearance of fine grained sandpaper. This condition is more often seen in eyes having high refractive errors or muscular insufficiencies, and is not to be associated with trachoma. There is little or no thickening of the conjunctiva in follicular conjunctivitis and no traces are left behind after recovery. In the incipient stage the two diseases are difficult to distinguish from each other. Trachoma follicles are to be regarded as new tissue. The follicles, granules, granulations, or nodes—these terms are used interchangeably—form the characteristic picture of trachoma. They are the result of inflammation and show first as a fine net of capillaries with fine partitions. These granulations lie in the adenoid structure of the conjunctiva and extend or arch the epithelium before them The conjunctiva presents a thickened, soft velvety appearance. Trachoma follicles develop first, principally on the lower lid. If one turns back the upper lid, the granulations almost always cease with a sharp horizontal line over the upper border of the tarsal cartilage, in the region of the anterior margin of the retrotarsal fold. The outcome of trachoma granulations may be a discharge of the contents or resorption of the contents; in both ways the cicatrices close. In trachoma there is always found an inflammation of the mucous membrane which surround the follicles, and a reaction is always produced. The late and serious complication of trachoma are pannus and atrophy of the cornea, the latter being due to mechanical pressure of the contracted lids. The former is due to the constant pressure exerted upon the anterior part of the eye by the thickened and contracted conjunctiva which interferes with the nutrition of the cornea, and degenerative changes follow. Trachoma is, without doubt, due to a specific organism which has not been convincingly demonstrated.

American Medicine, September 17, 1904.

Intermittent Lameness and Other Nervous Symptoms of Peripheral Arterial Disease.—Charles W. Burr states that the best known, and the most studied nervous effect of peripheral obliterating arteritis is intermittent lameness. Erb calls this affection dysbasia angiosclerotica. There is quite a little variability in the symptomatology, but the writer describes the course of events in a typical case as follows: The patient, while walking, is seized with pain or numbness, localized or diffuse, in one or both legs, and at the same time there is a feeling of stiffness, or even distinct cramp, in the calves or thighs. If the patient sits down relief comes quickly, but very soon after beginning to walk again the symptoms return, and soon he is unable to walk at all, not only on account of pain, but also because of muscular disability. If now the patient be examined, the arteries in the feet, and it may be even the femorals, will be found pulseless, the arterial walls will be felt to be distinctly thickened, and the feet may be warm, cold, or normal in temperature, and red, or cyanosed, or natural in color. The most striking thing is the absence of the pulse in the member or members affected. The duration of an attack varies from minutes to hours. They come on almost always during muscular exertion. The legs are much more frequently affected than the arms. Very rarely, as in a case reported, the arm and leg of the same side are seized almost simultaneously, producing a condition superficially resembling a transient cerebral hemiplegia. Occasionally only one arm is affected It is very rare under forty, and is much more common in men than in women. The writer then gives the history of a fatal case in which gangrene developed. Glycosuria is a frequent complication in both slight and severe cases. The one constant symptom in intermittent lameness is chronic arteritis. The chronic non-paroxysmal manifestations of chronic general arterial sclerosis appear with the oncoming of old age, whether the man be young or old in years.

Eyestrain as a Causative Factor in Sinusitis.—William Linton Phillips, although he does not think that all forms of accessory sinusitis are due to eyestrain, still believes that eyestrain holds an important place in the production and maintenance of this condition. In making a diagnosis of frontal sinusitis, the first fact to be ascertained is at what early age the frontal sinuses develop, for they are not present at birth. Observations in relation to this question show that we can and must look for the sinus as early as the sixth year of life. Nationality must also be regarded. In the German, the sinus attains a greater development, other nations coming in the following order: Irish, Swiss, North-American Indian, British, French, Greek, Egyptian, Peruvian; the Russians, Poles, and Eskimos collectively; then the negro and Chinese. Patients who suffer with frontal sinusitis complain of frontal headaches, pressure above the eyes, inability to concentrate the mind, occipital headache, dizziness, and nausea. Associated with these symptoms are defective vision, infection of the conjunctiva, swelling and redness of the skin over the cavity, œdema of the upper lid, tenderness above and beneath the supraorbital ridge, and painful sensations in the back part of the eye. The only way to make a positive diagnosis is first to establish the presence of pus within the cavity. This, however, is difficult to accomplish. Care must be taken while diagnosing frontal disease to exclude supraorbital neuralgia on account of its almost latent course. In cases of doubtful diagnosis between frontal sinusitis, meningocele, and aneurysm of the ophthalmic artery, it is well to draw off some of the fluid for microscopical examination. The writer declares that to produce clear vision with an astigmatic eye we must use up all of the residual nerve energy, because of the increased work required to focus an eye that has different meridianal lengths. This drain of nerve force robs other parts of the required energy to keep up a normal condition, and acts as would a division of the vasomotor nerves dilating the blood-vessels and increasing the amount of mucus in the frontal sinus. If this secretion is allowed to accumulate from day to day it will eventually become infected by germs entering the sinus from the nasal cavity, which may be forced upward by the act of blowing the nose, etc. The writer concludes his paper by giving the history of a series of cases. He did not use or allow to be used any treatment for the relief of frontal sinusitis, other than glasses, but he adds that he advises that the condition should be treated locally, in addition to correction of any eyestrain which may be present.

The Lancet, September 10, 1904.

Tender Spots on the Spine in Relation to Pain in Various Parts of the Body.—St. Clair B. Shadwell wishes to emphasize the fact that pain is often felt at a distance from the actual seat of the disease, and he reports several cases in which he has found well-marked tender spots at the point of origin of the spinal nerves supplying the region of the body in which pain is complained of, and by treating the tender spots on the spine complete, immediate, and permanent relief has been the result.

A Case of Pseudoleukæmia (Lymphosarcoma) in a Young Child.—John J. Redfern reports such a case which is of interest both on account of its acuteness and the early age at which it occurred. The patient was a healthy, plump, well-developed little girl, two years and nine months old, with several swollen glands on the left side of the neck and some less swollen on the right side. These glands were firm, discrete, and somewhat elastic, not painful or tender on pressure. The case terminated fatally by syncope after about eight weeks' illness. The disease had progressed rapidly, although the child's general condition

had remained good. The usual œdema and pallor were not very marked and the general nutrition of the body was maintained until death. The spleen and liver were not markedly enlarged on percussion. There was no pain or cough. Pyrexia was intermittent and under 101° F. Arsenic was administered throughout and at first iodide of iron and cod-liver oil. There was no family history of syphilis or tuberculosis.

The Treatment of Rectal Prolapse by the Submucous Injection of Paraffin.—Arthur H. Burgess, during the past eighteen months, has utilized this method in eighteen cases of prolapsus recti. Following a description of the technique he gives his results. Of the eighteen cases the ages ranged from three to forty-eight years and the prolapse from one and a half to five inches in length. The result of the operation has been extremely satisfactory in all the cases, not a single instance of re-descent of the prolapse having occurred. Two possible dangers that suggest themselves are those of sepsis and of pulmonary embolism. He recently had an opportunity of making a post-mortem examination in the case of a boy upon whom he had operated four and a half months after the operation. The masses of paraffin did not appear to have undergone any material change; they were firmly encapsulated by fibrous tissue, which had also infiltrated their peripheral portions for a slight distance, but for the main part they consisted of unaltered paraffin. The paraffin had remained strictly localized to the area of introduction.

Human Piroplasmosis.—C. Donovan, after a year's experience of the disease caused by the sporozoan parasite, classified by Laveran and Mesnil in the genus pirplasma, during which time seventy-two cases diagnosed by examination of the blood from splenic puncture came under his notice, describes the disease. It is especially prevalent in the unsanitary parts of Madras. The sexes are equally amenable and age is no bar to the affection. He noticed many cases of chronic irregular pyrexia with enlargement of the spleen, and occasionally of the liver; bronchitis, œdema of the feet, subcutaneous hemorrhages, chiefly of the petechial type; diarrhœa of the dysenteric type, and cancrum oris. Not being satisfied with the diagnosis of chronic malaria he took smears of blood from the spleens at several post-mortems in cases said to have died from chronic malaria. The slides showed numerous peculiar round and oval ring-like little bodies, with two masses of chromatin situated on opposite poles; but unlike any known group of protozoa. Later he punctured the spleen of a living boy affected with the disease and found the same forms larger, more varied in appearance and more clearly defined. Major W. B. Leishman had found the same organisms but called them degenerations of trypanozomata. After sending specimens to Ross and Mesnil it was decided that the bodies belonged to the genus piroplasma but were a new species, to whichthey gave the name *piroplasma Donovani*. Blood specimens taken from cases of kala-azar showed that his surmise that these so-called malarial cases in Madras were identical with these diseases was correct. From the date of first finding the piroplasma, he practised this small operation in all cases suffering from irregular pyrexia and enlargement of the spleen. One hundred and ten punctures have been made; the cases in which piroplasma was not found contained either the gametes of the latent forms of the genera plasmodium and laverania; in others no recognized organism was detected. The number of organisms in the blood taken by splenic puncture during life varied from one to thirty or more in the field. The number, although varying with the amount of blood taken up in the syringe, is not dependent upon the severity or otherwise of the disease or the size of the spleen.

British Medical Journal, September 10, 1904.

Preliminary Report of Some Investigations into the Etiology of Leukæmia.—T. Gillman Moorhead has carried out a series of experiments with a supply of glands obtained post mortem from a patient who had suffered from the lymphatic form of this disease. Blood-pressure experiments were made on full-grown rabbits, in the first instance. Later experiments were performed upon young rabbits, consisting in the hypodermic injection of extracts. The writer presents the following tentative conclusions, which he states that future investigation may either establish or overthrow: (1) After precipitation with alcohol, a substance can be extracted from leukæmia lymph glands by saline solution, which produces a marked fall of blood pressure in rabbits. This depressor substance is not a constituent of ordinary lymphoid tissue, inasmuch as similar extracts of normal lymph glands and of thymus glands do not contain it. (2) The above-mentioned depressor substance is possibly a specific toxin, because continuous injection of the extract containing it produced marked changes in the hæmopoietic tissues in rabbits. It is to be noted that these changes were not confined to any one of these tissues, but involved them all. The rapid development of changes may be supposed to be due to the large quantities of toxin which were injected on each occasion.

Immunity.—Robert Muir first discusses the nature of the combination of antisubstances. In the case of natural lysins, there are striking variations in the combining affinities. In the guinea-pig's serum, for example, there is a natural immune body which has a great affinity for ox's corpuscles, so that it can be readily removed from the serum by contact with the ox's corpuscles. In the case of the natural immune body of the guinea-pig's serum for rabbit's corpuscles and that of the rabbit's serum for guinea-pig's corpuscles, the combining affinity is much less, and when the serum is left in contact with even a great excess of corpuscles, a considerable amount of the immune body still remains free. It is important to note that the combining affinities of the natural homologues of immune body vary so much, and that they are on the whole weaker than is the case with an artificially produced immune serum. As to the saturation phenomena, when immune body is added to red corpuscles, the amount which enters into combination is not a fixed quantity, but varies according to the amount of immune body present. It is an example of mass action. The combination of the receptors with immune body is a reversible action. In relation to the subject of complements, the writer declares that the intact corpuscles, even when treated with immune body, are almost impervious to complementoid, whereas after the toxic action of complement has occurred, complementoid readily enters into combination. This is a new fact in regard to the combination of such substances. The existence of complementoid—that is, complement modified by heat—has been completely proved. After various investigations the writer believes that, in order that a bactericidal serum be efficient therapeutically, not only must the complement concerned combine readily through the medium of the immune body, but the bacterium must be sensitive to the action of the zymotoxic group of the complement. As to the combining affinities of receptor, immune body, and complement, the writer states that two molecules receptor and immune body are each incapable of taking up complement when separate, but do so when combined; in a certain sense one of these two molecules sensitizes the other to the combining affinity of the complement. The writer concludes by saying that in the discussion of this subject, he makes no dogmatic assertions, as he considers that at present no conclusions can be considered as completely proved.

Nature, Relations, Origin, and Function of Lymphocytes.—G. Lovell Gulland gives as his view that the lymphocytes, mononuclears, and transitionals are merely stages in the development of one type, and that there is no relation between the transitionals and the polymorphonuclear neutrophiles. He believes that the small and large lymphocytes, mononuclears, and transitionals should all be regarded as belonging to one series, and the last two names should be allowed to drop out of use, except with the understanding that they are used as applied to lymphocytes. The writer regards leucocytes as classifiable in four series—lymphocyte, neutrophile, eosinophile, and basophile or mast cells. In the other series, the cells pass through the same cycle of changes as in the lymphocyte series, with this difference that in them only the terminal or polymorphonuclear stage is found in the blood under normal conditions, while all the members of the lymphocyte series are found normally in the blood. The terminal form (transitionals) of the lymphocyte series is rare in blood, glands, or marrow. Clinically and experimentally, in adult life, the various series are different, and react differently to different stimuli. As to the theory that erythroblasts are derived from lymphocytes, the author declares that there must have been in an embryo rabbit, which he has recently studied, some thousands of erythroblasts to one lymphocyte, and in later life he believes that there is just as little question of a transition. As to the origin of the lymphocytes, no one doubts their formation in lymph-glands, and in the lymphatic tissue of the tonsils, intestines, spleen, etc. The writer believes that there are enormous numbers of lymphocytes of all kinds in the marrow. Experiments as yet unpublished have confirmed the view that they are mainly derived from the marrow. The function of these cells is doubtless largely protective. It is not yet settled whether those of the blood are directly protective. Aside from the lymph-glands and marrow, the main depots of lymphocytes are round the hollow tubes of the body, the alimentary and respiratory tracts, and these are the places which are occupied by sapophytic, non-virulent, or attenuated organisms. It seems possible that the lymphocytes are adapted and sufficient to resist such microorganisms but not sufficient to resist virulent infections which have to be overcome by the polymorphonuclears.

Book Reviews.

Transactions of the American Roentgen Ray Society. Fourth Annual Meeting, Philadelphia, Pa., December 9 and 10, 1903. Murdoch-Kerr Press, 1904.

The society is to be congratulated upon the vigor of its infancy as indicated by the present report. This is one of the few societies that can be counted upon to offer an excess of strictly new matter at its yearly meetings. The report has been carefully prepared and contains much of interest and, at the same time, not a little of what will one day be known as nonsense.

Arteria Uterina Ovarica, or the Genital Vascular Circle. By Byron Robinson, B.S., M.D., of Chicago. Chicago: E. H. Colegrove, 1903.

In this book Dr. Robinson devotes himself to a complete description, embellished by over one hundred illustrations, of the utero-ovarian artery and the cricle of genital blood vessels with which his name is associated. The circle, which he claims has far more utility in medicine than the circle of Willis, consists of the uterine-ovarian artery, with part of the abdominal aorta, common iliac, and internal iliac. New features presented in this work include the supposed utility of this genital vascular circle in surgical interventions on the genital tract, and also the fact that on account of the mobility and capacity for extension of the genital vascular circle, the internal genitals may pass up to the diaphragm (as in pregnancy) or be drawn through the vulvar outlet for purposes of inspection or repair, without loss of integrity. For the purpose of defunctionating the genital tract as regards reproduction and menstruation, without ablation of organs or ligation of arteries, the author presents the operation of endometrectomy and partial myomectomy, conducted through the vagina. The uterus is drawn down and the bladder and rectum separated through incisions in the anterior and posterior vaginal fornices. The middle section of the uterus may then be removed with the scissors and the anterior and posterior edges of the cut tissues sutured, thus closing in all uterine tissue. He claims to have had good success with this procedure for two years. There is little hemorrhage if the suturing be done as the uterus is cut. The segments atrophy and no neurotic menopause arises. The subject treated in this work has received very scant attention by the anatomists, only four publications being known.

Unconscious Therapeutics; or, The Personality of the Physician. By Alfred Schofield, M.D., M.R.C.S., etc., Hon. Physician to Friedenheim Hospital, Author of "The Unconscious Mind," "The Force of Mind," etc. Philadelphia: P. Blakiston's Son & Co., 1904.

The literature on psychotherapy within the ranks of the profession is very scanty, and considering how this branch of treatment has been largely relegated to irregular practitioners, quacks, and charlatans the necessity for good books upon it is very pressing, and perhaps never quite so much so as at the present day, when Eddyism, osteopathy, the new thought, and numerous other methods of healing, in which the personal element plays an important rôle, are flaunted over the land. Dr. Schofield's book affords a very satisfactory insight into the possibilities of "unconscious therapeutics," and makes it plain to those with doubting minds that this branch of the healing art is both ethical and legitimate. Once it is decided that there is a power for good in "unconscious therapeutics," and, as the author well states, few are hardy enough to deny it, the natural conclusion must be that no medical training can be complete that does not teach it. Aside from desultory lectures, no systematic attempt has ever been made to instruct the medical student in this subject, and in practice it may be a difficult matter to do so, but the author's suggestions are nevertheless worthy of attention. Amongst others the curriculum might embrace the following subjects: (1) The general facts connected with the unity of man and the interdependence of the psychic and physical in all parts of the body, and in all the different organs. (2) Another subject might be that of temperaments, mental conditions compatible with sanity, nervous states and phases, etc. (3) Different characters might be studied and the way in which education, reasoning, or emotional powers aided or retarded the action of unconscious therapeutics. (4) A study of the psychic, as distinguished from the physical action of drugs. (5) All forms of suggestion, direct and indirect, plain or wrapped up in various treatments, which might be made to include various forms of autosuggestion and hypnotism. (7) Lastly, a careful consideration of the personality of the physician—ethics, morals, professional conduct and etiquette, tact, dress, manners, and general surroundings. The book is written in a most entertaining fashion and merits the attention of young men starting out in practice, and perhaps may help some of those in whom a lack of success may be traced to some of the factors described by the author.

Tenement-house Inspection. By George M. Price, M.D. New York, The Chief Publishing Co., 1904.

This book is written expressly for candidates for the Civil Service position of Inspector in the Tenement-house Department of the City of New York, although it will prove of value to tenement-house owners and dwellers who would be benefited by a closer acquaintance with legislation and sanitation applying to this class of dwellings. The author is well qualified for the task by the fact that he has been connected in an official capacity with these departments of the city government for a number of years. The book contains chapters on the tenement-house law and the building construction, ventilation, and plumbing in these dwellings. Tenement inspection is treated in a concise but clear manner, and the subject of civil-service examination is very completely discussed. The latter will prove a boon to intending candidates, as nothing else on this subject has thus far been published. A full text of the Tenement House Act completes this valuable little manual.

Appletons' Medical Dictionary. An Illustrated Dictionary of Medicine and Allied Subjects, in which are given the Derivation, Accentuation, and Definition of Terms Used Throughout the Entire Field of Medical Science. Edited by Frank P. Foster, M.D., Editor of the *New York Medical Journal and Philadelphia Medical Journal, Consolidated*; of a Reference Book of Practical Therapeutics, and of Foster's Illustrated Encyclopædic Medical Dictionary. New York and London: D. Appleton & Company, 1904.

To the possessor of the four bulky volumes of Foster's Encyclopædic Dictionary who has remained attached to that great work despite its increasing age, because of the convenience of its arrangement and the clearness and simplicity of its definitions, the announcement of a one-volume dictionary by the same editor will be welcome news. This volume is large, very large, nearly two thousand pages, but it is a single volume, and so its size can be forgiven. As a dictionary the work has many excellencies. The pronunciation is, as a rule, indicated only by accenting the title-words, the derivations are given briefly, and the French and German equivalents, and often the Greek, are inserted when they differ materially from the English. In regard to orthography, we are glad to see that Dr. Foster does not favor what he calls "the fad of substituting the termination *-ic* for *-ical*, dispensing with the final *e* in such terminations as *-ine* and *-ide*, and suppressing diphthongs." The definitions are clear and concise and, so far as we have been able to discover, accurate. In fine, the only serious criticism of the work is its size, which might have been reduced by a careful pruning and rejection of obsolete words; but this counts for little in view of the convenience of arrangement, the accuracy of definition, the completeness, and the beauty of typography and binding.

A System of Practical Surgery. By Profs. v. Bergmann, v. Bruns, and v. Mickulicz. Vol. III, Surgery of the Extremities. Edited and translated by Drs. Wm. T. Bull and J. B. Solley. New York and Philadelphia: Lea Brothers & Co., 1904.

The American edition of this great German work is now being rapidly completed, and the third of the five volumes to be issued has appeared. It deals with the surgery of the extremities, and the contributors are Borchardt, Friedrich, Hoffa, Hofmeister, Nasse, Reichel, Schreiber, and Wilms—all well known in their special lines of endeavor. The first section, by Hofmeister and Schreiber, deals with the malformations, diseases, and injuries of the upper arm and shoulder; the second, by Wilms, considers the same conditions in the elbow and forearm; the third, by Friedrich, the wrist and hand; the fourth, by Hoffa, the hip and thigh; the fifth, by Reichel, the knee and leg; the sixth, by Nasse and Borchardt, the ankle and foot. All these are discussed in considerable detail, but the most elaborate section is that contributed by Hoffa, and this will attract the most attention on account of the position of the author in the field of orthopedic surgery. Congenital dislocation of the hip-joint being one of the topics of the day is very fully treated. Hoffa believes that the Lorenz method is applicable only within certain limitations, and thinks that the only operation to be considered at the present time is the open reduction of the dislocated head into the enlarged old cavity, which he describes under the caption of the Hoffa-Lorenz operation. The other sections of the book are sufficiently complete to make the work an excellent manual of reference. The illustrations derived from the German edition are, as a rule, very poor, but those introduced by the American editors are good, and although not referred to specifically in the text, still serve to add interest to the latter. Those contributed by one of the translators, Dr. Solley, are particularly appropriate and well executed.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held May 12, 1904.

DR. MATTHIAS NICOLL, CHAIRMAN, PRO TEM.

Demonstration of a Pasteurizer, Sterilizer, and Infant's Nursing Bottle-holder.—Dr. THERON W. KILMER, after stating the dangers of improperly prepared bottles and milk, presented an apparatus which, in his hands, had proven effective and which consisted simply in a pail and bottle-holder. There were two bottle-holders, one for ten six-ounce bottles and another for seven eight-ounce bottles, and each fitted in the same rack in the same pail. Having introduced the bottle-holder and bottles in the rack, the pail was partly filled with water and covered. When the operation was completed, instead of touching the bottles with the dirty hands or a dirty towel, one simply took the pail to the sink and turned the pail upside down and allowed the bottles to drain dry.

If one wished to sterilize milk, the bottles should be filled and placed in the holder and in the pail; then the pail should be partly filled with water and placed on the stove and the water boiled for a certain length of time; then the milk should be gradually cooled and placed on ice.

If one wish to Pasteurize the milk, the Pasteurizing temperature being from 158 to 165°, the cold bottle containing milk at 50° was plunged into boiling water at 212°. If the bottles have been previously boiled they become so annealed that breaking of bottles by suddenly thrusting them in boiling water did not occur. If one wished to travel with a bottle-fed baby the apparatus presented was very convenient. After preparing a number of bottles of milk, the pail could be used as an ice-box by packing ice around the bottles.

Cerebrospinal Meningitis.—Dr. WM. P. NORTHRUP gave his experiences with this disease during the epidemic, which began March 1. The first case that he saw on that date was fortunate, a typical one, and a diagnosis was readily made. This disease was a disease of young adult life and children. His youngest patient was five months old and his oldest twenty-three years old. He referred to two boys who were playing ball in a particular lot and who became very much heated and partook of cold drinks; shortly after, both were seized with violent delirium and all the symptoms of a severe case of cerebrospinal meningitis. One boy recovered, the other died. On the same day he was called to see a girl who, two weeks before, was at a dance, became over-heated, had cold drinks, and she was taken down with the disease. A report of several other cases was made, and he presented a composite picture of these cases, some having prodromes of general malaise for from a few hours to two days; then appeared the symptoms of pain, headache, fever, vomiting, rigidity of the neck, opisthotonus, the eruptions of petechiæ (fleabites) and delirium, somnolence, Kernig's sign, general hyperæsthesia very well marked, the peculiar attitude well described by French writers as the "gun hammer" position. There was also arrhythmia and cardiac slowness. Dr. Northrup said he was at sea when attempting to give a prognosis—in fact, he felt he could not make one, and when asked for one usually he evaded answering. Lumbar puncture seemed to aid in diagnosis only. He asked what did good in the way of treatment? His own plan was to use a combination of bromides, 30 grains, chloral hydrate, 10 grains, and opium, ¼ of a grain. He said the mortality varied in different epidemics, and what it would be in the present one he could not say. These epidemics, as a rule, followed prolonged and severe winters, which kept the people shut up. Recently he had met an army officer from Alaska, where there was an epidemic of this disease, and it seemed strange that most all the cases occurred among the packers, *i.e.* those who carried packs through the mountain passes, who lived out doors, with plenty of ventilation and exercise. He wondered why they should have it. This was an epidemic disease, but he did not think the disease was contagious.

Dr. HENRY KOPLIK said that all the cases he had seen had been quite characteristic and offered few difficulties in diagnosis. In the majority of the cases the diplococcus cellulosus was found by lumbar puncture. He believed that with the exercise of ordinary care the average physician could make a diagnosis of cerebrospinal meningitis in any given case. Yet, there were cases that one might see later in the course of the disease which were not so characteristic. Several of these cases he had met with in the wards of the hospital and occurred among children under two and a half years old, and especially in very young nurslings—as young as five months of age. In these young breast-fed infants the onset of the disease was hardly noticed by the mother because, as a rule, she was too busy with her work. Suddenly the child would have convulsions and this was quite commonly noticed. The child would have these convulsions and run temperatures for weeks without special symptoms, *i.e.* typical symptoms. In such cases the study of the temperature and the course of the disease gave no hint as to what was going on. The child would appear quite well between the rises of temperature. He had seen such cases examined carefully for otitis media and the blood examined for the plasmodium malariæ. He could not forget the cases in the wards in which nothing could be found that was positive in the diagnostic way. In 5 per cent. of the cases no history could be obtained of the child having been taken ill suddenly. The child would be watched for several days, and then it would be suggested that the child had cerebrospinal meningitis. Such cases were not at all infrequent, especially during the course of an epidemic. He had seen in his office two cases giving symptoms of a tonsillitis, with temperature and much irritability. These represented a certain type of cases, but there were other cases met with abroad, and talked of especially in London. They were very obstinate cases and began in a rather indefinite way, at times with convulsions and high febrile movement; then the child would not take note of its surroundings and would gradually pass into a condition of opisthotonus. Such cases formerly were thought to be cases of tuberculosis because, after one week, the temperature would drop and would not extend again above 101°, and the child would become hydrocephalic. With regard to lumbar puncture, he could not say that he had ever cured a case by the adoption of this measure, but he had made the patients more comfortable and prevented complications by its employment. In young infants and children the mortality, he said, was very high, and death resulted not only from sepsis but also from the effects of pressure. One of the most serious complications one met with was hydrocephalus; many children seen with enormous head will give a history of having had, during the early months of life, cerebrospinal meningitis. Therefore, lumbar puncture he believed to do a great deal to prevent complications, especially when the child was comatose, with a high temperature range, etc., because of the constant pressure from fluids. In the older children lumbar puncture would relieve the headache and drain off some of the purulent fluid and so prevent absorption. The question of injecting antiseptic fluids into the canal he believed should be discussed. He had never done it in children for two reasons: (1) the mortality was not higher than 40 per cent. when no injection was given, but higher if given; (2) the withdrawal of a certain amount of fluid and the re-injection of an antiseptic seemed to cause some disturbance which might do harm in these cases.

Dr. HENRY HEIMAN said that pressure was the cause of many of the fatal cases and, therefore, lumbar puncture seemed to be indicated, especially in the presence of cloudy fluid. The clearing up of this cloudiness was an indication that the patient was improving.

Dr. E. LIBMAN said that the bacteriology of these cases

of cerebrospinal meningitis differed to-day from cases seen five or six years ago; they were easier of cultivation and more accurate results were obtained. In getting data for statistical purposes he did not think we should include those cases seen in different epidemics because they differed so under different forms of treatment.

Dr. Koplik said that the mortalities in different epidemics ranged from 25 per cent. to 90 per cent., irrespective of any treatment given. He did not think we should say that because the mortality was great in one epidemic that this was the general mortality. He thought the present mortality was about 40 per cent. lower than in preceding years.

Dr. Charles E. Nammack said that among the first twenty-seven cases of cerebrospinal meningitis seen at Bellevue Hospital twenty-four had died; eleven of these were in children and ten of them died, and it certainly meant that this was a very fatal epidemic. Every patient he had seen personally had died. He reported the case of an Italian, seventeen years old, whom he expected to see die within forty-eight hours. Lumbar puncture brought forth pure pus, and an injection of lysol (15 c.c.) was made, with amelioration of the symptoms but with a return of them within twenty-four hours and with great severity. A second injection of the same strength was given and again with benefit. The second lumbar puncture produced purulent fluid and the third pure serum. Another injection was given, and the patient left the hospital in very good condition except that he had a sciatic neuritis. This case he reported as being one in favor of the lysol treatment. The next three patients all left the hospital by way of the morgue, and in two he succeeded in obtaining autopsies. In one it was a pure case of cerebrospinal meningitis. In the other there was a lobar pneumonia an acute ulcerative endocarditis, an old fibroid and chronic endocarditis, a calculus, a pyonephritis of one kidney, and, therefore, he should have died. The third case was a fulminant one and autopsy was refused. The patient had an intense endocarditis. To-day there were at least two cases in the wards that he thought would recover, and each was receiving the lumbar puncture and lysol injection treatment. He thought we should not feel discouraged because we could save only 40 per cent. of the cases.

Dr. William P. Northrup closed the discussion and attempted to demonstrate by means of a drawing on the black-board that frequent washings of the spinal canal could not wash away the greenish-yellow deposits that extended down into the sulci of the cord and elsewhere. By making a puncture well down in the cord he did not believe one could get rid of the material situated high up; such a method would not result in getting that thick greenish-yellow pus situated in the layers of the pia mater. When speaking of lumbar puncture, he asked that this be kept in mind, the futility of attempting, by this means, to remove this material which was so deeply situated in the layers of the pia. Lumbar puncture he believed was only good for making diagnoses and for hospital reports. That was his candid opinion.

The Action of Modern Small-bore Bullets.—Scharf (*Der Militararzt*) states that a shot from a Männlicher rifle, discharged at from two to ten meters' distance, resulted in three deaths, two mortal wounds, and seven severe or slight wounds. A skull wound, passing from the region of the right orbit to the right occipital region, showed interesting features. The wound of exit was considerably larger than the wound of entrance, but the vault of the skull was fissured both at the entrance and exit. The cause of the fracture is discussed as to whether they were due to the "hydrodynamic action" of the close shot (von Bergmann's theory) or to "fracture by irradiation" (Aran's theory). The writer advances reasons in favor of the second theory.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

Tenth Annual Meeting, Held in Chicago, May 30 and 31, and June 1, 1904.

The society met in the Banquet Hall of the Auditorium Hotel, under the presidency of Dr. Norval H. Pierce of Chicago. Dr. Frank Billings of Chicago delivered an Address of Welcome.

President's Address.—The President, Dr. Norval H. Pierce, in his address, pointed out the great changes that had been wrought in the special domain of laryngology, rhinology, and otology during the life of the society. Ten years ago it was hardly more than a matter of sprays and spurs, of snares and syringes. The members no longer confined themselves to intralaryngeal, intranasal or intracranial operations, but by most radical external surgical procedures it was the aim to cure the most extensive diseases of the nose and accessory sinuses, the larynx, the pharynx, the ear, and neighboring parts within the cranial cavity. This change had taken place gradually. It took years to endeavor to set the bounds of laryngoscopy, rhinoscopy, and otoscopy. Latterly, by the work of Killian, Jensen, and of many of the Fellows, the advance had been made more rapidly, so that at the present time the well-rounded and successful specialist must not only possess that special skill and dexterity which enabled him to examine successfully the larynx, the nose, with the orifices of the several accessory sinuses, the ear, both by otoscopy and by means of complex functional tests, but he must combine with this a broad surgical knowledge equal to that of the general surgeon, and an ever-accessible knowledge of regional anatomy superior thereto. Thus did they prove the right to exist as specialists and members of the surgical department of the great science and art of medicine; but he expressed the fear that the pendulum might swing too far in the direction toward radicalism. With the technique of external operations firmly within grasp, were not the members liable to resort to them prematurely —to forget that much might be done by more conservative local measures, etc.

Some Points in the Pathology of Bone Cysts in the Accessory Sinuses of the Nose.—Dr. A. Logan Turner of Edinburgh, Scotland, by invitation, read a paper on this subject. An analysis of the various published cases illustrating this condition revealed the interesting fact that in some the bony cavity merely contained air, in others the contents were of a mucoid character, while in a third group of cases pus or mucopus was found.

Purulent Otitis Media Complicating Typhoid Fever.—Dr. Ewing W. Day of Pittsburg, Pa., read an exhaustive paper on this subject, in which he considered deafness, otitis externa, disorder of the perceptive apparatus, acute catarrhal otitis media, myringitis, and acute purulent otitis media as complications of typhoid fever.

Chronic Otitis Media.—Dr. James F. McKernon of New York reported a case of chronic otitis media, complicated by chronic mastoiditis and jugular bulb thrombosis, with operation and death. The patient, a boy of five, had scarlatina seven months previously, with a discharge from both ears. One ear ceased running after six weeks; the other continued to discharge intermittently. During the periods of intermission the child was peevish, drowsy, and constipated; the tongue coated; the breath foul. There were headache and earache. While the ear discharged, the patient's condition was approximately normal. Three weeks after the ears became affected there was pain behind both ears, worse on the right side, for ten days. On examination the right canal was found red, excoriated, and filled with foul, thick discharge. The drum was perforated over the Eustachian orifice, and in the posterior-superior quadrant; granulations and dead bone were discovered. The left drum had healed. A diagnosis of intratympanic caries was made and operation advised, but refused,

although the dangers of delay were pointed out. Under the usual palliative treatment the discharge stopped for a time, but recurred. About two months later the condition within the ear was found somewhat better. Operation was again urged, but was declined as before. Three months later the discharge increased again, and operation was agreed to. Examination at this time failed to reveal any signs of mastoid trouble, but the general physical condition was not so good. Temperature, 99° F. When the mastoid was opened the cortex was dark; the antrum, tip, zygomatic root, and several medullary spaces behind the sigmoid groove contained thick creamy pus. The bone was necrotic between the canal and sigmoid groove, down to the bulb. The posterior canal wall was removed and the typical Schwartze-Stacke operation done. A skin graft was placed over the entire middle ear cavity and antrum. All went well until the eighth day, when the patient complained of headache and photophobia, and became restless. The temperature rose to 104°, preceded by vomiting. The condition gradually improved for a week, with no marked variations in temperature. Several consultations were held, and irregular typhoid fever, central pneumonia, and meningitis were suggested. On the eighth day the child became drowsy and irritable, complained of posterior headache, and refused nourishment. After some delay in obtaining permission, an explanatory operation was performed, the writer suspecting an intracranial condition resulting from the previous long suppuration. The child's physical condition at this time was poor. The bone over the sinus being removed, an incision was made an inch long, gelatinous clot removed from the torcular end, establishing a blood current from this direction. The bulb was then curetted, and some firmer clot removed, without, however, establishing a flow of blood. The jugular vein was therefore resected, together with several enlarged glands. The patient's condition was good at the end of the operation, but he never regained consciousness, and died twenty hours afterward. There was no autopsy. The author had since had two other cases, with a similar history, in which early operation resulted favorably. He was unable to say whether or not any other intracranial condition existed in the case detailed, but if so, it was obscure. There were no chills or chilly sensations to suggest sinus involvement. In conclusion, the writer sounded a note of warning, in atypical cases, against delaying too long a search for the cause in the original focus of infection, when the patient did not progress well.

What the Laryngologist May Do for the Correction of Some of the More Common Forms of Defects of Speech.—Dr. G. Hudson Makuen of Philadelphia, after dwelling upon the growth and expansion of the work of the laryngologist, rhinologist, and otologist, continued by saying that they had neglected a field which seemed to him to be of great importance. He referred to that of defects of speech, the treatment of which had either been entirely neglected, or relegated to quacks. The medical man should do all in his power to suppress quackery, both in the interest of suffering humanity, as well as in his own interest. It had been estimated that there were over 300,000 stammerers in the United States alone, and this was only a small portion of those having some form of defective speech. Every one of these cases, in Dr. Makuen's opinion, was a proper subject for medical supervision, and he thought that these disorders of speech should come within the domain of the laryngologist, rhinologist, and otologist, and that defects of vision were scarcely of more importance, than defects of speech. He estimated that the exciting cause in 98 per cent. of all cases of stammering, might be looked for in a morbid condition of some portion of the respiratory tract. Adenoids, enlarged turbinals, and chronic rhinitis, were causes of stammering. The laity and some physicians thought children would "grow out" of speech defects, and, therefore, they became nerve habits before any treatment was given. Dr. Makuen explained why children stammer, and he also explained his treatment, which consisted in the removal of all physical obstructions to normal respiration, and in the teaching of physiological breathing, and the elementary sounds used in language. Digestive disturbances should be corrected. Tobacco and stimulants of all kinds interdicted, and the nervous system supported by nourishing food and plenty of sleep. A little mental science must be judiciously mixed in with the treatment, and suggestion always played an important part. Dr. Makuen had found the use of hypnotism of immense value, as an adjuvant in certain selected cases, and he emphasized the importance of syllabic speech. There were forty-four elementary sounds used in language, represented by the letters of the alphabet. The articulation of a word was a combination of two or more elementary sounds arranged in their proper sequence, and a syllable was a combination of elementary sounds which might be given with a single respiratory impulse. Words of two or more syllables should have as many impulses as there were syllables. Stammerers should be taught to speak, and as far as possible, even to think, in syllables.

Multiple Chronic Sinusitis Operated Upon by the Maxillary Route.—Dr. T. Passmore Berens of New York reported a series of fourteen operations through the maxillary route, with empyema of the maxillary antrum, ethmoid cells, and sphenoid sinus.

The operation, which he described in detail, was performed as he saw it carried out by Jansen of Berlin. Following the description of the fourteen cases, Dr. Berens concluded that all of the patients but one had disease of the sphenoid sinus; in twelve of these, occipital and vertical pains were present; in eight—all with sphenoidal disease—the pains extended also into the face, and were neuralgic in character; while in four cases, the pains closely simulated tic douloureux. These patients were all cured except two, one of which was malignant, and another, in which suppuration returned several times in the sphenoid, each return being marked by an attack of tic. It seemed to the writer that the presence of pain in the vertex and occiput or in trigeminal neuralgia, when accompanied by pus in the posterior nares, was symptomatic, almost diagnostic of sphenoid disease. In twelve of the patients there was pain in the region of the eye, especially in the region of the inner canthus. This pain was explained at the time of operation by the finding of disease in the most anterior ethmoid cells. In all of the cases but one, there was a total absence of frontal sinus disease; and since they were all chronic cases, most of them of many years' duration, it was interesting to ask what factor was present to preserve the frontal sinus from the primary infection, to cure it if it was infected, or to protect it from subsequent invasion by the disease already established in the ethmoid region. In eight of these cases the teeth were found diseased at the time of operation, or there was a clear history at least of dentalgia. The writer believes that many a tooth had been sacrificed, when proper treatment of the antrum would have saved it. A tooth having roots protruding into a suppurating cavity—the roots protected by only a thin periosteal covering—could readily become diseased by contiguity of tissue; and the writer believed that in at least some of his cases this actually had taken place, at least to the extent of producing dentalgia. In all of the cases, except two, there was a complete and permanent relief from pain, following the operation. Of the nine cases operated upon more than a year ago, four had had a return of pus. In two of these the trouble was in the ethmoid region and was cured by subsequent curettage; one was malignant, and one was in the sphenoid. The continued suppuration in the latter case was probably due to a prolongation of the sinus into the wing of the sphenoid bone, or some other similar condition. In conclusion, the operation as described, was advised only after a careful study of each case, and where the hope of a cure by milder measures could not be held out to the patient.

Treatment of Tuberculous Laryngitis.—Dr. S. E Solly of Colorado Springs, Colo., read a paper on this subject. In his opinion, most physicians were too timid in handling the tuberculous larynx, resorting in their blindness to superficial treatment, and to sedatives, in their mistaken kindness, when in most cases they had far better use radical measures.

Dr. Joseph A. White of Richmond, Va., reported a case of mastoiditis, which was complicated by nephritis and erysipelas.

Tinnitus Aurium and Its Treatment.—Dr. W. S. Bryant of New York read a paper on this subject, in which local treatment only was considered. This was found to be the same as the treatment for deafness with few exceptions. Many of these arose because the disturbance was of more delicate nature than that causing a loss of hearing alone. It therefore required still greater care in manipulation. Too energetic treatment might tend to increase, rather than decrease the symptom. In a large proportion of cases the sound-conducting mechanism was at fault, and required treatment more than any other defect in the complicated condition which gave rise to the tinnitus. Neurectomy had been tried in cases of grave tinnitus with unsatisfactory results, owing to the poor technique employed, and the selection of improper cases. Further attempts would undoubtedly develop a comparatively safe and sure method. Treatment in objective tinnitus was chiefly directed to lessening the sounds, and later to dulling the patient's perception of them. In subjective tinnitus, the local treatment was chiefly directed to lessening the perception of the tinnitus by the ear, and the improvement of sound-conduction; secondarily, to lessening the sounds themselves. Most of the tinnitus under this head was dependent on pathological conditions of the mucous membrane of the Eustachian tube and tympanum, which were themselves dependent on like conditions in the nasopharynx. The treatment was worked out on the lines required by a classification of the varieties of tinnitus, which the author submitted.

Symposium on Malignant Growths of the Upper Air Passages.—Dr. F. C. Cobb of Boston discussed the nose and accessory sinuses; Dr. Max A. Goldstein of St. Louis, Mo., the mouth and pharynx, while Dr. D. Braden Kyle of Philadelphia briefly discussed the pathology of malignant growths of the upper air passages.

Adenocarcinoma Occupying All of the Sinuses, Nose, and Orbits.—Dr. W. H. Dudley of Easton, Pa., read a paper on this subject, and presented a pathological specimen. The patient was sixty-three years old, with a history of the previous removal of polypi from nose and nasopharynx, and presented himself with disease of left maxillary antrum and exophthalmos. Antrum and orbit were cleaned out, but growth soon returned, and continued to involve one sinus after another, until the whole anterior portion of the head had become one mass of adenocarcinomatous tissue. Microscopical sections of polypi removed early, were simple adenoma, but all sections examined after the operation, to relieve the exophthalmos, were adenocarcinoma. The case was under observation over two years, and during this time the *x*-ray was used for several months, which resulted in relieving the pain (which was never very severe), and reduced somewhat the size of the tumor, which, however, grew rapidly again as soon as this treatment was discontinued. An examination of the bisected specimen showed practically none of the osseous framework of this part of the head, except the sphenoid and frontal bones, and a portion of these was also absorbed. Several photographs were presented showing the appearance of the case at different stages of the disease.

Malignant Disease of the Upper Air Passages.—Dr. Chevalier Jackson of Pittsburg read this paper. The factors in the etiology of carcinoma were age, sex, heredity, syphilis, irritation, and precancerous benign neoplasms. The sites in the order of frequency were the glottic boundaries, the epiglottis, posterior surface of the cricoid cartilage, interarytenoid fold, aryepiglottic ligament, ventricular bands, the ventricle, and the infraglottic region. The symptoms were dysphonia, hoarseness, aphonia, cough, expectoration of frothy secretion, dyspnœa, hemorrhage, orthopnœa, pain, laryngeal and referred to the ears, dysphagia, odynphagia, fetor, and cachexia. The laryngoscopic appearances might show paralysis of a cord, a more or less diffuse redness, or a protrusion appearing snow-white, dirty gray, pinkish, or reddish, in form papillomatous, warty, with sharply pointed elevations, with intervening rounded granulations, or an ulcer. It might be single or multiple, and was often covered with pus or frothy saliva. The diagnosis would rest upon the age, fetor, cachexia, adenopathy, pain, duration, paralysis of a cord, palpitation of the thyroid cartilage, and the microscopic report. Syphilis, perichondritis, lupus, tuberculosis, chronic laryngitis, blood clots, and hemorrhagic spots, pachydermia, eversion of the ventricle, and benign growths, were excluded. The prognosis as to termination was unfavorable, but not hopeless. In early operated intrinsic malignant disease it was good. In disease extrinsic by origin or extension, and when the lymphatics were infected, it was unfavorable. Prognosis as to duration, from two to ten years, might be promised, if not seen too late. As to recurrence, the prognosis was the same as mentioned of termination. The prognosis as to voice in early thyrotomized intrinsic cases, was fairly good; in late cases requiring laryngectomy, some kind of sound answering for speech might be promised. Treatment might be palliative or radical. Palliative measures included tracheotomy, œsophagostomy (or gastroenterostomy), cleansing sprays and gargles. Serum-therapy, Finsen-light rays, Röntgen rays, and radioactive substances were not yet proven of benefit. Partial endolaryngeal removal of the malignant mass was absolutely unjustifiable, even for the dyspnœa, unless consent to a tracheotomy could not be obtained.

Unless total removal of infection was a reasonable possibility, no operation was justifiable except tracheotomy, œsophagotomy, or whatever else might be planned to prevent or postpone inanition or asphyxia. Radical endolaryngeal extirpation was impossible. Radical measures included transhyoid and infrahyoid pharyngotomy, thyrotomy, partial laryngectomy, and total laryngectomy. Pharyngotomy, transhyoid and subhyoid, were adapted only to disease limited to the epiglottis. Thyrotomy was the operation of election under the following conditions: (1) An intrinsic growth. (2) A limited extent of disease. (3) Malignancy. (4) Suspected malignancy (exploratory thyrotomy). (5) No involvement of the thyroid cartilages. (6) No glandular involvement. Partial laryngectomy was advisable when at thyrotomy removable malignant extension was found. Total laryngectomy with, if necessary, removal of all infected glands and tissues was indicated when the patient desired a chance of cure, with, in any event, increased comfort for a variable period, when the disease was extrinsic by origin or extension, or, though intrinsic, so extensive that sufficient surrounding healthy tissue could not be otherwise removed. Total laryngectomy, with modern technique, prosthetic appliance, and the possibilities of buccal voice, was not the formidable prospect for the patient that it formally was. Preliminary stitching of the trachea to a button-hole in the skin, the avoidance of opiates, the combined Trendelenburg-Rose position, "talking anæsthesia" with chloroform, allowing the patient to "come out" before the stitches were put in, careful post-operative watching, very frequent cleansing of the cannula, and keeping the patient prone after operation—all these would reduce the danger of post-operative pneumonia to almost nothing. Rectal alimentation was a delusion and a snare. Feeding should be by œsophageal tube for a few days.

The use of a brilliant head-lamp facilitated thorough extirpation. The curette had no place in the extirpation of laryngeal malignant disease. It rubbed in the infec-

tion, as a rake buried seed in the soil. A clean cut with knife and scissors through healthy tissues beyond the invaded area was the best method.

Orbital Infection from the Ethmoid Cells, with Spontaneous Opening at the Inner Angle of the Orbit.—Dr. Carl E. Munger of New York said, in studying the literature of orbital abscesses involving the ethmoid region, it was apparent to him that the number of cases recently reported was much less since the rhinologist had been developed, and our knowledge of intranasal diseases had increased and intranasal surgery had become more nearly perfected. This was undoubtedly due to the earlier diagnosis made possible by more extended information as to ethmoid diseases and the greater promptness with which the ethmoid region was attacked surgically. Cases of orbital infection from the ethmoid cells occurred, as was evidenced by the report of such cases. Most of the examples of this occurrence were chronic in character, coming on only after a long duration of ethmoid trouble, but with notable exceptions, *i. e.*, as in a case reported by W. N. Hubbard, in which the orbital abscess came on shortly after a case of tonsillitis, probably of influenzic origin, in a patient with no previous history of ethmoid involvement; and a case reported by Milligan, in which an ethmoiditis followed a severe attack of cold in the head, and this in a short time followed by the appearance of an orbital swelling in the region of the inner canthus. The case reported was not unlike those previously reported.

Diseases of the Salivary Ducts and Glands, and Their Treatment.—Dr. Robert C. Myles of New York pointed out the diseases commonly associated with these organs, and reported five instructive cases. The points of interest that were taught by the histories of these cases were (1) that it was necessary to make a thorough test of every known method, in order to obtain a correct diagnosis in suspicious cases; (2) that the removal of these calculi could best be accomplished by surgical procedures, preferably through the floor of the mouth; and (3) that it was always well, when possible, to probe and dilate the duct, and thus establish and maintain the normal flow of the salivary secretion.

Uses of Rubber in the Treatment of Nasal and Antral Diseases.—Dr. Price Brown of Toronto, Ont., said there were many cases of nasal disease in which, although the passages might be sufficiently open to permit of nasal respiration, yet, owing to accumulation of secretion while sleeping, the mouth dropped open, and oral respiration was the result. In consequence of this, the dry air entering the pharynx absorbed the moisture exuded by the superficial glands, for the lubrication of the mucous membrane, and chronic pharyngitis and laryngitis were the result. For the last twelve years the author had endeavored to remove this cause of oral respiration, by the use of rubber mouth-pieces made of pure sheet rubber, about one-eighth or one-twelfth of an inch thick. A piece was cut to fit the cavity of the mouth between the teeth and lips. The latter are closed over it, hiding it from view, and when worn, oral respiration became impossible, the patient being forced to breathe through the nostrils. One great advantage of all these rubber appliances was that they could be easily made by the surgeon.

Dr. Edward B. Dench of New York reported a case of acute suppurative otitis media, which was complicated by a double pneumonia and septic thrombosis of the jugular bulb. The author resorted to excision of the internal jugular, which was followed by general systemic infection and death.

Papilloma of the Larynx, with Report of a Case of Forty Years' Standing.—Dr. Wm. L. Culbert of New York read a paper on this subject. After a brief résumé of the known facts as to etiology, symptoms, diagnosis, and treatment of this affection, the author reported the following case, which was of interest mainly on account of its long duration, and owing to the circumstance that in spite of an immense amount of instrumental interference, the growth had not assumed a malignant character. The patient first became affected with what was diagnosed as a chronic laryngitis in 1862. Two years later, after much ineffective treatment, she came under the care of Dr. Louis Elsberg, who first recognized the tumor—a large one, filling up the larynx and extending well below the vocal cords. He removed endolaryngeally an amount of tissue equal in bulk to a small hen's egg, and on the growth recurring, removed it again by thyrotomy. The aphonia and dyspnœa of which the patient had complained were completely relieved, and remained absent for over twenty years, when a return of the growth was apparent, and she came under the care of Dr. Rufus Lincoln. He removed the ever-recurring tumor many times during the next ten years. Two or three years of comparative freedom from symptoms followed, when the patient came to Dr. Culbert in a desperate condition, from dyspnœa, and complete aphonia. Examination revealed a papillomatous growth covering in the entire larynx, except a small opening, which would admit a thin lead pencil, through which space respiration had to be carried on. The tumor was attached by a broad base throughout the right and upper parts of the larynx, to the epiglottis, and to a lesser extent to the right side of the larynx. A portion was immediately removed to relieve the impending suffocation, and at subsequent sittings the remainder of the growth taken out with cutting ring forceps. Restoration of the voice and free respiration were accomplished, but the growth increased in size when let alone. Examinations were made by different pathologists for all three surgeons. The tumor removed by Elsberg was of a mixed character, evidently springing from the fibrous tissue, but suggesting in its superficial portions, a possible malignant tendency. The growths taken out by Lincoln and the writer were papillomata, pure and simple. Drawings of the tumor, as observed by the different surgeons who had had charge of the case, were submitted, making a very complete record of the case.

Dr. Arthur B. Duel of New York reported cases illustrating difficulties in the diagnosis of mastoid complications.

Dr. James F. McCaw of Waterbury, Conn., cited four interesting cases of mastoiditis. The first was one of acute suppurative otitis media; mastoiditis; subperiosteal mastoid abscess; perisinus epidural abscess, which was operated on, with recovery. The second was one of acute suppurative otitis media; double mastoiditis; operation and recovery. The third was one of acute suppurative otitis media; mastoiditis; operation and recovery. The fourth was acute suppurative otitis media; mastoiditis; epidural abscess; mastoiditis; operation and death.

The Relation of Diseases of the Stomach to Affections of the Mouth, Nose, and Throat.—Dr. Robert Levy of Denver, Colo., said that a careful review of laryngological literature impressed one with the fact that while there existed a relation between diseases of the upper air passages and those of the stomach, this relationship was not well-defined, nor was the interdependence of diseases of the stomach and those of the mouth, throat, and nose separated distinctly from affections of the gastrointestinal tract, and, in fact, from those of the entire digestive system. Many diseases of the mouth, nose, and pharynx and accessory cavities resisted treatment directed purely to the relief of the local conditions until measures intended to correct general disorders were instituted. Three positive statements might be made clinically: (1) That certain affections of the upper air passages and their adjacent cavities were causative in a measure of some form of stomach disturbance; (2) that certain stomach disturbances were the cause of certain affections of the upper air tract; (3) that the relationship existing between digestive disturbances and certain diseases of the upper air passages was so close that treatment must necessarily involve attention to both conditions. Although no direct causative relation could be traced between diseases of the alimentary canal and certain affections of the mouth, they

might be and frequently were associated. Among the diseases of the nose which were more especially associated with gastrointestinal affections were vasomotor rhinitis, nasal irritation, and red nose. Urticaria of the mucous membrane of the throat was a serious and might possibly be a fatal affection, and was largely dependent upon digestive disturbances, as was well-known to be the case in urticaria of the skin. Among diseases of the larynx, certain nervous affections, such as hyperæsthesia and laryngeal spasm, were found attended with disturbed digestion. Although diseases of the stomach could not be said to be indisputably caused by affections of the mouth, nose, and throat, or indisputably the result of diseases of these organs, the correlation was so close that successful management of both depended largely upon recognition of this interdependence. This still further emphasized the thought to which men working in special lines had called attention, that the entire human organism was one intricate mechanism in which local disorders were frequently but manifestations of constitutional affections.

Bezold's Variety of Mastoid Disease Complicating Diabetes Mellitus.—Dr. S. MacCuen Smith of Philadelphia contributed a paper on this subject, in which he suggested the following points as worthy of consideration: (1) Aural complications of diabetes mellitus might originate primarily in the mastoid cells. (2) The process might be manifested by the classical mastoid symptoms, without involving the tympanic cavity. (3) This condition was peculiar to diabetes mellitus. (4) The term diabetic ear should be limited to those cases in which the disease began as a primary osteitis of the mastoid, or in which primary tympanic involvement and rapid mastoid complications seemed simultaneous. (5) While the writer believed it advisable to reduce the amount of sugar, when possible, in those cases showing an excessive glycosuria, unless the urgency of the local symptoms demanded immediate operation, he had to report, however, that he had not met with any cases that terminated in what could be called post-operative coma.

The Value of Early Incision of the Membrana Tympani in the Treatment of Acute Suppuration in the Middle Ear.—Dr. Francis R. Packard of Philadelphia contributed a paper on this subject. In February and March of the present year there were many grippe cases characterized by the development of acute suppuration in the middle ear. The cases all presented certain definite peculiarities, namely, the abscesses developed with great rapidity, and the pain continued intense for some time after the rupture of the drum had occurred, and in spite of free drainage of pus from the middle ear. The author instanced cases which occurred in private work, where he was able to follow them up. In every case in which early incision in the drum membrane was practised, there was almost instantaneous relief from pain, and the discharge ceased within a few days. In cases in which the drum ruptured spontaneously, the patient's pain and discharge continued for a much longer time. The author advocated the use of gauze drainage, believing that to be the most efficient means of avoiding stagnation of the discharge, pain, and mastoid involvement.

Officers.—The following officers were elected: *President*, Dr. F. C. Cobb, Boston, Mass.; *Vice-Presidents*, Southern Section, Dr. Wm. Cheatham, Louisville, Ky.; Middle Section, Dr. Thomas Hubbard, Toledo, Ohio; Eastern Section, Dr. S. MacCuen Smith, Philadelphia; Western Section, Dr. W. B. Shields, St. Louis, Mo.; *Secretary*, Dr. Wendell C. Phillips, New York, N. Y.; *Treasurer*, Dr. Ewing W. Day, Pittsburg, Pa.

Boston, Mass., was selected as the place for holding the next annual meeting.

Population of England and Wales.—Fewer persons died and a less number were born throughout England and Wales last year than in 1902, while in London itself both births and deaths were the lowest ever yet recorded.

New Instruments.

UNIPOLAR X-RAY.

By SAMUEL STERN, M.D.,
NEW YORK.
RADIOTHERAPIST TO DR. LUSTGARTEN'S CLINIC AT THE MT. SINAI HOSPITAL; CLINICAL ASSISTANT TO THE SKIN DEPARTMENT OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

Amongst the defects of the Crookes vacuum tubes of to-day—as they are used for the production of *x*-rays for therapeutic purposes—perhaps the most glaring is that they must necessarily be connected with both poles of the apparatus. This makes practically a stationary apparatus, does not permit handling with any degree of ease, and often prevents us from using the effective rays on surfaces not easily reached, or those situated in the various cavities of the body.

A number of attempts have been made to construct tubes with long cylindrical projections, which may be used in cavities. These projections are from six to eight inches long, which brings the distance from the anode, where the rays are generated, to the tip of the projection, where they are emitted, up to ten inches or more. As the projection can rarely be passed up directly to the lesion treated, we must allow for several additional inches of distance, reckoned from the source of the ray. Considering that the intensity of exposure is in inverse square ratio to the distance from the source of the ray, we find that, allowing for a distance of about twelve inches, these exposures would have to be greatly prolonged to be effective.

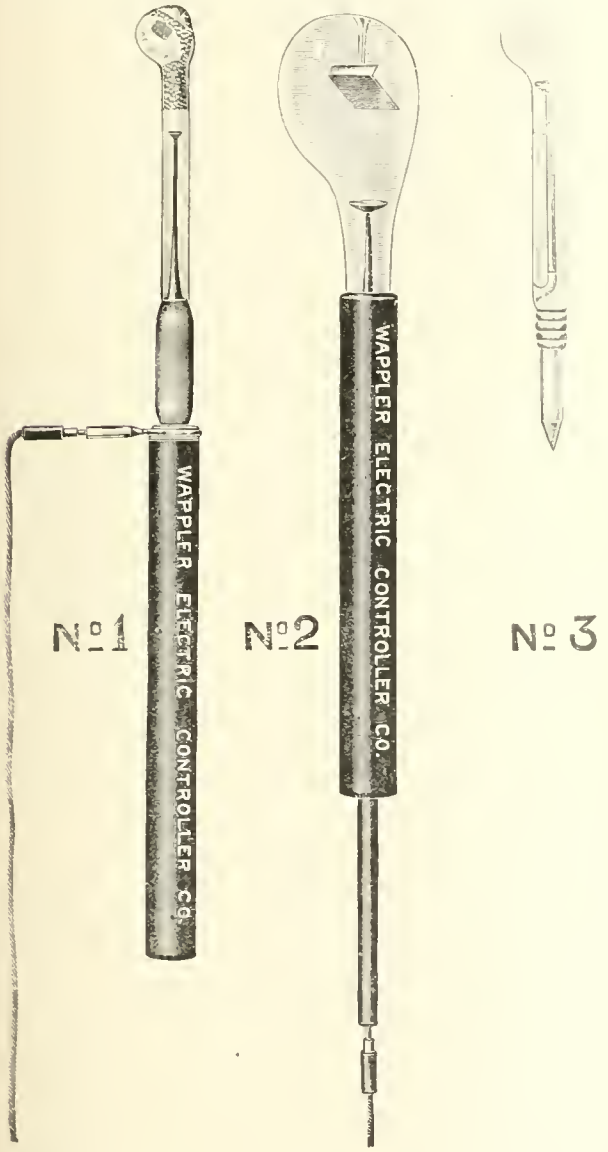
This is a very serious drawback in treating lesions situated in cavities (such as the throat, for instance), where the time of exposure, on account of the inconvenience of keeping the tube in position, is of vital importance. The rays as they are emitted from the cylinder travel in all directions, and it is a very difficult matter to protect the healthy surrounding tissue from their injurious effects.

An attempt has been made to obviate this by manufacturing tubes of lead glass, which obstruct the rays, the tip of the projection alone being made of glass, which is pervious to the rays. These tubes are made with a handle, which permits easier manipulation, but as they are necessarily connected with both poles and are of rather bulky dimensions, their manipulation is so difficult, that it is practically impossible to administer rays from them, and to regulate the current from the machine properly without the aid of an assistant.

The anode of these tubes becomes extremely hot in a very short time (in one minute or even less), and the current must be shut off several times to allow it to cool, before an effective exposure can be given. In treating diseases of some of the cavities, these tubes are entirely valueless. Affections of the larynx or œsophagus (cancer, etc.) cannot be reached by them, for when they are passed into the mouth, the angle at which they may be depressed is not enough to direct the rays sufficiently downward to strike the affected parts. The rays will pass through the pharnyx and back of the neck. This, to the best of my knowledge, is a defect found in every device used in treating these cavities at the present day.

In experimenting with various forms of high-frequency resonators, I have found that if two Leyden jars are connected by their internal armatures to the two poles of a coil, and the external armatures are connected to a spiral coil having a few strands of thick wire, followed by spirals of fine wire, the current which is derived from the inner extremity of the spiral, when connected with one pole of a Crookes vacuum tube will produce *x*-rays. This arrangement is very similar to the apparatus known as the Oudin's resonator.

This method enables us to use vacuum tubes of different sizes and shapes, small enough to be passed into the throat, or any other cavity, with the position of the cathode and anode arranged in a way that the rays can be made to travel in any direction desired. For instance, in the treatment of the larynx the tube can be passed into the throat over the larynx, the rays being directed downward, so that they will strike the larynx directly without being compelled to travel through any intervening tissue. In treating the œsophagus, these bulbs can be made so as to be attached to a flexible rubber tubing, which may be passed down to the lesion to be treated. While limited time and opportunity have not permitted me to make experiments in regard to passing these bulbs into the stomach itself, I see no reason why an arrangement similar to that devised by Exner* and Einhorn,† for the introduction of radium into the stomach, should not be used as effectively in introducing these bulbs. The fact that they are attached by only one pole, and that the bulbs can be made of any desirable size, should make it a simple matter. Similar methods can also be used for the introduction of these bulbs into the rectum or vagina. The tubes which I have used are simply small vacuum bulbs with a cathode fused into one extremity, and an anode into the other, placed at the usual angle. The cathode extremity of the tube is attached to an insulated glass handle similar to those used in treating by high-frequency currents. This is screwed into a wooden handle, with a wire running through it, inserted to the extremity of the cathode. The whole arrangement appearing as an ordinary elongated high-frequency tube, with the exception of the infused cathode and anode at its extremity. The anode has no attachment on the outside of the tube, and is merely used to direct the rays toward the point desired. Experiments tend to show that the anode is superfluous, and that the rays can be generated directly on the glass. These bulbs, on account of their minute size, become hot in a short time, but considering that the source of the rays can be brought so closely to the lesions to be treated it is seen that a half-minute exposure at a distance of perhaps one inch from the source of the ray is equal to a number of minutes with the tube at the usual distance. There is some sparking from the surface of the tube, due to the high-frequency currents passing through it, which can be remedied by enclosing the entire tube in rubber, with the exception of the parts through which the rays are desired.



I think that the most important use of this method will, perhaps, be in the treatment of skin diseases. We find that a great variety of skin diseases are very beneficially effected by the *x*-rays. We also find that the application of the high-frequency currents has established itself as a very valuable adjunct in the treatment of diseases of the skin. By this method both treatments can be administered simultaneously, as a powerful high-frequency current is continually passing through these tubes to the surface treated. Another very important advantage is that the tubes can be made in all sizes, enabling us to use one just large enough to cover the surface treated, doing away with all sorts of shields, and by applying the tube in direct proximity with the surface, there is no question as to the proper direction of the rays in relation to the lesion to be treated. There is the very important item of a saving of time, since the source of the rays is brought so close that the required length of exposures is very much diminished.

The new method of obtaining *x*-rays should prove of great value in dentistry. It has been found that various affections of the teeth (pyorrhœa alveolaris, for instance) are greatly benefited by *x*-rays. Here the bulb can be passed into the mouth directly over the affected teeth; and the same can be done when it is desired to take radiographs of the roots of the teeth and maxillary bones.

When the high-frequency currents generated in the solenoid (spiral wire) enter the tube at the extremity of the cathode, part of it is changed into cathode rays, which are discharged as such from the surface of the cathode, impinging on the anode (or on the wall of the tube if no anode is present), at which point they are changed into *x*-rays. A considerable portion of the current travels unchanged on the surface of the tube, from where it is given off in the form of high-frequency sparks. The strength of these sparks can be increased or diminished at will, depending upon the distance the tube is held from the surface treated. When the tube is held in contact with the parts treated, we get the maximum amount of *x*-rays with the minimum amount of sparks, the high-frequency currents passing to the surface as such without producing any sensation due to the dynamic effect of the sparks. In the smaller tubes, in which the cathode is very near the wall of the tube, it is advisable to have the glass stem through which it

**Wiener klinische Wochenschrift*, January 28, 1904.
†MEDICAL RECORD, March 5, 1904.

passes, insulated, to avoid the sparking from the cathode to the surface of the tube.

In the accompanying illustration is shown a small Crookes' tube with an insulated stem. This tube has a cathode which is cut short in the stem 1¾ inches from the anode. The anode consists of a small disk of platinum, placed at an angle of about 45° to the cathode, fused into the upper and outer part of the tube, so as to direct the rays downward. On the outside of the tube is a small metallic cap, placed over the outer extremity of the anode, to prevent sparking of the wire. The neck of this particular tube and the upper and outer part are covered with a coating of bronze, which acts as a sort of condenser. This is not absolutely necessary and has the disadvantage of increasing the intensity of the high-frequency spark.

This defect may be partly remedied by covering those parts of the tube from which the ray is not desired, with rubber or other non-conducting substance. This tube is adapted for the treatment of lesions of the mouth, larynx, or other cavities.

The lower extremity of the tube is grooved, and can be readily screwed into its handle. The handle of figure 1 is of a similar character to that used for ordinary high-frequency electrodes. It has the advantage that the current enters at its upper extremity, while in the handle of figure 2 the current enters in its lower extremity, requiring it to pass through the handle, causing a considerable waste by auto-conduction. The tube seen in figure 2 is an ordinary small Crookes vacuum tube, adapted for the treatment of surface lesions, where the combination of *x*-ray and high-frequency currents may be indicated; or for lesions situated in regions not easily reached by the larger tube. These tubes must all be of a medium or rather low vacuum, as the higher the vacuum the more current is required to make the tube fluoresce, and the more surface high-frequency discharges will be given off.

Figure 3 shows a tube without an anode, designed for the treatment of cavities. The glass wall of the tube acts as target for the cathode ray, and where the latter impinges it is changed into an *x*-ray. This is seen through the fluoroscope as a small circle directly opposite the cathode.

With this tube the source of the ray can be brought into direct contact with the lesion treated. The only disadvantage these tubes possess is that it is somewhat more difficult to direct the rays in the various directions required.

While limited time did not permit me to experiment with tubes in which the cathode was fused in at different angles, so as to enable us to direct the rays to any part of the tube desired, I see no reason why this should not be feasible.

In closing, I want to express my thanks to Dr. Charles W. Allen for his valuable suggestions, and to Messrs. R. and F. Wappler for their assistance in my experiments.

141 East Seventy-fourth Street.

A New Cure for Drunkenness.—The Norwegian authorities, who do not make light of the subject of alcoholism, have conceived an original method of curing drunkards of their vice. The "patient" is placed in a room, which he is forbidden to leave, and all outside communication is cut off. When he is once under lock and key, his nourishment consists in great part of bread soaked in port wine. The first day, the drunkard eats his food with pleasure, and even on the second day he enjoys it. On the third day he finds that it is always about the same thing, and on the fourth day he becomes impatient, and at the end of eight days he receives the wine with horror. It seems that the disgust persists and that this homœopathic cure gives unexpected results.—*Le Bulletin Médical.*

Therapeutic Hints.

Torticollis.—A weak galvanic current is frequently very serviceable. The positive pole should be placed just below the occiput and the negative pole allowed to act upon the contracted muscles for from five to ten minutes.—H. B. Sheffield.

Erysipelas.—

℞ Tinct. iodi ..... ℥vi
Olei camphoræ .....
Ichthyolis ..... āā ℥iii
M. et. Sig.: Apply locally two or three times a day.
—Smolitcheff.

Cystitis.—

℞ Potassii bromidi .....
Sodii bromidi ..... āā ℥ii
Extr. belladonnæ fol ..... gr. iv
Extr. buchu ..... ℥i
Syr. sarsaparillæ comp. ..... q. s. ad ℥iv
M. Sig. Tablespoonful three times a day after meals.
—Pepper

Iron-lemonade.—

℞ Tinct. ferri chlor ..... ℥iv
Acidi. phosphorici dil ..... ℥vi
Spts. limonis ..... ℥ii
Syrupi ..... q. s. ad ℥vi
M. et. Sig.: A dessertspoonful, in water, after meals.
—Goodell.

Iodine in Pulmonary Tuberculosis.—

℞ Tincture iodi ..... ℥v
Potassii iodidi ..... gr. xxx
Glycerini ..... ℥x
Syr. aurantii cort ..... ℥xii
Aquæ ..... q. s. ad Oii
M. et. Sig: A dessertspoonful twice a day, before meals. —Veleurde.

Tuberculous Enteritis.—

℞ Methylene blue ..... gr. ¾
Milk-sugar ..... gr. iii
M. Sig.: One capsule of this amount three times a day.
—Renon

Hæmorrhoids.—

℞ Potass. iodidi ..... ℥ss
Iodi ..... gr. iii
Glycerini ..... ℥i
M. S.: Apply on tampons. —Preissman.

Dermatitis Venenata.—

℞ Sodii hyposulphite ..... ℥i
Menthol ..... gr. v
Spir. vini rect ..... ℥i
Spir. meth. nit ..... ℥i
Aguæ destil ..... ad Oi
M. S.: Apply locally

Crusted Eczema.—

℞ Olei rusci .....
Sulph. sublimati ..... āā 15
Vaselini .....
Saponis domestici ..... āā 30
Cretæ albæ 10
M. ft. Unguentum. —Lassar.

Psoriasis.—

℞ Acidi salicylici 10
Chrysarobin .....
Ol. rusci ..... āā 20
Sapon virid .....
Vaselini ..... āā 25
M. Sig.: Apply locally. —Dreuw.

Stye.—

℞ Iodi ..... gr. xii
Potassii iodidi ..... gr. xxxvi
Vaselini ..... ℥i
Aquæ destillatæ ..... ℥i
Lanolini ..... ℥ss.
M. ft. Unguentum. Sig. Rub in gently at night.
—Shazmenski.

Acne Rosacea.—

℞ Lac sulphur ..... ℥i
Camphor ..... gr. x
Tragacanth ..... gr. x
Rose water ..... ℥iv
M. et Sig. Apply night and morning.
—J. E. Lockridge.

Constipation.—

℞ Tinct. nucis vomicæ ..... ℥ii
Tinct. belladonnæ ..... ℥ii
Tinct. physostigmæ ..... ℥ii
M. et Sig.: One-half teaspoonful in water morning and evening. —Bartholow.

Myxœdema.—Cold has a very disastrous effect on myxœdema, patients always feel worse during winter and on the colder days. The indication thus is to supply climatic and artificial warmth. In commencing thyroid treatment small doses are advised.—H. C. Drury.

Amyl Nitrite in Hæmoptysis.—Francis Hare finds that inhalations of amyl nitrite arrest hæmoptysis instantaneously. He has tested it in four cases of phthisis and one of mitral obstruction with very satisfactory results.—*Australasian Medical Gazette.*

Antidysenteric Serum.—Rosenthal derived an antidysenteric serum from the inoculation of animals, first with dead cultures of the bacillus, then with living cultures, and finally with the toxins. By the use of this serum it is claimed that the percentage of mortality is reduced by one-half.—*Deutsche medizinische Wochenschrift.*

Surgical Suggestions.

Lacerations of the Cervix.—Suture cervical injuries at the close of labor when they seem to be the cause of postpartum hemorrhage. Sew up all the cervical tears in the first week in conjunction with the perineal operation when the pelvic floor injury is of such a character that a few days' delay is desirable. Restore severe injuries to the cervix from the third to the tenth day after delivery.—R. L. Dickinson

External Thrombotic Piles are readily cured by incising them, turning out the blood clot, and then suturing the cut ends under antiseptic precautions. Old, hypertrophied tags may be excised, and the wound closed by sutures. Both of the latter operations may be done under local anæsthesia if divulsion of the sphincter ani is not necessary for this or complications.—Geo. K. Sims.

Pyorrhœa Alveolaris.—Teeth once loosened can rarely be tightened, and their retention is a positive menace to the health of the mouth. Successful treatment lies in the fidelity with which the toxic irritative matter is removed from the surfaces of the teeth and rational after-treatment maintained.—D. D. Smith.

Cocainization in Abdominal Surgery.—M. Chaput recommends local cocainization in abdominal surgery. For very nervous subjects he considers it more suitable than a general anæsthetic. When the agitation of the patient makes the continuation of the operation under cocaine impracticable, it is necessary to resort to a general anæsthetic, the effects of which are simply increased by the previous cocainization.—*Gazette Médicale de Paris.*

The Yeast Poultice.—E. J. Kempf describes his method of making a yeast poultice as follows: Take of beer yeast, one quart; corn meal, finely sifted, one pint. Mix the yeast with the corn meal. Place the mixture near a fire till it rises. Mix with the thin raised dough about two ounces of finely powdered charcoal. Apply the mixture on a thick cloth directly to the affected part and renew every twenty-four hours. It becomes dry and adheres to the parts, but it can be removed readily with warm water. This mixture is one of the most efficient antiseptic poultices for various septic conditions, such as gangrene, foul ulcers, erysipelas, eczema, extensive injury of tissues, etc. The writer then gives the history of various cases in which he has used this remedy with the happiest results. In one case the patient had shot himself with buckshot, and the whole arm, which was badly injured, became much swollen, œdematous, and covered with blebs. An amputation seemed unavoidable. The yeast poultice was used on the arm for nearly three weeks, and the patient recovered. The writer believes that this treatment was the only thing that saved the arm. He suggests that probably the yeast germs in the yeast poultice overcome the bacilli in a similar manner to that which the white corpuscles in the blood employ when fighting germs in the system.—*Indiana Medical Journal.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 24, 1904:

	Cases.	Deaths.
Measles	43	4
Diphtheria and croup	224	16
Scarlet fever	58	4
Smallpox	2	...
Varicella	3	...
Tuberculosis	305	145
Typhoid fever	93	21
Cerebrospinal meningitis	...	19

Rush's Treatment of Hæmoptysis.—The following copy of a prescription by Rush was kindly sent us by Mr. G. Grosvenor Dawe, Secretary of the Society of American Authors. The original is in Mr. Dawe's collection of documents written or signed by various heroes of the Revolutionary War.

Advice for Mr. Rodgers: Please to take half of one of these powders every morning, noon, and night in a little sugar and water. They are composed of half an ounce of nitre, and two grains of tartar emet, intimately mixed and divided into twelve doses. As soon as you have taken as many of these powders as shall reduce your pulse to its normal activity, or remove the present feeble degree of tension from it, leave them off and begin and take a small teaspoonful of pale bark every morning and evening. If it should purge you, take two or three drops of laudanum in each dose. If it should produce costiveness, take four or five grains of rhubarb in each dose.

While you are taking the bark, your diet and drinks may be of a cordial, but not very nourishing character—such as salted meat and salted fish in small quantities, fresh fish, oysters, eggs with the common table vegetables (cabbage excepted). With these may be taken weak claret or porter and water or small beer. The quantity of liquids taken in a day should not much exceed a pint. Milk should be avoided in your diet, and tea and coffee taken sparingly and never strong. Four or five small meals should be preferred to one or two large ones in a day.

During the use of the above remedies, gentle exercise should be used daily, but never before breakfast, nor in damp weather, nor after night, nor until fatigue be induced.

Suit your dress to the change in the weather, always preferring clothing that is a little warmer than is customary in health. Defend your feet with uncommon care from wet and cold.

Go to bed early. Sleep alternately upon both your sides, and never upon your back.

Carefully avoid loud and long reading, singing, and lifting heavy weights.

Should the discharge of blood from your lungs return at any time, instantly swallow a papspoonful of dry salt. Afterward take twenty or thirty drops of laudanum, if the salt does not check the bleeding. Lose ten ounces of blood as soon as convenient afterward. Repeat the bleeding if your pulse be tense, and apply blisters to your wrists, and take the nitre and tart. Emet: as formerly directed, and the same time live upon nothing but rice and fruit and mild table vegetables, with a little water or Balm tea. When these remedies have restored your pulse to its natural state, return to the use of the bark, and the cordial diet and drinks before mentioned.

Should a troublesome cough attend or follow your disease, take from twenty to thirty drops of laudanum every night at bedtime, and drink occasionally of flaxseed tea or barley water. If these remedies do not remove it, recourse should be had to salivation. If a cough do not succeed, and the remedies remove your present indisposition, it will be advisable to travel next summer to the northward in order to prevent a relapse, and to confirm your health. Benj. Rush

December 21, 1807.

The Menopause.—J. L. Ellis finds the matter of the menopause a neglected field of research, and yet probably this epoch in a woman's life is more important than any other. The free action of the emunctories should be carefully maintained throughout this period. The menopause affects the kidneys by checking secretion. It is not yet determined just how this is done. Attention to food products and proper exercise should be given the preference over drugs wherever this is admissible. Milk and buttermilk are good diuretics, and so is water. In regard to the bowels, the writer inclines to the use of cascara and epsom salts. The former should be taken regularly in 3 or 5-grain doses every night, or as often as may be needed. The salts are especially good for overcoming the congestion of the pelvic viscera. Preferable to either, however, is the use of laxative foods and fruits at breakfast. An adequate supply of liquids must not be forgotten. The morbid or peculiar action of the skin is most evident during the menopause, principally in two ways, flushings and sweatings. It is natural enough that the extensive area of cutaneous nerve-endings should share in the common reflex or sympathetic disturbances, so-called, so prevalent at this period. There may be other disturbances, such as eruptions, and œdema. During these periods women are usually in a sensitive, nervous state in a condition of general hyperæsthesia. Excitement is apt to favor flushings and should be avoided. As to treatment of this condition, the general condition of the patient must be considered and everything possible should be done to insure as normal health as can be secured. The bromides are given for excitability. In the case of feeble women the additional benefit of nux vomica or strychnine should be offered. Stimulation of renal activity often cures excessive sweating. Moderate daily exercise, especially in the open air, cold sponge bathing, or sponging the surface with alcohol, or tepid sponge baths, in the very weak, tone up the nervous system, so that sweating due to relaxation soon disappears. The circulation should be good, and the respirations deep and frequent. A moderate amount of exercise insures this better than any drug can do under most circumstances. One of the best exercises for the lungs is singing. Change of life is not a disease. No special disease is peculiar to this period. The key to the treatment, according to the writer, is to remember the higher persensitive state of the reflexes.—*The Mobile Medical and Surgical Journal.*

A Case of Hemihypertrophy in Which the Internal Organs Were Affected.—Robert Hutchinson reports the case of a child born at full time, the mother's health having been good during pregnancy. The child's abnormal condition was noted at birth He was healthy and well-developed. The viscera were healthy. There were three small capilliary nevi in the skin at various points. The asymmetry involved the left arm and leg, and to some extent the trunk also, but the head, face, and tongue were quite symmetrical. There was no abnormality of the digits. The condition in the leg closely resembled a diffuse lipoma. The left forearm was an inch and a half greater in circumference than the right, the left calf two inches greater than the right, the left thigh an inch and a half larger than the right. There was no difference in the length of the limbs on the two sides. The left chest and abdomen were larger than the right. The child was attacked by bronchopneumonia and died. Post-mortem examination showed this increased thickness on the left side to be due entirely to an increased deposit of subcutaneous fat There was no evidence of any mastoid tissue or vascular dilation. The bones on the left side were no thicker than on the right. The brain was normal and symmetrical, but most of the paired organs were decidedly larger on the left side than on the right. The thyroid cores were symmetrical, but the left side of the thymus was larger than the right. The writer believes such a condition as the above must date back to embryonic life and be the consequence of unequal segment action in the ovum.—*The British Journal of Children's Diseases.*

The Factor of Heredity in Atrophic Rhinitis.—Lewis S. Somers believes that there are three conditions which present strong evidence of hereditary transmission in the etiology of genuine atrophic rhinitis, viz., certain deviations from the normal in the osseous frame work of the nasal chambers, a tendency toward localized epithelial metaplasia, and possibly the attenuated taint of syphilis or tuberculosis. The first consists essentially in an abnormal width of the nasal fossæ, with an anterioposterior flattening. This condition is more often seen in persons with broad, low noses. The explanation of the hereditary factors concerned in this affection is to be found in this structural alteration, and it seems probable that the family tendency is essentially based upon such a form of nasal architecture. Epithelial metaplasia is invariably found in atrophic rhinitis and consists in general in the transformation of the ciliated columnar cells into the flat, squamous variety. There is great difficulty in determining the exact period when this metamorphosis took place. As Meisser has stated, for the advent of atrophic rhinitis there must be two factors at work; first, epithelial metamorphosis, and secondly, wide nasal fossæ. An inherited pathological taint seems to be evident in the majority of cases which become prominent at an early age, and usually it is possible to obtain a history of tuberculosis or syphilis in the parents or grandparents of the child. Somers wishes to emphasize the apparent fact that heredity plays an essential rôle in the vast majority of cases of atrophic rhinitis, and this factor is manifested through the aberrant nasal form, the epithelial metamorphosis, and possibly the transmission of an inherited pathological taint.—*Pennsylvania Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended September 17, 1904.

SMALLPOX—UNITED STATES.

			CASES	DEATHS
Florida, At large	Sept.	3–10	19	..
Illinois, Chicago	Sept.	3–10	1	..
Indiana, Kokomo	Sept.	3–10	1	..
Louisiana, New Orleans	Sept.	3–10	1	..
Massachusetts, Lowell	Sept.	3–10	1	..
North Adams	Sept.	3–10	5	1
Michigan, Grand Rapids	Sept.	3–10	1	..
At 42 places	Aug.	27–Sept. 3		(Present.)
Missouri, St. Louis	Aug.	27–Sept. 10	5	2
Ohio, Zanesville	Aug.	6–13	1	..
Pennsylvania, Philadelphia	Sept.	3–10	1	1
Tennessee, Nashville	Sept.	3–10	2	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Aug.	20–27	1	..
Brazil, Bahia	July	31–Aug. 13	22	1
Canada, Belleville	Aug.	20–Sept. 12	7	..
Winnipeg	Aug.	13–27	2	..
China, Shanghai	Aug.	4–11	..	1
France, Paris	Aug.	20–27	7	..
Great Britain and Ireland, Dublin	Aug.	20–27	1	..
Leeds	Aug.	20–27	1	..
New Castle on-Tyne	Aug.	20–27	7	..
Nottingham	Aug.	20–27	2	..
West Hartlepool	Aug.	20–27	2	..
India, Bombay	Aug.	9–16	..	1
Italy, Palermo	Aug.	20–27	14	8
Mexico, City of Mexico	Aug.	21–28	1	4
Russia, Moscow	Aug.	6–20	15	2
St. Petersburg	Aug.	13–20	1	4
Warsaw	July	31–Aug. 6	..	22
Turkey, Alexandretta	Aug.	13–20	..	3

YELLOW FEVER.

Ecuador, Guayaquil	Aug.	8–15	..	1
Mexico, Coatzacoalcos	Aug.	27–Sept. 3	4	1
Vera Cruz	Aug.	27–Sept. 3	14	..

CHOLERA.

India, Bombay	Aug.	9–16	..	33
Calcutta	Aug.	6–13	..	4

PLAGUE.

Africa, Cape Colony	July	23–30	2	..
Brazil, Bahia	Aug.	5–18	17	7
Egypt	Aug.	6–13	4	3 at Alexandria
India, Bombay	Aug.	9–16		44
Calcutta	Aug.	6–13	..	3
Karachi	Aug.	7–14	3	2
Mauritius	June	17–July 7	6	5
Peru, Callao	Aug.	13	1	..
Colan	Aug.	17		(Reported.)
La Sullana	Aug.	17		
Lima	July	31–Aug. 6	11	5
Salaverry	July	31–Aug. 6	2	1
Sechura	Aug.	17		(Reported.)
Payta	July	31–Aug. 6	4	2

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Original Articles.

A CRITICAL REVIEW OF THE STUDY OF CANCER.*

BY ANNA M. GALBRAITH, M.D.,
NEW YORK.

A REVIEW of the study of cancer will be most profitably divided into three periods: (1) The observational or clinical study of cancer, dating from Hippocrates; (2) The pathological study of cancer, beginning with the discovery of the compound microscope in 1830; and (3) The surgical treatment of this disease, from the establishment of antiseptic surgery by Lister in 1881.

Since my paper is to be followed by others on "The Pathology and Bacteriology of Cancer," as well as on "The Medical," "Surgical," and "*X*-ray Treatment of Cancer," most of my time will be devoted to a review of the clinical study of this disease.

Taking up first those divisions of my subject to which I shall devote the least attention, we will consider them in the following order: The surgical treatment of cancer; the pathological study of cancer; and lastly, its clinical study.

The Surgical Treatment of Cancer.—Ambrose Paré (1634) said, "If the cancer is small and in a part which will suffer amputation, first purge and bleed the patient, and if the strength of the patient will admit, amputate." He described the operations for cancer of the breast and for cancer of the lip.

More than one hundred years later that famous surgeon John Hunter wrote and advised extirpation, provided the whole disease could be safely extirpated; that is, if the disease occurred in an organ or a part which could be amputated, as in the breast or limb. But if the tumor of the breast should be fixed, or if there was great enlargement of the lymphatic glands, he advised against operation.

Johnson, in the prize essay of 1808, awarded him by the Royal College of Surgeons, said, that in all operable cases the operation should be performed as soon as there was any reason to suspect the nature of the disease. Any enlarged lymphatic glands should be carefully removed. "As to cancer of the uterus, here the disease presents itself in a part that does not admit of extirpation, therefore all that can be done is to palliate the symptoms and endeavor to prolong life." He said that the operation for the removal of the eyeball had not been attended with success; but that a few cases of operation for the removal of the tongue had been successful.

The only wonder is that, before the brilliant discovery of anæsthesia by Morton in 1846, there should have been any considerable operations for cancer at all. And when a surgeon, in a description of an operation for cancer of the breast, calmly says, that the patient may either sit up or lie down, but that she must be securely held by attendants, we are convinced that the heroes of ancient times did not all die on the field of battle.

To be of any value, from a statistical point of view, as to the percentage of cures following early operations, nothing previous to the establishment of the antiseptic treatment by Lister in 1881 should be quoted, since it is obvious that before that time more patients probably died of sepsis following the operation than died from a recurrence of cancer.

The Pathological Study of Cancer.—The pathological study of cancer really began with the first post-mortem examinations and the study of the macroscopical appearances of the tumors. Hunter was the first to make a careful study of tumors and cancer, and he is credited with having laid the foundation for the anatomico-pathological study of tumors.

Autopsies began to be made in the first years of the nineteenth century. Carmichael, in 1809, described a case of post-mortem examination which seemed to impress him greatly. "Upon opening the intestines the cause of the adhesion to the uterus as well as of the constipated state of the bowels became apparent; for the carcinomatous substance had extended from the uterus into the very cavity of the intestine, which it nearly filled, allowing a space only sufficient to admit a common quill, for the passage of the intestinal contents. The colon, also, was tied down by two firm gristly bands which proceeded from the left edge of the uterus, and like ribbons encircled the intestine."

A discovery that revolutionized pathology was the invention of the compound microscope. Although this instrument was invented in 1590, it was not until 1830, that it was so far perfected as to be of value in scientific research.

In 1838 Schleiden and Schwann gave to the world their famous cell theory. In the same year Müller's work on the origin of tumors established the cellular nature of cancer and other neoplasms. Müller believed that the constituent cells of tumors were derived from the formative fluid exuded from the blood (blastema), which was nothing else than the coagulable lymph of Hunter under another name.

In 1849 John Hughes Bennett published his work on "Cancerous and Cancroid Growths." In this work fifty-six cases are given, with the history of the patient, the record of the autopsy, macroscopical findings, and microscopical examinations. Bennett described the cancer cell and the appearance of its retrograde course. This last he believed offered strong proofs of the spontaneous cure of cancer in an organ with an excess of fat formation or of mineral deposition. Lebert, he said, has endeavored to establish the existence of the cancer cell as pathognomonic, that it may be distinguished from every other kind of cell formation and at once indicate the nature of a cancerous growth. But he agreed with Müller, in thinking that no single element was diagnostic, and that the pathology of cancer was wholly theoretical.

In 1855 Rokitanski published his celebrated work on Pathological Anatomy. He defined sarcoma as a benign, local affection, affecting the areolar, fibrous, submucous, muscular and intermuscular tissues, the bones, glands, and, in rare instances, the brain; and

*Read before the Alumnæ Association, Woman's Medical College of Pennsylvania.

carcinoma as heterologous growths which frequently originated and existed as local evils, but he believed that they were far more commonly associated with a dyscrasia, which, in fact, he said, often preceded and engendered the cancer. He thought the crasis was mainly due to an excess of albumin and fat in the circulating fluid. Infection, he said, took place through the entrance of the cancer cells or of the cancer blastema into the blood-vessels and lymphatics. He observed that the most frequent termination of cancer was by suppuration with necrosis; that the suppuration became deadly through the infection of the blood and pyæmia. However seldom he wrote, that the extirpation of cancer proved successful, its spontaneous cure was a still greater rarity. He thought that a cure might be brought about by necrosis and partial rejection of the tumor, or else by its more rapid death and expulsion; or by processes of cure bearing the character of involution or a decadency of the cancer by saponification effected by the conversion of protein substance into fats; or a wasting of the tumor with condensation, solidification of its blastema and the liberation of the salts of lime.

Virchow accepted the cell theory of Müller, but denied the blastemal origin of cells, and substituted for this that famous formula, "*omnis cellula e cellula.*" Where a cell arises there a cell must have previously existed. Virchow also adopted the irritation and chronic inflammation theory.

Cohnheim's theory of the etiology of tumors is, that in the very early stages of embryonic development more cells are produced than are needed for the building up of the parts concerned, so that a quantity of cells remain unappropriated, which, *owing to their embryonic character*, are endowed with a marked capacity for proliferation. As proofs of this theory he cites the facts that portions of embryonic tissue—that is, pieces taken from a fœtus yet unborn—introduced into a new foreign organism, not only live, but grow, in a very surprising way; the hereditary transmission of the same kind of tumor in a number of successive generations of the same family, which is particularly well-established for carcinomas; and the congenital appearance of tumors, whether inherited or not. Cohnheim does not claim that the tumor itself is congenital, but that its rudiment is. He assumes simply an excess of cells as compared with the physiological standard, out of which excess a tumor may ultimately develop. He believes that traumatism may play some part in the development of tumors, and that it is, perhaps, the resistance of normal tissues which hinders the development of abnormal germinal material in many individuals.

Virchow has regarded the fact that epithelial tumors evince a special disposition to attack the orifices of the body, as the lips, tongue, rectum, or uteri, and so forth, as strong proof of the theory of mechanical irritation as an etiological factor in the production of tumors. While Cohnheim argues that during the embryonic development most of these localities are the seat of certain complications. There occurs at the various orifices either a prolongation of the epiblast inward, or a conjunction between it and another epithelial tube, or the like, and that some irregularities during this process would easily give rise to a group of epithelial cells—that is, to the rudiments of a tumor. That with the fact established that the embryonic forms the starting point for tumors, the sole positive condition for their development is an adequate supply of blood.

In thus taking the criterion of malignancy as the falling off of the physiological resistance of the parts bordering on, or remote from, a tumor, Cohnheim assumes that the ruthless extension and generalization is to be sought for in the behavior of the organism, rather than in the properties of the tumor itself, which has been the belief hitherto of the pathologists and surgeons. Virchow says that every tumor has a period of innocency, which would be a proof that the malignancy does not depend on the nature of the tumor. So that the theory is rendered highly plausible that the benign or malignant character of the tumor depends solely on the behavior of the remainder of the organism. The physiological resistance in the neighborhood of the growth must, he thinks, be diminished in order that a tumor may become locally malignant, and similarly there must be a falling off in the physiological resistance of the other tissues of the organism for a tumor to become generalized.

The commonest mode of generalization is through the lymph streams; but penetration into the blood vessels is also a very common event. The proliferating epithelium possess a power to penetrate into connective tissue altered by inflammation. Waldeyer has called attention to the frequency with which inflammatory changes may be observed in the connective tissue bordering on cancer; so here, too, traumatic agencies play a part. Greater importance would seem to be attached to advanced age, as bearing on this subject. Thiersch was the first to lay tress on the importance of this factor for the etiology of cancroid. He pointed out that in old age the connective tissue of the body atrophies, and is consequently no longer capable of opposing the ingrowth of the cutaneous epithelium, which retains to the last a greater vitality to produce cells. That carcinomata do not make their appearance until about the fiftieth year of life, when senile decay lessens the physiological resistance of the tissues.

Cohnheim's views, that the degree of malignancy of the tumor is to be sought for in the behavior of the rest of the organism rather than in the tumor itself, is emphasized by Bland-Sutton. He says, that the clinical and pathological study of cancer exhibits not only peculiarities of cancer in regard to its mode of growth, infection of the lymph-glands, dissemination, and the manner in which it destroys life, but that the course of carcinoma is greatly modified by the age and constitution of the patient, and that the same disease in two patients, apparently alike in age and environment, will progress so differently, that no surgeon can predict with any reasonable certainty the expectation of life, the result of the operation, liability to dissemination, or the chances of recovery.

The Clinical Study of Cancer.—We will now turn our attention to the third and last division of our subject, namely, the clinical study of cancer. Aside from the interest involved in the study of medical history, a review of the clinical study of cancer should be most instructive, calling attention, as it does, to etiological factors repeatedly observed by close students of this subject; since on these etiological factors must be based the study of the lines of treatment of this fatal disease.

It must be borne in mind that before the discovery of the circulation of the blood by Harvey in 1616, the whole field of medicine was enveloped in a haze of mystery and superstition. Although in the latter part of the seventeenth century, Sydenham laid the foundation for the clinical study of medicine, he himself wrote nothing on this disease. It was not until a hundred years later that John Hunter gave a careful description of the symptomatology of cancer. So that the clinical study of

cancer is confined to the last two hundred years.

The clinical study of cancer involves a consideration of the etiology, symptoms, physical signs, and the treatment of this disease; but the symptoms and physical signs are so familiar to all, and the time allotted me is too brief to take up that part of my subject.

Etiology.—The theory of the ancients was that the predisposing cause of cancer was a degeneration of the blood due to a faulty diet, a morbid affection of the liver, and a weakness of the spleen. That the active cause was the accumulation of the humors of the body in some part, or the suppression of some accustomed evacuation, as the menses in women, and of hemorrhoids in men. That the humors thus shut up in the body generated tumors, that these tumors might become scirrhous, and that these scirrhous tumors might degenerate into cancers.

After Harvey's discovery of the circulation, the blood was regarded as the source of cancer. After the discovery of lymph in the early part of the eighteenth century, this was regarded as the true source of all tumors. Hunter believed that the coagulable lymph possessed the cancerous property. Müller called this coagulable lymph of Hunter, "Blastema," and this term was employed by Rokitanski and other writers until the time of Virchow, when the hypothetical blastema passed finally away to give place to the cell theory of disease, "*omnis cellula e cellula.*" Cohnheim's modification of Virchow's theory is that the only cells capable of originating neoplasms are superfluous cells sequestrated during a very early period of embryonic life. The two theories of to-day as to the origin of neoplasms are based on the cell theory and the germ theory.

That cancer is most frequent about the time of the menopause has been observed by every writer from Hippocrates to the present day. Hippocrates believed that it was due to the suppression of the menses, and tried to reëstablish that function. Hunter observed that the cancerous age was from forty to sixty in both sexes, though it might occur sooner or later; but that when cancer of the breast occurred in a woman under forty its course was more rapid and more extensive than in an older woman; so that operations succeeded better in the latter on this account. He believed that it was the changes incident to the menopause that rendered women more susceptible at that time.

From the time of Paré, it has been observed that cancer is more frequent in women than in men; and that the parts most disposed to cancer are the breasts and uterus.

Parsons (1835) said that the persons most subject to cancer are antiquated maids, next those mothers who have not suckled their children, and least those who have borne children and have suckled them with their own milk. Williams (1898) said that cancer of the breast was almost as frequent in the unmarried and sterile as in those who have had children. While uterine cancer is of more frequent occurrence in the married, and in those who have borne children than in the single and sterile. Subjects who have cancer of the corpus uteri are much less prolific than those with cervical cancer.

The belief in an hereditary predisposition to cancer is older than Hunter. Johnson (1808) said that predisposition to cancer might be hereditary or acquired. That from the frequent occurrence of cancerous affections in different individuals in the same family, especially in the female line, might be deduced one strong argument of their hereditary nature. Parsons (1835) said that the cancerous diathesis is often hereditary is now generally so well understood, that eminent surgeons advise families in which a case of cancer of the breast occurs, to guard the general health of the females at the time of the cancerous age. Cohnheim said that the inheritance had just as often been observed to occur through the paternal as through the maternal side. Paget found carcinoma of the uterus in three generations, mother, grandmother, and daughter. He collected the history of 322 cases with especial reference to this point; of this number there were seventy-eight, or nearly one-fourth who were aware of cancer in other members of their families. Senn says that it is evident that when a tumor is inherited the two essential causes are transmitted from mother to child; first, a matrix of embryonic cells, and second, a lack of resistance on the part of the whole organism, or of the tissues in the immediate vicinity of the matrix, to retard tissue growth.

Parsons believed that the foundation of the disease was laid in a cancerous diathesis, that might evolve cancer spontaneously, though it was often preceded by some slight irritation or injury of the part. But that it was not probable that any such local irritation could assume a cancerous character, where the constitutional diathesis did not exist; yet that it might serve as a nidus, in which the disease would appear sooner than it would have spontaneously, and that it was not impossible that such a diathesis might exist throughout life, but from the absence of such local irritation, or because the diathesis was feeble, it might not be evolved. Rokitanski held that carcinomata were more often associated with a dyscrasia than not, which, he said, in point of fact, often preceded and engendered the cancer.

Climate as an etiological factor in disposing to and preventing cancer has been noted by writers from the time of Hunter to the present. The almost entire absence of cancer in the tropics has always attracted attention. In speaking of this fact, Hunter said, that in the Friendly Islands the women fought for prizes and aimed chiefly at the breast. Johnson considers the disease more frequent and intractable in the cold, northerly regions, than in the temperate zones, while he said that in the southern parts of Europe, it was seldom attended with any considerable danger to life. Dalgetty (1902) said that, in working at Adampore in South Sylhet, he had to deal with an imported laboring class of 12,000 Hindus of all ages, and of a resident population of 15,000 Mussulmen; and that during five years' experience he had only met with eight cases of malignant disease. But he thinks that it is improbable that there is any antagonism between malaria and cancer; as he believes that every case in the above list had suffered from malaria. He adds that the Eastern races do not live to the age at which cancer is most common in Great Britain, but that age is only a relative term, and that a native of India might be an old man at thirty.

Savages are believed to be almost or quite exempt from cancer. It has generally been believed that the laboring class furnished the largest contingent to the whole number of patients suffering from carcinoma; but these statistics were almost exclusively gathered from the records of hospital physicians. A more careful inquiry shows that the reverse comes nearer the truth. M. d'Epine found, in examining the mortality statistics of malignant tumors of the city of Geneva, that among the

well-to-do classes there was from this cause 106 deaths to every 1,000 inhabitants; while the poor only furnished 72 to 1,000. Walsh found that of a million of people of London in ten of the unhealthiest districts, 127 died of malignant tumors; in ten healthier districts 183; and that in ten of the healthiest, 199. From similar statistics gathered in England and Wales, Moore came to the conclusion that cancer became more frequent with the increasing prosperity of the people. In the United States cancer has been on the increase with the progress of of civilization. The mortality was from this cause in 1850, 9 to every 100,000 inhabitants; in 1860 it was 11.79; in 1870, 16; in 1880, 26; in 1890, 33.5.

In the middle of the seventeenth century Zæntus Lusitanus stated his belief that cancer was contagious and cited cases. In 1672 Nicolaus Tulpius, the famous anatomist, was so sure of it, that he stated that an ulcerated cancer was just as contagious as inflammation of the eyes. Juncker (1731) said that successful engrafting necessitated that the infective material should fall on a suitable place where there was already a breach of continuity. In 1773 the Academy of Medicine at Lyons discussed the subject. Cancer was regarded by Hunter as the result of a morbid poison, which either arose spontaneously or was derived from the contagion of similar diseases; he compared cancer to smallpox, syphilis, and tubercle. Carmichael hints at the possibility of the parasitic origin of cancer, it was supposed to originate spontaneously. Johnson gave the experiments which Mr. Nooth made on himself repeatedly during the year 1777, with negative results. Aldis, 1832, said that on the theory that most of the diseases were conveyed into the system through drinking water, it was recommended that only distilled water should be used.

All writers of the present day are agreed that every tumor is benign in its origin; that cancer always begins as a local disease; that once generated, it spreads by infecting its immediate environment; that it is disseminated metastatically by the blood current and the lymph streams, the latter infecting the glands *en route*; the disease becomes constitutional and the well-known cachexia is gradually established by the victim becoming saturated by the toxin of the disease. Another well-known fact to surgeons is the infection of the wound during operations for the removal of cancerous growths. Bland-Sutton says, "In removing the infected organ, the infected lymphatics and blood-vessels stuffed with cancerous material are divided and the cancer cells let loose over the tissues, which they infect, and lead to an extensive outbreak of local cancer."

Still another argument in favor of the theory that cancer is caused by microparasites is the fact that cancer has a selective affinity for epithelial surfaces and particularly for mucous membranes. And those glands that are in most direct communication with the air or intestinal gases are most prone to become infected with cancer—for example, the mamma, rectum, and stomach. From the large percentage of occurrences in the alimentary canal it has been believed that the infective agent might be ingested. The other favorite sites are the organs of reproduction of the species and those for the nutrition of the young. Supposing the infecting microbe to be a habitat in the soil, it has been suggested that the dress of women would favor the frequency with which cancer of the uterus occurs.

Wherever cancer grows luxuriantly and rapidly we find present the chief desiderata for the growth of bacteria, namely, moisture, a suitable nutrient medium, a constant temperature favorable to the growth of bacteria, and the exclusion to light and air. The great frequency of cancer in the cervical endometrium in comparison with its infrequency in the corporeal endometrium, and its extreme rarity in the mucous membrane of the Fallopian tube are facts which favor the parasitic theory of cancer.

The infectiousness of cancer does not seem to be very great. The normal physiological resistance of the tissues is sufficient so long as there is no breach of continuity of structure. When, however, this occurs from prolonged irritation, and especially if at the same time the general health is impaired, vulnerability is induced. In all probability cancer does not arise in sound, healthy tissues. The uterine cervix is rendered vulnerable in the parous woman by lacerations, in the parous, nulliparous, and unmarried woman the cervix is frequently eroded by acrid discharges.

Inflammation is never the sole cause of tumor formation, but it always hastens it, this is especially true of malignant tumors. If a tumor matrix is within the limits of an inflamed area, it suddenly receives an increased blood supply, which alone may be sufficient to arouse it from its dormant condition into active proliferation, at the same time that the inflammation lessens the physiological resistance. The more rapid development of cancer in pregnancy is due to the size of the lymph spaces, and in child-bed is due to the activity of the circulation. In senile women the vessels are narrow and the lymph activity is trifling, consequently the extension of the disease is very slow.

The number of cases of auto-inoculation is very considerable. Ebert collected twenty-three cases of contact cancer, such as lip to lip, tongue to gum, one labium majus to the other, and so forth. He also mentions the case of a woman who inoculated the corner of her eye from a cancer on the back of her hand.

Behla gives a number of instances of cancer *à deux*, quoting the names of the observers. Thus Boas mentions the case of a daughter who inoculated herself with rectal cancer by using the same enema syringe her mother had used during her fatal illness which was of the same nature. Tross reports the case of a man who developed a carcinoma of the glans penis, presenting a structure identical to the cervical carcinoma from which his wife suffered. Thirty other cases of a similar nature were reported. Guelliot has also collected twenty-eight such cases. Brand cites a case from his own practice in which a woman with cancer of the breast was nursed assiduously by an apparently healthy woman of forty-five years of age. This last-named woman died of cancer of the stomach within twelve months of the woman she had nursed. She was in constant attendance, and not being a particularly cleanly person, it is probable she had eaten her food with hands unwashen after dressing an ulcerated sore or handling the dressings. Some accidental inoculations in connection with operations have been reported.

Parks says that the failure to inoculate animals with cancer cultures is no evidence against this theory, we do not know that this can be done in animals by the forms which produce it in man. We know that syphilis and various other diseases are not communicable to animals.

Cancer seems to be chiefly a disease of the temperate zone, and in certain belts of this zone it is most prevalent. The highest death rate from cancer is in districts which lie low and are liable to occasional floodings and characterized by alluvial soil and sub-soil of various clays. On the other hand, cancer is least prevalent in elevated districts where there is a good fall of drainage, freed from floods and

characterized by porous sub-soil, especially the limestone. It is most rampant where the sewage is most difficult to be got rid of, and where it is most likely to be deposited and remain after floodings or high tides on a non-porous sub-soil. This permits and fosters the growth of the microorganisms, and the frequent occurrence of shallow surface wells in such districts suggests an easy and extensive contamination of drinking water. "Cancer houses," and "cancer rooms" in these houses, are reported. In the rural districts of Normandy cancer was found to be three times as prevalent as in Paris. Mason says that the consecutive houses in the same street are often found to be cancer houses, due to their having the same faulty system of drainage. Many such houses have beneath them disused cesspools or decayed brick sewers. A large percentage, 17 per cent., are end houses of rows, or corner houses of streets, where any defect in a drain would be most likely to be severely affected by sewerage. The older houses are more likely to become cancerous than the more modern ones, the drainage system being less perfect.

While the etiology of cancer has occupied the attention of the most eminent men in the medical profession for centuries, the interest in this study has recently been renewed by the bacteriological researches made to prove the microbic origin of this disease. This at least furnishes the best working hypothesis for the discovery of the cure of cancer.

Treatment.—To review the subject of the medical treatment of cancer would be to name almost every drug that has been known from the earliest antiquity to those of the present day. With every new discovery has arisen the hope that here, at last, had been found the specific for the cure of cancer. So it was on Priestly's discovery of carbonic acid gas, and so it was on the latest discovery of radium.

Caustics and escharotics have been used from the earliest times. Surgeons have constantly increased the field of their operations, hoping that by operating in healthy tissue and dissecting out lymphatics, thus wholly to eradicate the disease, and so cure the patient. How futile this has been, the large percentage of recurrences prove.

Electricity has been used in all its forms. The forms now in use are the *x*-rays and the violet rays. By this means it is hoped so powerfully to affect the molecular changes that go on within the cells as to act as a tonic and restorative to the protoplasm itself, to the end that metabolism may be promoted, and the resistance to adverse influences augmented. The immediate effect of this would be to restore the lost equilibrium.

The antitoxin treatment has only been tried to a very limited extent. And just here is the place that the best results must be looked for. Loeffler (1901) quotes Professor Trnka's work, Vienna, 1775, which directs our attention to a new method of treatment for carcinoma, so that we can use malaria as a therapeutic agent. As Gerhardt first, and after him many Italian observers, proved, malaria can be introduced into the system through the injections of the blood of an individual suffering from that disease under the skin, or directly into the blood-vessels of healthy individuals. Through the latest investigations it is known that we can, through the sting of a mosquito that has drawn the parasite of malaria into its body, produce malaria at will, and we can by the aid of quinine control the malaria. It has been noted by various observers that the infective diseases retard the progress of carcinoma. Loeffler strongly urges the experimental use of malarial inoculations for the cure of carcinoma as not only permissible but advisable.

Résumé.—Some of the more striking features of this review of the study of cancer covering the last two hundred years are that (1) cancer is almost totally absent in the tropics; (2) cancer is very rare among savage races; (3) with the advance of civilization, and the increased prosperity of the nations, there has been a steady and marked increase of cancer; (4) this disease is more prevalent among the well-to-do and wealthy than it is among the very poor; (5) it is more common among women than among men; (6) it is a disease par excellence of the climacteric; (7) it is hereditary; and (8) in order for tumors to become malignant a lessened physiological resistance of the local tissues, or of the body in general is necessary.

With our present ignorance of the cause and cure of cancer the first step taken must be in the direction of prophylaxis; when a woman reaches the age of forty she must be placed in the best possible condition for the resistance of this disease, by local treatment, in case there should be any local inflammation, lacerations, or ulcerations; and, secondly, her general health must be looked after, especially as regards diet, exercise, and life in the open air. Should cancer make its appearance, an immediate operation is imperative. If the case when first seen is too far advanced to make operation advisable, or should there be a recurrence of the disease, the *x*-rays and violet rays, combined with serum therapy, offer the greatest hope—at present we can only say of the alleviation of the disease and its sufferings. Based on the absence of cancer in the tropics, and that other well-known fact "that light is capable of killing the tubercle bacillus," to the above treatment should be added that of direct sunlight, which could be secured by adding solariums to our hospitals.

In view of the facts of the great and increasing prevalence of cancer, and the inadequacy of the present surgical resources to cope with it, it is to the renewed clinical study of this disease, which has almost been lost sight of, and to experimental serum therapy that our attention must now be directed to seek the cure for this most terrible and fatal of the diseases of the present day.

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ELECTRICITY IN MEDICINE.*

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In assuming the duties to which you have called me, it seems fitting to say to the members of this association, and especially to those who have but recently become interested in this fascinating field of research, that widely different conditions confront them than confronted those who did the pioneer work of electrotherapeutics.

Then there existed but the rudest constructions for practical work and no instruments of precision. Now we have at our command innumerable gradations and manifestations of electric force, and while yet we know not what electricity is we so understand the laws which govern it that it becomes obedient to our will in innumerable ways. Here, as a part of this wondrous exhibition, we are literally "in the midst of a boundless arsenal filled with all the weapons and engines that man's ingenuity and skill have been able to devise," and we impatiently await the originating genius who shall give to us some fundamental principle that will lift the subject of electricity in medicine to a far higher plane of scientific exactness and efficiency than it has yet attained. I firmly believe that we have in this all-pervading force something that has an inherent potency and promise of development that will render it more nearly a panacea than any other one thing. As yet no approach to any such claim can be made for it. In many ways empiricism still attends its use, and it is still the home of much of ignorance and credulity. But deep within the soul of man lies a "creative spirit which can fashion everything that is destined to exist," and which will some day arouse the world to its vast powers and possibilities in medicine. What part shall we have in this renaissance, in this phenomenal development which is sure to come? What nationalities and what individuals will be foremost in rearing the indestructible structure of an advanced therapeutics? American genius and enterprise, it seems to me, hold a place, all their own, among the peoples of the world, and the derivation of one of our striking characteristics is illustrated in the story regarding the elephant. If a Frenchman, a German, and an Englishman were each asked to write a full description of the elephant—his size, physical structure, habits—in short, the characteristics which differentiate him—their several methods of procedure would be as follows: The Frenchman would gaily repair to the *Jardin des Plantes*, note what he could see of the animal in his environment of captivity and immediately proceed to write his description. The German would repair to his study and, from the depths of his moral consciousness, evolve his idea of the nature of the animal; while the Englishman would immediately fit out a vessel, provision it for a six months' or a year's trip, seek the animal in his native haunts and write his description from an actual practical knowledge. The Englishman is the practical man, and from him the American inherits his genius for practical application.

What we lack, however, in the department of intellectual effort is the attribute of creative power. The man with imagination who is content to wait patiently and draw little by little from the depths of his moral consciousness is the man who evolves ideas that are concerned with principles that are eternal. The kind of thing that he does comes to the world as practically a creation. The American mind is fertile in invention rather than in original conception. The thing created by the more profound and subtle thought of originating genius is taken in hand by inventive genius and put to a score of practical uses. It ingeniously juggles with something the world already has in its possession, and the results are of undoubted value and of wide application, but it does not, like the creative faculty, reveal some hitherto unknown universal law whose discovery constitutes an epoch in the world's history. What it does is more for the day and hour, useful in its time and place, but soon to be superseded by other and higher forms of construction.

The discovery of gravitation, of the power of steam, the discovery of Galvani that gave us the galvanic current, and of Faraday showing that magnetic influence can induce currents in neighboring circuits are veritable creations that have revolutionized life. And so, too, with those recent epoch-making discoveries, along the line of, or kindred to, electric manifestations, the *x*-ray and radium. The discovery of radium was no mere accident, but was the result of patient inductive reasoning, on the basis of the long recognized phenomenon of radioactivity in connection with some form of matter, and is likely to result in a radical reorganization of scientific hypotheses. We are wrong, therefore, when we say that in the realm of science Americans are noted for their originality. The haste which characterizes us as a people. The restless activity which demands at once the thing desired. The development of the perceptive faculties to the detriment of the imagination—all these tend to render the acutely intelligent mind of the American of to-day impatient of delay and averse to prolonged abstract thought. How rare the deep devotion to science and to pure truth!

* Inaugural address delivered at the annual meeting of the American Electrotherapeutic Association, held in St. Louis, September 12 to 17.

How rare the sublime resignation of the immortal Keppler! "Is it much for me," said he in his isolation and extreme need, "that men should accept my discovery? If the Almighty waited six thousand years for one to see what he had made, I may surely wait two hundred for one to understand what I have seen." All this and more is implied in love of wisdom, in genuine seeking of truth, the noblest function that can be appointed for man, but requiring also the noblest man to fulfil it. With mankind in general, however, and especially with our people and this generation, what will most quickly supply the need of the hour is the thing sought, and is pursued with such persistency of effort and with such alert activity that we are called the most inventive of people. Fulton gave us the steamboat, Morse the telegraph, Edison the electric light. In the popular mind these names stand to-day as the highest expression perhaps of original scientific thought. But high as these names stand, and justly as they are honored, they do not represent the highest grade of creative intelligence.

They were great inventors and magnificently solved the need of the time, but the principles with which they worked and out of which they fashioned the details of practical service were not of their creation. Watt is greater than Fulton, Galvani than Morse, Faraday than Edison. Every decade, each year even, witnesses the birth of innumerable inventions, many of which genuinely add to the comfort and progress of the race; but an intellectual creation, the discovery of a principle hitherto absolutely unknown, having in it the promise and potency of innumerable inventions, are so infrequent as to constitute veritable epochs in the world's history. This association is in its way unique. For more than a decade now we have met annually to discuss the relation of electricity to disease.

All other societies, whether of general medicine or some one of its special departments, have to do with many remedies. Herein lies both our strength and our weakness. Our strength, because in focusing our energies and keenest intelligence upon a single point, as it were, it may be possible to as truly illuminate it as does the concentration of the sun rays upon any given point. Our weakness, because in thus concentrating and limiting our efforts we may possibly come to forget that we are physicians first and electrotherapeutists after. The history of therapeutics is a history of blasted hopes. Where one new therapeutic agent has accomplished even a respectable fraction of what was in the beginning claimed for it, a hundred, perhaps, have miserably failed. It is human nature to aspire eagerly to be the first, or among the first, to exploit the new.

In the rush for precedence conservatism is cast to the winds and, instead of waiting for a wider experience before giving expression as to the advantages and limitations of the new agent or method, we too often rush into print with the grossest exaggerations, with statements of therapeutic result that will not for a moment stand the test of a closer analysis. Honesty of purpose and absolute integrity in clinical reports constitute the one great shield and buckler of defence against the false and shallow optimism of the charlatan. Yet it is not enough that we be simply honest. Charlatans, it is true, are not generally honest, yet charlatanism is not inconsistent with personal integrity. The man from whom the writer first obtained his impulse for investigation along these lines was unconsciously a charlatan. His experience was vast; his integrity beyond question; but the basis of his charlatanism was his profound scientific ignorance. He never enunciated an idea, neither did he understand the principles underlying the cures that were wrought. He worked blindly, and honestly believed that his simple, old-fashioned induction coil was equal to all sorts of impossible things, and well illustrated in his life and character the old truth that "the human mind follows the line of least resistance, believes what is easy and for personal interests to believe, and, except after the most careful training, cannot be trusted either to observe or to report its observations with accuracy." Combine, however, honesty of purpose with education and trained powers of observation and we have a lever which is capable of lifting this department of medicine to a plane of unquestioned honor and dignity.

For, say what you will, electrotherapeutics is even yet a *terra incognita* to the vast majority of practitioners of medicine, and is looked upon by many, if not with contempt, with polite and patronizing indifference. Let me urge, therefore, upon the members of this association, that while they abate not one whit their enthusiasm, to see to it that the judicial faculty be not subordinated to impulse and desire. "Be true if you would be believed." Understate rather than overstate, for in so doing the foundations we are now laying will become so strong, each stone in its structure so firmly mortised, that the superstructure will be an enduring monument to our honest and earnest endeavor. Finally, allow me to express an opinion and utter a word of warning. Many years ago a physician said to me, "Why do you not enlarge your peripheries?" If that remark was applicable to one who studied electricity as a whole in its relation to disease, how much more is it to him who studies but a part! To my mind a grave error has been committed by leaders in this special line of work in relegating practically to the "limbo of forgotten things" the electric modalities of Galvani and Faraday. Following their lead, others less distinguished have either abandoned or never attempted the use of those indispensable manifestations of electric force, the galvanic and faradic currents. Elaborate electric paraphernalia, static and high frequency, adorn the consulting rooms of many a physician who is quite ignorant of the fundamental principles on which is based the use of electricity in medicine, and who would be altogether perplexed if asked to differentiate in the use of electric modalities. Valuable as these newer forms of electricity are, they constitute not the whole of electrotherapeutics, and he who fails to study the art of differentiation, and confines his efforts to any one electric modality in response to the popular trend and because of ease of administration, will oftentimes widely miss the mark.

If in this brief presentation I have given expression to views that seem to you too pessimistic and have seemed to speak against a too lively enthusiasm, you will please attribute it to a temperament by nature conservative. In dietetics it is far from necessary for the most perfect health constantly to urge the taking of more food. The natural tendency of the healthy man is to overfeeding rather than underfeeding, which results too often in paralysis and decay. And so, too, in the therapeutic exploitation of new fields. Let once the commercial spirit overmaster the spirit of truth, as night follows day, so surely will our quest degrade rather than elevate the special department to the advancement of which our energies are pledged.

The Sydenham, Madison Avenue and Fifty-eighth Street.

Lichen Planus.—On the theory that from the lack of perspiration the surface of the skin is deprived of a natural acidity, lotions, ointments, and pastes containing boric acid have been tried with very gratifying results.—Eddowes.

THE IDEA OF GROSS CLEANLINESS IN SURGERY, AND ITS HARMFUL RESULTS.*

By ROBERT T. MORRIS,
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Modern surgeons are apt to smile at the term "laudable pus," and yet the earlier surgeons were not so far wrong in their nomenclature after all. Along with the teaching of scientific cleanliness in the schools at present, there is developed the idea that wound discharges in general are unclean, and are to be removed. It is an idea of gross cleanliness that would appeal to one's kitchen maid, if he had the fortune to possess such a maid, and the application of the idea is full of harmful consequences. Trained nurses and the assistants on the hospital staff are so imbued with the idea of keeping wounds clean that it is difficult to teach them the advantages of skilful neglect. Let us consider in detail three classes of cases: Those in which we are to have epithelial repair, those undergoing connective-tissue repair, and cases in which we are to have endothelial repair.

A case representative of the first class would be one of an open incised wound of the arm, with granulation well under way. New hyaline epithelium is shooting out from the epithelial borders rapidly on all sides, but the new cells are so delicate that their area is barely visible to the naked eye. The surface of the wound is bathed in pus. If this pus is wiped away whole rows of young epithelial cells are disarranged, repair is delayed, and nature has to help out with an undue amount of connective tissue, resulting in a larger and harder scar. If the pus is washed away with an antiseptic, the corrosive action of the antiseptic damages the new epithelium. Even if the pus is removed by simply pouring on sterilized water, damage results. This is because water is corrosive, the chief reason for this being that it quickly absorbs salts by exosmosis from the new cells. A ready demonstration of the corrosive action of ordinary water is furnished by putting a couple of drops upon the conjunctiva. The conjunctiva smarts and becomes red, and there is a profuse lacrymal secretion, and several minutes elapsing before the irritation ceases. If we use a physiological salt solution there is no irritation, and new cells would be damaged only by the application of the solution with sufficient force to produce mechanical injury. It may be well to remember, by the way, that the six-tenths of one per cent. salt solution that is in common use is isotonic for frog's blood, but that the nine-tenths of one per cent. solution is isotonic for man.

If we place cotton or gauze ever so gently upon a surface undergoing epithelial repair, the dressing is harmful because new cells are caught in the mesh and torn away when the dressing is changed. A wound undergoing epithelial repair then, is to be carefully protected against cleaning, and it must have some protecting medium like silver foil, Cargile membrane, or Lister's silk between the new cells and the absorbent dressing. There is no objection, to be sure, against keeping the skin in the vicinity of the wound as neat as one pleases.

A case representative of the second class, one undergoing connective-tissue repair, would be furnished by a fecal fistula. Repair is conducted by the heaping up of new connective tissue cells in delicate granulation tissue, and gradual contraction of the wall of the sinus. If we think that the fistula must be kept clean in accordance with the idea of obtaining gross cleanliness, the water that is used may distend the contracting wall. If it is plain sterilized water, or water containing antiseptics, it will corrode the delicate granulations and delay repair. Such a fistula which would close spontaneously in a few weeks, can be kept open for months by conscientious and well-meant attention on the part of physicians and nurses.

Of the third class of cases, in which we are dealing with endothelial repair, an example would be furnished by a case of perforative appendicitis with extensive peritoneal infection; and these cases furnish a pretty large death rate in response to the application of the idea of obtaining gross cleanliness. An active warfare is in progress between the bacteria and the leucocytes. The bacteria are winning. If we open the abdomen quickly, remove the appendix, and do not stop to make too careful cleansing of the peritoneum, the patient retains his natural resistance, the tide of battle is turned, and the endothelium of the peritoneum attends to final cleansing, and to repair of its own defects. If we believe, however, that it is necessary to get the peritoneum as visibly clean as possible by washing and wiping, and by putting in gauze masses for drainage, the patient is deprived of much of his natural resistance by the severity of the surgery, and he cannot quickly manufacture leucocytes and carry on excretion and repair. It is very easy indeed to produce death in such an appendicitis case by conscientious attention, and I believe that more than one of my earlier patients was lost in this way.

It is more or less harmful to one's reputation to avoid giving way to the idea of gross cleanliness, and to employ skilful neglect instead, for such treatment is not generally approved by the nurses or the members of the family, or by many physicians. But the results are so quickly in evidence that one is likely to be impressed by the fact that previously he has been trying all along to do too much.

616 Madison Avenue.

*A paper read at the meeting of the Keuka Lake Medical Association.

TRAUMATIC APOPLEXY.

By PEARCE BAILEY, M.D.,
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It is the purpose of this paper to call attention to certain post-traumatic apoplexies which are essentially different from the hemorrhages in the membranes, or in the brain substance which are the immediate and direct results of laceration. For the occurrence of spontaneous apoplexy, pre-existing vascular disease is essential. A mere increase in blood pressure does not cause normal arteries to rupture. When apoplexy occurs, therefore, degeneration in the cerebral arteries is assumed. In how far injuries contribute to such degeneration is a vexed question, and one difficult to decide. The general causes of such degeneration, which is of slow course, are subtle and manifold. Advancing age, all chronic diseases, syphilis, some general infections (typhoid fever), and many poisons (lead, alcohol, and tobacco) contribute to this end. Psychic causes, such as grief, worry, excitement, are also important. With all these factors to be considered, it is well-nigh impossible to determine what place, if any, should be assigned to traumatic causes acting years before. Yet trauma to the head is frequently advanced as a cause. It has also been maintained (Bernhardt & Kronthal, *Neurologisches Zentralblatt*, No. 4, 1890) that general injuries which at first give the symptoms of traumatic neurasthenia result in progressive cerebral endarteritis.

After many accidents, factors in arterial degeneration are called into play, for which the accident is only indirectly responsible. For, apart from the physical effects on the nervous system.

the patient is liable to become the victim of various psychic symptoms, to which such accidents often lead. In addition, and this is especially true in the laboring classes, the patient is apt to be idle. As always, idleness means less exercise, less fresh air, less concentrated effort, and more alcohol, and more tobacco—all factors in the production of arteriosclerosis. Consequently trauma, if a cause of chronic arteriosclerosis, acts in more ways than one.

But there are three varieties of vascular disturbance occurring after injuries to the head in which the connection between cause and effect is close and indisputable. These are (1) apoplexy, occurring simultaneously with the injury; (2) apoplexy occurring shortly after the injury; (3) apoplectiform symptoms occurring a long time after the injury.

1. *Apoplexy occurring simultaneously with the injury.*—In these cases, rare, but of great medico-legal importance, the patient, immediately after a blow on the head, develops the symptoms of a hemorrhage of the internal parts of the brain. Usually the blow is not severe, and all evidences of injury to the scalp or skull may be wanting. The symptoms are those of spotaneous apoplexy, and may be quickly fatal. Or there may be hemiplegia involving arm, leg, and face, with more or less recovery. Such hemiplegia is more complete than in traumatic cases, and the evidences of irritation, and the symptoms of concussion are wanting. In addition, unmistakable signs of general vascular degeneration are present. In a recent case the patient was struck on the head in a street brawl. He became momentarily unconscious, and completely hemiplegic. Examination, a few days later, showed left hemiplegia, complete restoration of psychic function, no general brain symptoms, but a well-marked arteriosclerosis of the peripheral arteries, and an hypertrophied heart with a systolic murmur at the apex.

The explanation of these cases consists in a pre-existing weakness, by miliary aneurysms or otherwise, of the walls of the cerebral arteries, which, when subjected to a sudden rise in blood pressure, give way. It is possible that the rise in blood pressure is due to the mechanical effect of the blow. But in many cases attendant circumstances leave little doubt that the psychic factors of fright and excitement were the most active causes in the blood pressure increase of the consequent extravasation.

2. *Apoplexy occurring shortly after the injury.*—(Traumatische spät Apoplexie). This condition, described by Bollinger ("Virchow's Festschrift," Berlin, 1891), comes on a few days or weeks after a head injury. The hemorrhage, which is fatal, takes place in the neighborhood of the fourth ventricle and the aqueduct of Sylvius. Bollinger maintains that the hemorrhage is preceded by local softening, which in turn has been caused by unequal pressure of the cerebrospinal fluid. This latter hypothesis remains to be proved for all cases.

The injury is invariably to the head. It may, or may not, cause unconsciousness. In any event the patient recovers, and is able to return to work. A considerable proportion of the cases have been in young persons. After a few days or weeks there begins headache, somnolence, and coma, with paralysis of the extremities, or of the cranial nerves, or, after the same period of freedom, an apopletic stroke may occur without any warning. Since the introduction of the term of traumatic late apoplexy, many cases have been described which the term originally was not intended to include. Such, for example, are cases of ordinary hemorrhage, secondary to laceration, and cases in which the blow or the shock attending it caused the rupture of preëxisting miliary aneurysms. These are not examples of *late* apoplexy. Also a variety of peculiar and non-fatal symptoms, such as attacks of somnolence, of stupor, of cranial nerve palsies, etc., are placed in this rubric, though that they should be here is a question of doubt.

3. *Apoplectiform symptoms occurring long after injury.*—The symptoms in this class point to a slow increase in vascular occlusion in parts long before the seats of traumatic insults, and are those of slow thrombosis. It is generally seen in cases of fracture of the skull, with extensive laceration of the brain. The increase in symptoms begins after a lapse of many years. The following cases illustrate the condition:

A man (reported by English, *Lancet*, 1904 sustained a compound depressed fracture of the vertex by being hit by a brick in 1861. The left leg was paralyzed, but recovered in a few weeks. Ten years later the leg again became weak, and finally almost completely paralyzed. The arm, also, lost considerable power, and the intellect became blunted.

Frost (*American Journal of Insanity*, 1903) reports the case of a man, who, twenty-six years after a compound fracture of the skull, with extensive loss of substance, slowly developed paralytic symptoms in the limbs of the opposite side. The autopsy showed general degeneration in the cerebral arteries, but more marked on the affected side of the brain. In this region, also, the brain showed cavities, the results of small areas of softening.

In conclusion, it need hardly be said, that these cases which have been mentioned are chiefly interesting from the standpoint of pathology and medical jurisprudence.

52 West Fifty-third Street.

THE INDICATIONS FOR SURGICAL INTERVENTION IN CHRONIC GASTRIC ULCER.*

By FRANK H. MURDOCH, M.D.,
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Fenwick, in his work on "Ulcer of the Stomach and Duodenum," has pointed out very clearly the anatomical and pathological distinctions between the acute and chronic forms of gastric ulceration. Acute ulcers, he says, are most common between the ages of fifteen and twenty-five; and occur more frequently in women than in men in the proportion of 10 to 1. Chronic ulcers rarely occur before the age of thirty and are more common in men than in women. In acute ulcer hemorrhage occurs as a first symptom in 75 per cent. of all cases; and perforation as a first symptom in 3 per cent. In chronic ulcer hemorrhage never occurs as a first symptom; but is most common between the first and fifth year of the disease. Immediately fatal hemorrhage occurs in only 3 to 5 per cent.; and perforation in 7 per cent. Acute ulcers are found most frequently along the upper margin of the stomach between the cardiac and the pylorus, and are multiple in 54 per cent.; whereas 76 per cent. of chronic ulcers are found at the pylorus on its posterior wall; and are solitary in 87 per cent.

Acute ulcers, as was long ago pointed out by Rokitansky, are punched out, and have a tendency to heal rapidly, leaving a small cicatrix. Chronic ulcers are apt to be funnel-shaped, and in healing are likely to cause cicatricial contractions and deformity.

*Read at a meeting of the Pittsburg Academy of Medicine.

The principal forms of chronic ulcer, according to Fenwick, are the following:

1. The gastralgic form, characterized by attacks of severe pain, resembling biliary colic.

2. The catarrhal or vomiting form, which may be confounded with acute gastric catarrh, hysteria, or uncontrollable vomiting of pregnancy.

3. The dyspeptic form, which must be distinguished from chronic gastritis and nervous dyspepsia.

4. The hemorrhagic form, which may be confounded with cirrhosis of the liver and thoracic aneurysm, in both of which diseases hæmatemesis may occur.

5. The cachectic form, characterized by emaciation, debility, and cachexia; so that it may be difficult to distinguish it from cancer or pernicious anæmia.

Leaving out of the question the sequelæ of chronic gastric ulcer, such as benign stenosis of the pylorus, hour-glass contraction of the stomach, perigastric abscess, etc., the indications for surigeal intervention and perforation and hemorrhage. Hemorrhage in acute ulcer is a common occurrence; but it seldom recurs because the edges of the sore are soft and yielding, the wounded vessel readily contracts, the bleeding ceases spontaneously and in a few weeks the ulcer heals.

Hemorrhage in chronic ulcer occurs in only about 18 per cent. of all cases; but when it does occur it is a much more serious matter than in the acute form of the disease, for the reason that the edges of the sore are fibrous and unyielding; the wounded vessel lies like a rigid pipe in the wall of the ulcer, and not being able to contract, the bleeding can only be stopped by a process of clotting. Here hemorrhage is very apt to recur either from insufficient clotting in the first place or from displacement of the thrombus (Fenwick). Therefore when hemorrhage occurs in chronic ulcer operation should not be too long delayed, as the bleeding is likely to recur again and again, at shorter or longer intervals, and will, without surgical interference, often result in the death of the patient. When perforation occurs an operation should be performed as soon as possible. Recently well-known English and American surgeons have advocated operation for the cure of the ulcer itself. Many heard the statement made by an eminent American surgeon in a very able paper read before this Academy in January, 1904, that Leube and Cramer in the treatment of chronic ulcer of the stomach advise washing the stomach out every day for four weeks, meantime feeding the patient by the bowel: and if at the end of that time there is no improvement they propose gastroenterostomy. Cramer[1] advocates this treatment in benign stenosis of the pylorus but not in ulcer. "In such cases"—that is, in dilatation of the stomach from benign stenosis of the pylorus—he says, "operation should be early advised, especially in the high degrees of stenosis, so that they do not lose too much time by internal treatment. If after four weeks of rational diet and gastric lavage no improvement is manifest, then do I in every case propose operation." Then he goes on to say that one has peculiar experiences. "I had," he says, "a man under treatment who had a stenosis of the pylorus from ulcer, and also a large secondary dilatation of the stomach. A rest cure of three weeks' duration brought about such a degree of improvement that we decided to at least defer the operation."

Schleip was the first to recommend washing out the stomach as a therapeutic measure in gastric ulcer. Leube, however, objected to this method on the ground that the sound might easily come in direct contact with the ulcerated portion of the stomach wall, and in this way lead to perforation or hemorrhage. Reigel[2] writes as follows: "I do not think that ulcer *per se* calls for treatment by the sound, as long as complications or sequelæ are absent. I consider this method of treatment altogether useless, and believe, moreover, that it may be dangerous under certain circumstances. In uncomplicated ulcer digestion proceeds in an altogether normal manner, as a matter of fact more rapidly than normal, chiefly owing to the condition of hyperchlorhydria that usually exists. Stagnation of food remnants therefore does not occur. Those who think it is necessary therefore to remove all acid from the stomach are wrong; all that is needed is to reduce the excess of acid. I do not see what good lavage of the stomach would accomplish under these conditions, for we usually remove the stomach contents either because there is decomposition or prolonged stagnation. In simple ulcer neither of these states exist."

Being unable to find in any publication that Leube recommends operation in all cases of gastric ulcer, if lavage and rectal feeding do not cure the patient in four weeks, I wrote to him in regard to the matter and he did me the great kindness to reply as follows: "The surgeon referred to probably meant that I consider an operation advisable if the ulcer is bleeding, and if this condition keeps on for weeks. If the patient has a bleeding ulcer I feed him by the bowel while the ulcer is bleeding, if the ulcer is not bleeding, usually not, or in any case only during the first three days of treatment. On the other hand I do not use the tube, or at least only in such cases in which there is heavy vomiting, and when I am fearing for the patient more from the vomiting than from using the stomach tube. The latter case, however, is very rare." In regard to operation for the cure of chronic gastric ulcer, Mansell Moullin[3] says, "I maintain that every chronic ulcer of the stomach that persists and causes serious pain and vomiting in spite of one thorough trial of the ordinary method of treatment should be exposed, examined, and treated surgically." Now what constitutes one thorough trial of the ordinary method of treatment? It usually means the Leube-Ziemssen rest cure, which extends over a period of from four to six weeks, and, while well adapted to the treatment of acute gastric ulcer, is not adequate for the cure of the chronic form of the disease, for the reason that it does not extend over a sufficiently long period of time. Fenwick says all clinical experience tends to show that even under the most favorable circumstances the disease requires many months for its cure, and that the mere subsidence of pain and vomiting is no proof that cicatrization has taken place. He divides the period of treatment into four stages: The first period lasts for two or three weeks, during which the patient remains in bed and has of course only liquid food. The second period lasts from the end of the second or third week to the end of the second month; during which time he advises rest if possible, the liquid food to be continued, with the addition to the milk of ground rice, flour, powdered biscuit or tapioca, clear soups, and expressed beef juice. The third period extends from the beginning of the third to the end of the sixth month. Although milk continues to constitute the staple diet, the patient may be permitted to have bread and milk, bread and butter, poached eggs, scraped and pounded raw meats, chicken cream, and broiled white fish, which has passed through a sieve. The fourth and final period should extend from the sixth to the twelfth

or eighteenth month, according to the severity of the case. During this time the diet is gradually increased until at its termination there are only a few articles which have to be prohibited. Milk then, according to this author, should constitute the chief articles of food for the first six months in the treatment of chronic gastric ulcer; and the diet should be carefully regulated for twelve months longer, making the total period a year and a half, during which the patient is restricted to those articles of food which are not difficult of digestion.

My own habit has been not to confine all patients to a liquid diet for a given length of time; but to be guided by the symptoms in each individual case. Some patients may be allowed solid food in two or three months, others not for five or six months, and two of my patients were obliged to live on liquid food for nine months. There is no danger, however, in continuing liquid food too long, the danger is in beginning solid food too soon. In regard to permanency or cure in chronic gastric ulcer under medical treatment, so far as I have been able to learn, in only two out of thirty-two cases which I have reported have the patients suffered from a recurrence of the ulcer. One of these was a man of intemperate habits; and the other was a domestic who would not follow instructions in regard to diet. Within two months past I have seen three of the patients who were treated in 1888-9, and have heard directly from two others; these are all enjoying excellent health, and do not suffer from any form of stomach trouble whatever.

In regard to the prognosis in chronic gastric ulcer under medical treatment, Lebert places the mortality at 8 per cent., Rosenheim at 20 per cent., but Leube found the mortality in 556 cases to be only 2.4 per cent. Fenwick observes that when the disease is taken in hand at an early stage and properly treated, the mortality does not exceed 4 per cent. On the other hand Haberkant found the mortality in gastroenterostomy for ulcer to be 25.5 per cent. Keorte, reported by Cramer, had seven deaths in twenty-eight operations, a mortality of 25 per cent. Rogers[4] says the mortality from gastroenterostomy now stands between 15 and 30 per cent., as given in the majority of statistics. Einhorn[5] states that among his own patients the death rate (from gastroenterostomy) has been nearly or quite 25 per cent., and Mitchell[6] reports six gastroenterostomies for benign stenosis of the pylorus with three deaths, a mortality of 50 per cent. Three of my own patients, and three others seen in consultation, have been operated upon in Mercy Hospital with one death, a mortality of 16.2 per cent. It is a well-established fact, therefore, that the mortality from gastroenterostomy is higher than the mortality from chronic gastric ulcer, when the patients have the benefit of proper medical treatment. As to the frequency with which stenosis of the pylorus follows chronic ulcer, Brinton computed that severe stenosis occurs in one out of 200 cases; and Fenwick believes the pylorus becomes partially obstructed in 16 to 20 per cent., when the ulcer is situated in its vicinity, but that in only about 2 per cent. of these is the stenosis extreme. In view, therefore, of the comparative infrequency of hemorrhage and perforation, which are the most common complications of chronic gastric ulcer, and of stenosis of the pylorus, which is its most common sequela requiring operation; and taking into consideration the high percentage of deaths from gastroenterostomy, and the low rate of mortality attending chronic ulcer of the stomach, it would certainly seem to be the part of wisdom to avoid surgical procedures as long as possible; and to resort to operation only when the indications for doing so are perfectly clear. What these indications are, has been pointed out by Deaver[7] in an article published in February, 1904, and so may be regarded as the latest authoritative statement on the subject. He does not advocate gastroenterostomy for the cure of the ulcer, but only for its complications or sequelæ. He says: "The one great indication for gastroenterostomy is found in all lesions of the stomach when the contents of the latter are not evacuated; whether this is due to a malignant or benign obstruction, an inflamed or ulcerated pylorus, or atony of the gastric muscle; the retained stomach contents must be provided for by an anastomotic opening."

In cases of stenosis of the pylorus when the stomach cannot empty itself of solid food, liquid diet should be tried. If this readily passes through the pyloric opening, and the patient can with comfort take sufficient nourishment to maintain him in a condition of health; and if he is willing to live on liquid food for an indefinite period, surgical intervention is not indicated, for should the stenosis ever reach such a high degree as to prevent the passage even of liquids, an operation can be done at any time; and it should then be done at once, as the only means of saving the life of the patient.

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PECULIAR NERVOUS SYMPTOMS FOLLOWING OPERATION.*

By W. R. BLAILOCK, M.D.,
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THE patient, an unmarried woman, aged twenty-two years, of large frame, rather fleshy, weight 180 lbs., a liberal eater; often constipated. Father was an invalid for several years, perhaps had tuberculosis, finally suffering an aberration of mind, wandering into a forest and dying alone. A paternal aunt had an attack of incipient insanity but recovered and is now quite well. Patient has a brother and two sisters who are in good health, except one sister who suffers considerably at her monthly periods. Up to the age of twenty years the patient enjoyed good health, but at this time the monthly flow became excessive, growing worse month by month until it became almost continuous. I saw her in October, 1903, when she had been in her room several weeks. Every time she took exercise hemorrhage followed. On examination the uterus was found slightly enlarged and immovable, the depth being three inches. A slight enlargement of the right ovary and tube could be detected, and marked tenderness but no enlargement of the left ovary. Curettage was done, but the amount of diseased endometrium was quite insignificant. Pure creoline was applied to the endometrium, and in a few days all discharge ceased. For two months there was no recurrence, and when the discharge did return it was a normal menstruation lasting about six days. In February, 1904, she had a hemorrhage which was continuous up to March 14, 1904, at which time she returned for further treatment. On examination the ovaries and tubes were found in the same condition as at the

*Read before the McLennan County (Texas) Medical Association.

previous examination, but the depth of the uterus was only two inches. Weight had not diminished; appetite good; bowels constipated. A uterine sedative was given, and cascara to correct constipation. Scanty diet and active exercise were advised to reduce flesh. For two weeks there was no discharge; she felt well and was preparing to return home when another hemorrhage worse than any previous one came on. She now gave up all hope of getting well without an operation, and asked me to do whatever was necessary. On March 31, thinking her condition favorable after the most rigid precautions to secure asepsis. I did, or rather attempted, a curettage, the cavity being too small to admit of a satisfactory operation such as I had previously made. I wore rubber gloves which had been previously washed with potash soap, boiled, soaked twenty-four hours in 1 to 250 bichloride solution, then kept in 1 to 1000 bichloride solution.

After the curettage the gloves were removed and my hands, which had been previously sterilized, were washed in hot salt solution. (A full description of the sterilization of the gloves is given because they had previously been used with a septic case.)

A median incision was made about four inches in length between the umbilicus and symphysis. The abdominal wall, mostly fat, was nearly three inches thick. After breaking up some adhesions I found the fundus of the uterus wedged in under the bladder; on following the tube on the right side, which was perceptibly enlarged, I found a cyst, between a turkey's egg and a hen's egg in size, occupying the site of the ovary. After protecting with gauze pads, an effort was made to bring the cyst up into the incision, but owing to adhesions this failed. In breaking up these adhesions the cyst ruptured, but its contents were caught on the gauze pads and removed. The specimen shows the rupture in the cyst and also the tube with some smaller intraligamentary cysts lying along its course. It will be seen that the tube is enlarged. Passing the finger along the left tube, which was not enlarged, a small indurated mass was found which felt more like a pebble than an ovary; it proved to be the left ovary, and it was removed and is shown in photograph. There was very little loss of blood, and as I had the best assurance that the operative field was aseptic, I did not use drainage.

During the operation, which lasted one hour, including curettage, less than one ounce of chloroform was used. Before the patient was removed from operating table she vomited bile, and this was kept up at intervals of two or three hours. Four ounces of salt solution were thrown into the rectum every four hours, and on the second day a cup of warm water was given by the stomach to clean it out. The kidneys acted freely; forty-eight hours after operation three grains of calomel in powder were given. Vomiting continued, but she retained most of the calomel. Fifty-six hours after operation an enema of nearly one gallon of warm soapsuds was given; a very fair action was secured. Vomiting continued, the color of the vomit had changed from a dark green to a chocolate brown; a heaping tablespoonful of sulphate of magnesia in a glass of water was given; this was only in part retained, but a good through action was secured.

Three times each day $\frac{1}{30}$ grain of strychnine was given hypodermically and one dose of $\frac{1}{6}$ grain of morphine, on the night following operation. After the bowels acted, chicken essence with liquid peptonoids were given by rectum; water in small quantities by mouth was tried but badly borne. The pulse at first was 105, came down to 90, and on the second day was 85; temperature during the first twenty-four hours reached 101°, but came down to 99.5°; skin color good, abdomen soft on both sides, no gas in bowels.

Posterior aspect of the right ovary, tube, a portion of the broad ligament, and a small indurated left ovary; A, right tube cut near cornu of uterus; B, small intraligamentary cyst; C, cotyledon-like process with small cyst on end; D, tumor involving the entire right ovary; E, rupture made in cyst while attempting its removal; F, sclerosed left ovary, the part below the tranverse fissure giving the sensation to touch as stone.

Seventy-two hours after operation the patient, who had been reasonably cheerful, said she was going to die, and there were slight twitchings, not confined to any special muscles. Three hours afterward she went into a state of unconsciousness, the right leg and arm were extended, the left was drawn up, the pupils were normal, jaws locked, the masseter muscles being very hard; the under lip was caught between the teeth several times and bitten; it was very difficult to separate teeth. When she was allowed to be perfectly quiet for a while the lower jaw would drop, the masseter being relaxed, but as soon as she was touched a violent closure of the jaws would take place. The conjunctivæ were getting yellow, having been white up to this time; pulse 86, temperature 99°. The dressing was removed and wound found in excellent condition, union by first intention was assured. There was no rigidity of the recti or any of

the abdominal muscles; respirations 18 per minute, full and deep, with occasional sighing and gaping. Vomiting less frequent, but vomited matter still dark to black. Eighty-five hours after the operation the pulse rose to 130 beats per minute, patient was very restless, but still lying on her right side, jaws locked, skin becoming yellow, kidneys not acting freely, urine high colored and had to be drawn, reaction acid, specific gravity 1024, urea 2½ per cent., no albumin, sugar, nor bile. Culture of both blood and urine were made on glycerin agar and blood serum at this period, the result of which will be given later on. A blood count showed 3,950,000 red blood globules per c.mm. and 1 white to 400 red, or 9875 per c.mm. Fresh blood stains showed no parasites or any other pathological condition. As the rectum had become intolerant of fluid and as none could be given by mouth, I resorted to hypodermoclysis, using 1½ pints of physiological salt solution; after which the pulse came down in the course of six hours to 105 beats per minute. Hypodermics of the salt solution were given each day for four days, except one day it was used twice. Each time after it was used she became quiet. As soon as the rectum would bear it, concentrated food was given, and often one or two tablespoonfuls of whiskey added; an occasional dose of 5 grains of chloral was also added. Once a day, at night, $\frac{1}{60}$ grain of strychnine and $\frac{1}{20}$ grain of morphine were given hypodermically, which kept her quiet. On the eighth day after the operation she regained consciousness and began to take water and food by the mouth; pulse 65, temperature 98.5°, tongue clean, eyes still yellow, skin cleared up, bowels and kidneys acting well. The blood cultures gave negative results, the urine only bacteria. Sutures were removed on the tenth day and union found perfect. The only thing to mar the smooth course of convalescence was an abcess of the left gluteal region where the salt solution had been injected. The first pus from this abscess was very dark, almost black. The water and salt were sterilized each time in an Arnold sterilizer, except once plain boiled water with salt added before boiling was used.

The patient was never hysterical, with one exception, and never had had any disturbance of the mind except that already stated. The exception was during the month of January, 1902. She was teaching, and has a very faint remembrance of what transpired for one week. The temperature was never above 101° and only that high for a short time; the abdomen was never typanitic or tender; the incision healed perfectly by first intention. Careful cultures of the blood and urine in forth-eight hours at body temperature gave bacteria for urine, nothing for blood; at the expiration of six days the results were the same. On the fourteenth day a colony of staphylococcus pyogenes aureus on the serum from blood, and of staphylococcus citreus on serum from urine. Just how long these colonies of staphylococci required for development is not known; the cultures were all kept at body temperature for forty-eight hours, after which they were kept in a warm room.

Was this a case of sepsis? In the septic cases that I have seen there is high temperature and a greater acceleration of pulse than in this case, besides in this class of cases, if septic, rigidity of abdominal muscles, tympany, quick and irregular pulse, high temperature, scanty and high colored urine are apt to occur. The early and persistent vomiting is, however, present in sepsis to a great extent. If streptococci, or bacilli of any kind, were in the blood they did not develop under the most favorable conditions, to wit: glycerin agar and blood serum at body temperature. The urine gave bacteria just as any healthy urine would. The blood count proportion of white to red blood cells, the character of the cells, and lastly (a fact which has not yet been mentioned) the percentage of hæmoglobin, which was above 90 per cent. on the tenth day after operation, did not indicate blood disintegration. I think, notwithstanding the two weeks of preparatory treatment, the liver was loaded with bile, which excited vomiting, the frequent repetition of which caused passive hyperæmia in the brain, resulting after three full days in extension of one arm and leg, contraction of the other arm and leg, and contraction of the masseters with unconciousness but not sufficient to produce coma.

The administration of salt solution, the daily dose of strychnine with $\frac{1}{20}$ grain of morphine, the injection of whiskey into the rectum, with concentrated food, were all designed to secure and maintain a steady and uniform heart action, thus preventing further stasis in the brain. Small doses of chloral by rectum, to secure quiet in the intervals between hypodermics of salt solution and of strychnine and morphine were given once a day. The mind now, nineteen days after the operation, is perfectly clear, all discharge from the uterus has ceased, and the patient is sitting up part of every day; the eyes have fully cleared up and she feels perfectly well. Perhaps if a calomel purge had been given during the preparatory treatment and phosphate of sodium given three times a day for a week, she would have done better.

What, if any, influence inherited tendency to brain disease had I do not know, but it seems reasonable to suppose that it was a factor. The complete and almost sudden return of the mental functions and the restoration of symmetry in the limbs are conclusive to me that no rupture of vessels occurred in the brain.

Note.—May 9, the patient is perfectly well, has no vaginal discharge, the mind is clear. She wears an abdominal bandage and goes around her home at will.

SOME THOUGHTS CONCERNING TWO RECENT CASES OF ECTOPIC GESTATION.*

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It is a curious experience with me to meet ectopic gestation in groups of cases. Thus months may elapse without a case of this kind coming my way and then, two, three, or more will appear in rapid succession. So fascinating to me is the subject, that although I have now a list of over forty cases operated on by myself, each new one seems to present something of fresh interest. Hence, I take the liberty of submitting to-night the histories of two cases, which I saw within forty-eight hours of each other, about a month ago, and which have given me fresh food for thought.

Case I.—The patient walked into my office on March 16, 1904, with a request from a physician to take her into my service at the hospital and perform a curettage. She gave the following history: Mrs. J. S. Russian, æt. twenty-four, married seven years, one child six years ago. Five years ago she was curetted for metrorrhagia. Her husband came to this country three years ago and she followed nine months later.

Her menses were fairly regular, but always showed a slight tendency toward delay. Her last menstrual period was delayed longer than usual—namely, for three weeks. One month previously (after an absence of her menses for seven weeks) she began to suffer from uterine bleedings, which

*Read at a meeting of the Society of Alumin of Bellevue Hospital, May 4, 1904.

continued down to the time of her visit. The losses of blood were very considerable. Two weeks previously she had had an attack of violent abdominal pain for which a physician was called. During the attack she felt weak, but did not faint. When the doctor arrived she felt better. No hypodermic medication was necessary, and the doctor simply prescribed some pills without venturing an opinion as to the nature of the ailment. The pains at this time were general, but kept on in a mild degree, and were located mostly on the left side. A week previously a small bit of tissue was expelled from the vagina which did not seem to resemble the usual blood-clots.

The pelvic examination of this woman revealed a small anteflexed uterus deflected to the right and connected along its left border with a soft, moderately sensitive tumor, the size of a hen's egg.

The diagnosis of unruptured ectopic gestation with a tendency to tubal abortion was made and the patient frankly told that a curettage would not be done. She consented to submit the entire operative progam to my wishes.

On March 18, 1904, under anæsthesia, the uterine interior was explored with a sound and curette and found to be about normal in size and entirely empty. An abdominal incision was then made along the outer border of the left rectus muscle, and (after drawing the muscle inward toward the median line a distance of a half inch or so) the peritoneal cavity was opened. The unruptured tubal sac, with its corresponding ovary, was removed—the few adhesions due to a recent peritonitis being readily separated. There were not more than a half dozen small black clots and no free blood in the peritoneal cavity. The right adnexa were not enlarged but were so firmly bound down by old adhesions that it was thought best to leave them undisturbed. The patient reacted beautifully after the operation. Examination of the tumor showed the fimbriated end to have been completely obliterated. The specimen shows an unruptured tube with its contents intact.

In reviewing this case we note the following similarities to the usually accepted symptoms and history of ectopic gestation.

1. The six years of sterility succeeding the birth of her first child.

2. The preëxisting pelvic disease which required a curettage five years previously.

3. The suspension of menstruation for a period of seven weeks.

4. The succeeding uterine bleedings during an entire month.

5. The attack of general abdominal cramps suggesting a beginning tubal abortion and accounting for the black clots found in the peritoneal cavity at the time of operation.

6. The tendency to syncope during this attack.

7. The localization of the pain for the most part in the left pelvis.

8. The discharge of probably decidual tissue a week previous to operation.

With these symptoms and facts tabulated there could be little fear, in connection with a soft unilateral pelvic tumor, of risking the diagnosis of ectopic gestation. And still one of the best general practitioners in this city overlooked the condition, and for three reasons: (1) because it did not occur to him to think of ectopic gestation in this individual case; (2) because, for certain unknown reasons, he was unable at the time to map out the pelvic tumor; (3) because of the fact that, with the exception of one or two days, this patient was not confined to bed and suffered so little that she came to the doctor's office for treatment as an ambulant patient. In other words, the case was so mild and the patient presented so few symptoms that so serious a condition as ectopic gestation was not even suspected.

Case II.—On March 18, 1900, I was requested by a colleague to examine Mrs. H. S., thirty-nine years old. She gave a history of having been married twice—three years to her second husband—but of never having conceived. During eleven years she had been a widow.

At thirteen she began to menstruate. For a year previously she had been somewhat irregular, so that it was not unusual for the period to be delayed a few days or weeks. Her last menstruation was one week overdue, but this attracted no especial attention. Two weeks previously she was taken with abdominal cramps and bleeding from the vagina, which lasted thirteen days. She had no fainting spells. The bleeding had ceased nine days previous to her operation.

When I saw her in consultation at her home she had been confined to bed for several days and had had a temperature of 101.5° F. (rectal) with a pulse of 88. There was no suggestion of acute anæmia about her skin or mucous membranes. The face was drawn and anxious. She complained of intense general abdominal pains. The abdomen presented the characteristic appearances of acute general peritonitis. Tympanites was excessive and the entire abdominal surface up to the costal arch was exquisitely tender. A local vaginal examination revealed a doughy mass behind the uterus.

The differentiation between a general peritonitis dependent on an old pus-tube suddenly ruptured and one dependent on an ectopic gestation could not be made without the aid of an aspirating needle introduced into the retrouterine mass. The doctor declined to resort to this procedure and preferred to turn the woman over to my care at the hospital.

Fortunately, perhaps, for the patient there was a delay of two days in getting her admitted to the overcrowded hospital, and when she got there I found that there was a marked subsidence of the tympanites and tenderness over the abdomen although the mass in Douglas's cul-de-sac was still quite clearly present. Her temperature was normal and she was fairly comfortable. Under the circumstances I decided to wait and get away a little further from the general peritonitic manifestations. After three or four days I decided to operate.

Under anæsthesia I passed an aspirating needle into the now clearly fluctuating mass behind the uterus and drew off dark liquid blood. Her position was now changed to that of Trendelenburg and a laparotomy was done. The intestine was very much inflated and there were numerous adhesions between the omentum and the pelvic structures. There was no free blood in the peritoneal cavity. After slow and tedious work it was possible to get the intestines and omentum sufficiently out of the way to inspect and palpate the pelvic organs. The uterus was small. The right adnexa were not enlarged and were buried in old adhesions which could not readily be separated. On the left side a tumor, apparently the size of a baseball, was felt dipping down to the depths of the cul-de-sac of Douglas. By the sense of touch the mass was gently separated from its surroundings and found to be the distended left tube arching behind the uterus. At its lower border was an hæmatocele which was ruptured in removing the tube, its contents (a certain amount of black blood and clots) escaping. The tumor was clamped off at its uterine and pelvic attachments and removed. The specimen consisted of the tube filled with blood, and showed a raw area on its

lower surface which had evidently been the seat of a rupture and had produced a shut-off intraperitoneal collection of blood (hæmatocele) in Douglas's cul-de-sac. After the usual intraperitoneal toilet the wound in the abdominal wall was closed without drainage. This patient also made an uninterrupted recovery.

The case is instructive as showing a woman who had been married twenty-two years previously and who had never conceived until the third year of her marriage to her second husband. She had then become pregnant in a diseased tube which had ruptured at an early period of gestation. The differentiation from a pelvic abscess was only possible in this case by means of the hypodermic needle. I am satisfied that the peritonitic manifestations in this case—had the diagnosis of ectopic gestation been possible at once—would have led most gynecologists to infer that there was free hemorrhage going on in the general peritoneal cavity and no delay in operating would have been tolerated. As a matter of fact there was no free intraperitoneal hemorrhage going on in this case, and the delay of a number of days made all the difference between operating in the presence of acute peritonitis and of operating after the immediate manifestations of peritonitic irritation had subsided.

The two specimens bring up a few further reflections concerning the subjects of unruptured tubal pregnancy, tubal abortion, and ruptured tubal pregnancy.

The specimen of unruptured tubal pregnancy shows that the fimbriated end of the tube being totally occluded and the ovum continuing to grow there, the case could have had but one termination, and that is rupture of the thinned wall of the tube with the probability of a fatal result.

This rupture of the tube after occlusion of the fimbriated end is shown to have actually occurred in the second specimen. Fortunately for the patient, the rupture occurred on the lower surface of the tube, and the collection of blood was rapidly walled off by peritonitic adhesions and shut off in Douglas' cul-de-sac. This patient might have died from the same accident had the rupture taken place from the upper or lateral portions of the tube instead of its under surface. As a matter of fact she was much safer or better off than the other woman with the unruptured tube, in whom the possibilities of the future were yet undetermined. Indeed she might have been pronounced entirely free from danger—excepting possibly that of suppuration of a pelvic hæmatocele—could we have pronounced the ovum absolutely dead. In the present state of our knowledge we have no means of determining the death of the ovum, embryo, or young fœtus, except by the measure of time—and this means is (by itself) too often a source of grave danger.

This brings us to the consideration of the question "What are nature's methods of curing ectopic gestation?" It is almost needless to tell this audience that many cases of ectopic gestation are cured by nature and that a preponderating number of medical men throughout the world rarely if ever meet a case of ectopic gestation. Do I hurt the feelings of my medical colleagues when I state that I believe this is due, first, to the fact that the diagnosis has not been made, and, secondly, to the fact that under the usual rest in bed prescribed for the assumed abortion from which the patient is apparently suffering, the woman recovers spontaneously? If I tread on anybody's toes by this statement, I njure at the same time my own pedal digits because I confess that, at one period in my career as a general practitioner, I passed ten years without meeting a single case, and that, in the succeeding ten years, I have opened the abdomen and confirmed my diagnosis of ectopic gestation in a considerable number of cases. I may add that I have observed a number of cases in recent years (one particularly comes to my mind in which my friend Dr. Boldt agreed as to the diagnosis of ectopic gestation) in which my patient got well without operation and subsequently gave birth to children.

It therefore being positively established that certain cases of ectopic gestation do end in spontaneous recovery, how, we may ask, is this accomplished? By one of three methods: (1) Either the ovum dies in the tube, choked off in its own clot and the hæmatosalpinx subsequently becomes absorbed; or, (2) after a tubal abortion the escaped ovum or embryo perishes in the hemorrhagic intraperitoneal effusion; or, (3) the same result follows after a tubal rupture.

Could we determine in unruptured tubal pregnancies or after tubal abortion with certainty that embryonic life had ceased, our course of procedure would be fairly clear. We should then intelligently—and not accidentally, as is so often the case at present—decide on leaving the case to nature. Indeed, certain writers on gynecology advise this course of procedure in many cases, although my experience has been that they seldom follow it up in practice. On the other hand, the progressive growth of the ovum or fœtus in the earliest months of pregnancy just as clearly indicates prompt surgical intervention—and preferably before rupture has taken place.

To be able to differentiate, then, the cases with a dead ovum from those in which the ovum has life, would indeed mark an era in the diagnosis and treatment of ectopic gestation. It certainly would reduce the number of laparotomies for this cause which every one of the few thousands of abdominal surgeons meets throughout the world every year. But you say, why not kill the ovum or embryo? This may be one of the possibilities of the future, but is really not looking forward, but backward. For I need not tell you that less than twenty years ago the destruction of the ovum, or fœticide, by means of electricity was a method frequently resorted to in this country, and that morphine injections into the gestation sac was in vogue on the continent.

The statistics which I collected some sixteen years ago showed only one death in some forty cases after the use of electricity. But I am now satisfied that desperate cases with large ruptures and collapse were not included in these figures, and accounted for this extraordinarily good showing. I mention the treatment only as a matter of historical interest, for I know that in the hands of certain men the mortality rate of all kinds of cases, including the most desperate, has been less than 5 per cent.

Hence we must continue to reject all methods which aim at the artificial death of the ovum or embryo so long as twentieth-century surgery can boast of such results as above stated. We must continue to feel ourselves justified in operating upon women who might have got well without operation. For I do not believe that a woman ever did get thoroughly well after having had an attack of ectopic gestation any more than a person with appendicitis ever thoroughly recovered spontaneously, a more or less diseased appendix always being left. In other words, the same reasons which induce the general surgeon to-day to remove the appendix during or after an attack of appendicitis apply to the abdominal surgeon when he removes the pathological Fallopian tube during or after ectopic gestation,

and this applies equally to the three conditions above referred to, namely, unruptured ectopic gestation, tubal abortion, and ruptured ectopic gestation.

Why not treat the pelvic hæmatocele alone? I have treated two cases. In one suppuration occurred and left the woman with a pelvic tumor. The other left no tumor, but left the patient more or less of an invalid. Therefore if such cases are not to be left exclusively to nature for absorption, I have little faith in incision and drainage of a pelvic hæmatocele which leaves the diseased tube in the woman's pelvis—unless as a palliative procedure. I look on it as most surgeons would regard the opening and drainage of an appendicular abscess, leaving the appendix as a source of possible future trouble. Under all circumstances it should be regarded only as a temporary procedure, and one called for by special circumstances and not as a real cure.

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ŒSOPHAGEAL DIVERTICULUM; DIAGNOSIS CONFIRMED BY X-RAY EXAMINATION.*

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Medical and surgical literature of to-day, teems with examples of tumors, ulcers, and eruptions treated with varying success by means of the *x*-ray. Examination of bones, and the locating of foreign substances in the tissue of the living body dates almost from the time of the discoveries of Röntgen. The examination of the lungs and other organs and soft tissues, in search of morbid processes, is of more recent origin, but cannot at present be considered entirely new. I wish to present a method by which an œsophageal diverticulum was examined for the purpose of determining its extent and location; and incidentally to verify the diagnosis.

About two years ago a gentleman presented himself to me for advice. He had been under my treatment some two years before for facial erysipelas from which he made a rapid and complete recovery. The one symptom which caused him the most distress during this illness, was his inability to retain food; this I attributed (and I believe rightly) to the conditions attendant upon pyrexia and the intoxication of the disease. He had several subsequent attacks, from which he recovered with equal, if not greater, rapidity, and during which he complained of similar gastric disturbances. He passed from my care and had almost been forgotten by me, when he made his appearance as before mentioned. The change that had taken place since I last saw him was so great that I did not at first recognize him. He had lost nearly seventy-five pounds in weight, and seemed almost like a shadow of his former two-hundred and odd pounds. He explained his absence by the fact that he had been abroad, and while sojourning in Germany he developed, what was diagnosed by the physician attending him there, as "catarrh of the stomach." He underwent treatment in Germany and Austria, visiting the various health-resorts and watering-places in search of relief. His symptoms gradually growing worse, he returned to this country to settle up his affairs and await the outcome of his illness. His history was as follows: Age sixty-two years; nativity, Germany. He had never complained of any serious indisposition before his first attack of erysipelas. Parents both had passed the allotted three score and ten. Brothers and sisters alive and in good health. No history of cancer or tuberculosis in the family. Examination of the patient showed heart and lungs sound and normal. No enlargement of the liver or spleen. Temperature 98.4°; urine, acid, sp. gr. 1020; no albumin, no sugar. General health was good, and all the functions of life were normally performed. He had no pains of any kind and complained only of inability to retain food, and the general weakness and loss of flesh which naturally followed. His appetite was good, in fact abnormal, but of late he had confined himself mainly to liquid and semi-liquid food. He had been put upon some sort of diet by the physicians who handled his case in Europe, from which he claimed to have had some relief. But to size up his case in a general way, he appeared like a person in want of nourishment. While talking to me he said he had a desire to vomit. I grasped the opportunity to examine the contents of his stomach, and handed him a bowl for that purpose. The vomitus consisted of an undigested mixture of eggs, oatmeal, and a brownish fluid. The whole having rather an odor of coffee. He admitted having eaten and drank these articles about an hour before, and said that he always evacuated the greater part of his food in this same manner about an hour after eating or drinking. The vomitus did not show acid reaction to litmus-paper test, and my first impression, which proved to be correct, was that it had not been in the stomach at all. I attempted to pass a stomach tube, but was unable to insert it further than eleven inches from the teeth. Repeated attempts always yielded the same result. He was instructed to call again the following morning before having taken any food or drink. Upon his second visit I again attempted to pass the tube but had no better success. I then requested him to drink as much water as he could, giving it to him glass by glass. He succeeded in drinking three tumblerfuls when the whole amount was rejected into a bowl which I had prepared, thus enabling me to remeasure the amount. Upon examining the patient, I found no displacement of the larynx, and no tumor was to be discerned on palpation, nor did pressure produce dyspnœa. The diagnosis was "stricture of the œsophagus with a possible diverticulum."

The patient consulted several physicians and various opinions were offered. Some pronounced malignant growth the cause, though no tumor could be discovered, and they were puzzled at the entire absence of pain, but the age of the patient was taken into consideration. The diagnosis of stricture and that of an œsophageal diverticulum was made. It had been proposed that the patient be fed while in a recumbent position, and that he remain lying for an hour after eating. This was done and supplemented by rectal feeding. An *x*-ray examination was suggested, and for this purpose the patient was to be given a large quantity of sub-nitrate of bismuth, and an attempt was then to be made to take a radiograph while this substance remained in the œsophagus. The subject became intensely interesting, and grew more so as time advanced and the case developed. The patient retained more food in the recumbent position, and the nutrient enemata seemed to give him added strength. For a time he got along fairly well, and though he did not gain in weight neither did he lose. At this time the patient refused to consider any surgical procedure, or even a consultation with that purpose in view. However, the time soon arrived when even in the recumbent position food failed to pass into the stomach, and he had to depend on rectal feeding for sustenance. *X*-ray examinations and radiographs with bismuth failed utterly. Sufficient was never retained long enough by the patient to be seen upon examination. At one time nearly five drachms were swallowed but almost immediately rejected. I then procured a large, soft rubber

*Reported at a meeting of the Harlem Medical Association.

catheter, closed one end, and filled the tube with bird-shot. The patient swallowed the catheter in the same manner as when passing the stomach tube, to which he had grown quite accustomed. He could not, however, retain the catheter long enough for me to examine him. The patient was instructed to swallow a soft catheter three or four times daily, until his fauces and pharynx were less sensitive to its presence, and until he could retain it for ten minutes. This he succeeded in doing in about six days. He was then placed in position before the *x*-ray tube, and with an exposure of ten minutes I succeeded in getting a rather poor radiograph of his neck and chest, with a faint outline of the contained catheter. A few days later, I made another attempt to procure a picture with similar bad and unsatisfactory results. The picture on the fluoroscopic screen, however, was perfect, and the catheter could be distinctly seen curled upon itself in U-shape, and evidently outlining the pouch. The base of the diverticulum appeared to be on a level with the upper margin of the second rib in the back. The patient by this time was steadily losing ground and welcomed anything for relief. A demonstration with the *x*-ray was made at my office, at which Dr. Irving S. Haynes and a number of other physicians were present. Of the various operative measures discussed, gastrostomy was favored, and was performed by Dr. I. S. Haynes at St. Mark's Hospital. The hope was entertained that at a later date a second operation could be done, with better chances for the patient. The stomach, on being opened, was found to be entirely empty. A gastric fistula was established and the patient went on toward recovery. Arrangements had been made to have the patient removed to his home within a few days, when on the ninth day after the operation, one of those unfortunate accidents occurred that cannot be foretold. The patient was stricken with hemiplegia due to cerebral embolism, and died two days later without regaining full consciousness. The family refused to permit autopsy, but nevertheless the diagnosis of a diverticulum is sustained by all who saw the catheter as it lay curled in the œsophageal sack or hernia, to the right of the spinal column.

77 West One Hundred and Eighteenth Street.

Cancer and Uric Acid; or, Uric Acid as a Cause of the Irritation Which Predisposes to Cancer.—Alexander Haig sums up the points of his paper as follows: Cancer tends to affect seats of local irritation or ulceration. Uric acid is responsible for more widespread and chronic local irritation in all the tissues of the body than any other known substance. Insurance statistics seem to show that cancer is increasing side by side with many other diseases which are no doubt due to uric acid, as more and more uric acid is poured into the body in flesh, soup, meat extracts, tea and coffee, all of which are consumed much more largely at the present day than they were thirty years ago. Natives of countries where the diet is, to a considerable extent, uric acid free, suffer but little from cancer. While there is some evidence tending to show that when uric acid is present in excess, first in the diet and, as a result, in the blood, the incidence of cancer is increased by substances which tend to precipitate uric acid in the tissues and is diminished by substances which aid its solution and removal from the body. The writer believes that if further statistics support those given above, that we need not wait to find a possible parasite, but can at once diminish the destructive power of cancer by cutting off supplies of uric acid and giving solvents.—*The Medical Press and Circular.*

A Case of Estivoautumnal Malarial Fever with Parasites of an Unusual Type.—J. Odery Symes reports a case of this nature which is of interest primarily on account of the unusual type of organism present. It also illustrates the necessity of a microscopical examination of the blood in all cases of malaria, and the futility of treating cases of estivo-autumnal malaria by quinine alone. In the fresh blood numerous small intracellular non-pigmented parasites were seen, together with very many crescentic and ovoid bodies. The pigment in the crescents and ovoid bodies showed very lively movement, and this continued for more than an hour after the blood had been drawn. Flagellate bodies were observed to bud out from the ovoid bodies and to move away in the serum. The peculiar feature of the blood was the presence of sausage-shaped parasites with scattered pigment lying within the red cells and of cigar-shaped parasites lying across the corpuscle with their ends projecting beyond the periphery. Such forms of parasites have been described by Rowley in the *Johns Hopkins Hospital Bulletin.* Stained films showed the same forms, but the sausage-shaped bodies did not entirely preserve their original shape. Rowley thinks that possibly this elongated parasite is developed from ring-worms, and is designed ultimately to become a crescent.—*Bristol Medico-Chirurgical Journal.*

Alcoholism and Heredity—Macpherson says that the first point of resemblance between alcoholism and the neuroses is its heredity. When we talk of hereditary tendency to inebriety, we mean, of course, that the peculiar constitution which craves for an artificial mental state is inherited. Now this peculiar mental consitution is not produced by the drinking habits of the parents, for, as we have seen, descent is through the germ cells alone. But during the tenancy of the germ cells in the parental body do they not receive such and such impressions? Probably they do, but to assert that these impressions are conveyed as definite-like propensities to a future individual is contrary to the latest knowledge of the subject. This craving for intense states of consciousness goes back as far as we can trace the history of the race, and exists among primitive races at the present day. It would only be wasting time to recount the details of the generally accepted heredity of alcoholism, but is it an important fact to notice that heredity is as often dissimilar as similar—that is to say, that alcoholics are closely related to every form of insanity, to the neuroses, and to many of the diathetic diseases. Legrain says that we find all forms of insanity present in the ancestors of drinkers—mental-defect, hysteria, epilepsy, mania, melancholia, periodic insanity, general paralysis, brain softening, and apoplexy—*Edinburgh Medical Journal.*

The Silver Bolt as a Means of Fixing Ununited Fractures of Certain Long Bones.—Stephen H. Watts describes this method as being by no means perfect, but it is used for want of a better one. It was tried in the case of a patient who had suffered from a very bad compound comminuted fracture of both bones of the right lower leg, and a compound fracture of the left femur. The right leg had to be amputated. The left femur was treated for some weeks in plaster but no union took place. Two months after the injury, the ends of the fragments, which overlapped several centimeters, lay in a definite sac filled with clear fluid, evidently an early stage in the formation of a false joint. The sac was excised, the bones mortised step-wise, care being taken to preserve as much periosteum as possible, and the silver bolt inserted in an antero-posterior direction. The nut was screwed down and the projecting part of the bolt cut off. The fragments were thus held firmly in good position. The skin wound was sutured with silver wire, a small drain of rubber tissue being placed down to the site of the fracture. The mortise was so made that the projecting part of the lower fragment lay anterior to and so rested upon the projecting part of the upper fragment. Three months after the operation it was interesting to note that whereas a few degrees of lateral motion was possible at the site of fracture, no motion was possible in an anteroposterior direction—that is, in the direction of the shaft of the bolt. A month later the fragments were united.—*Bulletin of the Johns Hopkins Hospital.*

MEDICAL RECORD:

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FILTRATION OF WATER AND TYPHOID FEVER.

THAT efficient filtration of water has a remarkable influence on the prevalence of typhoid fever is a fact too thoroughly substantiated to admit of refutation. Another point sufficiently obvious to those who will take the trouble to investigate, is that it is largely owing to the neglect in the United States of taking these precautions that typhoid fever occurs so frequently in this country.

Dr. Joseph D. Craig, writing in the *Albany Medical Annals* for August, discusses the question, and shows that in those cities in which sand filtration of water, or the conveyance of water from uncontaminated sources, is in vogue, the occurrence of typhoid fever is rare. For instance, in the city of Munich, from 1851 to 1859, before the introduction of an improved water supply, the typhoid deaths were 21 per 10,000 deaths from all causes, and from 1874 to 1884, after the introduction of an improved water supply from springs thirty-seven miles from the city, fell to 6.4 per 10,000 total deaths. In the city of Berlin, from 1884 to 1872, previous to the purification of the water supply, the typhoid deaths were 9.2 per 10,000 deaths, but when the water supply was drawn from lakes, the water of which was afterward filtered through sand, the deaths fell to 2.9 per 10,000 total deaths.

A comparison between the city of Chicago using lake water without filtration and the city of Berlin using lake water subsequently filtered through sand is especially instructive. Chicago reduced her typhoid rate from 159, in 1891, to 46 per 100,000 population, by providing a less contaminated water supply, while Berlin, which had a typhoid death rate of 9.2 per 10,000 total deaths before improving her water supply, had, as a result of using lake water, afterward filtered through sand, a reduction of her typhoid deaths to 2.9 per 10,000 deaths. Or, expressed in terms of population, Chicago, from the last available statistics, showed a death rate of 46 per 100,000 population, and Berlin 5 per 100,000.

Dr. Craig gives two striking examples of the manner in which the drinking water supplied to communities can become infected with the typhoid fever germs even, indeed, from a single case of the disease, if the water supply be not protected by filtration or by other means.

"The village of Lausanne in Switzerland suffered from an outbreak of typhoid fever in 1872, before which time not even a single sporadic case of the disease had been known. After that date and before the disappearance of the disease, 17 per cent. of the inhabitants had been attacked. Without presenting all the evidence, which at each step seemed to be fully attested and proved, the story, in brief, is that the disease originated in a farmhouse in which lived a peasant who had suffered from an attack of typhoid fever after returning from a visit to a distant point. About two months afterward typhoid fever appeared in all the houses in the village, with but six exceptions. These six houses were supplied through private wells, while otherwise the houses in town were supplied with water from a spring at the foot of a hill on which lived the peasant first attacked with the disease. The excreta from this man thrown upon the ground and contaminating the source of supply, were abundantly proved to have been the cause of the Lausanne epidemic of 1872. The town of Plymouth experienced an epidemic of typhoid fever during the year 1885. This epidemic was also proved, by incontestable evidence, to have been caused by an isolated case of typhoid fever in an isolated house in which lived a man whose discharges had been thrown near the source of origin of a stream of water supplying that city."

The remainder of Dr. Craig's paper is taken up with a description of the conditions prevailing in Albany with regard to typhoid fever before the institution of a filtration system, details concerning the installations of methods of filtering, and the great decrease in the typhoid fever rate in Albany in consequence of the adoption of filtration. Filtering drinking water was initiated in Albany in 1899. An average of 285 cases of typhoid fever per year for the years 1890, 1891, 1892, and an average of 489 cases a year for the four years preceding the introduction of filtered water falls to an average of 109 reported cases for the four years following such introduction. These figures would seem to prove in a most conclusive manner the good results proceeding from the purification of a drinking water supply by filtration, and particularly by sand filtration.

The effectiveness of filtration in purifying water on a large scale has been demonstrated times without number, and in Germany and in Great Britain, in most of the cities of which countries this system is followed, typhoid fever has so decreased as to warrant the belief that a general extension of the methods would end in the extermination of the disease. The MEDICAL RECORD has preached in and out of season the gospel of a pure water supply, but the municipalities of American cities have exhibited a curious apathy and a somewhat complacent disregard of all warnings and pleadings on the subject. It is nothing short of a municipal disgrace that, in the immensely rich, large centers of population of the United States, such a state of affairs with regard to the water supply should exist as has existed in Philadelphia since its foundation. But Philadelphia is by no means the only sinner in this respect. It is an uncommon circumstance for an American city to have a well protected water supply, while those in which the water supply is a constant source of danger, are too numerous to mention. In order to alter this state of affairs, the medical journals should neglect no opportunity of ventilating the matter, and of endeavoring to educate the public to a sense of the risks which a contaminated water supply entails. If the municipal conscience is too callous to be pricked, at least something may be done by appealing to the people's

fears. When the community becomes convinced that the lives and health of the population are endangered by a continuance of the present slipshod methods of supplying water, then will there be a universal demand for the institution of a proper system, and with this demand the municipal authorities will be compelled to comply.

PREVENTION OF MEASLES.

Measles is so common an affection with children that it is too frequently regarded as of little account. Parents look upon it as a disease which is certain to occur sooner or later, and are, perhaps, apt to think it is better that it should happen in quite early life and thus be done with, than that the disease should attack children of a more advanced age. The fact does not seem to be taken into consideration that measles is much more deadly among very young children than with those who are older and consequently better able to resist its injurious effects. At a meeting of the British Society of Medical Officers of Health, Dr. J. Howard-Jones read a paper on the control of measles. In the course of his remarks the writer said that in spite of 13,000 deaths occurring annually from measles in England and Wales no concerted action had been taken to check its spread. In Dr. Theodore Thompson's report to the local Government Board, the statements were made that from 90 to 95 per cent. of the deaths from measles were of children under five years of age, that the greatest fatality was during the second year of life, but that the incidence of the disease was heaviest in the third, fourth, and fifth years. "It would thus be understood," said Dr. Jones, "why it was that in a number of schools examined by Dr. J. Ker, medical officer to the London School Board, 75 per cent. of the children over five years old had already had the disease. It was therefore clear that the schools being the centres from which every epidemic spread and the great majority of the cases, with practically the whole of the deaths, being of children under five years, the attendance of such infants was directly responsible for the greater number of deaths. Their exclusion might not reduce the total amount of measles, since the infectivity of the disease was such that sooner or later nearly everyone contracted it, but it would by delaying the age of exposure and attack probably lengthen the intervals between epidemics and reduce the mortality."

In the case of measles a rapid and accurate diagnosis is an essential point, as the disease is most infectious in the prodromal stages. This, however, is most difficult. Dr. Koplik of New York pointed out some few years ago, that a correct diagnosis could almost invariably be made by noticing the presence or absence of what are known as "Koplik's spots." With reference to these Koplik says in his writings, "scant attention has been given to the most important elements of the eruption as it appears on the mucous membrane of the inside of the cheeks and on that of the lips. A thorough understanding of the eruption on the buccal mucous membrane will aid in separating an invading measles from a mass of eruptions resembling measles which appear on the skin in infancy and childhood Any positive sign of the invasion of any infectious or contagious disease is a step to proper isolation and prophylactic hygiene."

The points therefore which must be borne in mind in order to control the spread of measles are, that on account of its great infectivity in the early stages a prompt diagnosis is necessary, after which strict isolation of those infected should be enforced. A person with measles should be separated from those who are unprotected, in a room into which only the attendants should be allowed to enter. Isolation must be maintained until all symptoms have subsided.

Pulmonary Lesions Produced by the Bacillus of Hemorrhagic Septicæmia of Carabaos.

Dr. Paul G. Wooley, in Bulletin No. 12, published by the Bureau of Government Laboratories, Department of the Interior, writes on the findings with regard to the above subject in the biological laboratory at Manila. The lesions caused by the bacillus of hemorrhagic septicæmia in cattle are legion. Subcutaneous and lymphatic suppurations, gastrointestinal ulcerations and hemorrhages, widespread subcutaneous and subserous œdemas, pathologic joint conditions, and varying types of pulmonary changes are frequently seen, sometimes alone, but usually accompanied by ecchymoses. During the recent epidemic of hemorrhagic septicæmia which prevailed amongst the Government carabaos, Dr. Wooley and his coworkers have had opportunities to study many of these.

Among the animals which died of the infection, the report states that there was one in whose lungs were lesions so like those of contagious peripneumonia, that the investigators were at some loss to make a positive diagnosis until careful pathological and bacteriological examinations had been made. "The remarkable lesions were found in the thoracic cavity. When this was opened a quantity of pale, clear amber fluid gushed out. In the residual liquid in the pleural cavities were some fibrinous shreds. The pleural surfaces were, for the most part, covered with a well-marked fibrinous exudate which could readily be peeled off, leaving a reddened, congested, roughened surface. The pleura itself was thickened and œdematous. . . . The lungs were not collapsed, but contained air only in the anterior and apical portions, and in all respects, from both a pathological and bacteriological standpoint, the case exhibited all the signs of a purely infectious pleuropneumonia, and not one of the contagious type."

All three cases cited by Dr. Wooley were examples of the invasion of the lungs by the bacillus of hemorrhagic septicæmia.

"The facts," says the author, "in the clinical history of the first case seem to support Theobald Smith's theory of the etiology of the disease. The ocean trip, a rough passage, rough handling, all would tend to produce the primary bronchopneumonia and emphysema upon which the later stages follow. In this case the bronchopneumonia was perhaps the first stage of the disease. The presence of a very infectious disease in the same herd would account for the presence of the causative organism in the lungs of the infected animal. But even without the bacilli of hemorrhagic septicæmia in other animals, the organisms might have invaded the weakened animal from the upper respiratory tract in which they might have been present, and probably were, if the same conditions hold here as in the cattle which Moore examined. There is, too, a very good reason for the presence of these organisms in cattle here, if, as has been proved in other places, they are present in water. The health of the carabao, or water buffalo, de-

pends to a great extent upon the daily bath, which is usually taken in a wallow, in the thick mud of which the animals immerse or imbed themselves until only the ears, eyes, nose, and horns are visible. Frequently the whole head disappears from sight. Habits of this sort offer every inducement for such organisms as are present to enter the animal. However, we have not been able to demonstrate the bacillus of hemorrhagic septicæmia in the water or soil."

Indications and Contraindications of the Seaside Cure.

Dr. Alfred Gubb of Mustapha Superieur, Algiers, writes, in the *Medical Press* of August 3, regarding the seaside cure. He thinks that the seaside treatment may be advised in respect to the following categories of patients: anæmic patients with slowed nutrition, convalescents from febrile diseases, sufferers from malaria, patients of lymphatic temperament, the strumous, and in certain forms of neurasthenia with imperfect nutrition. The treatment is also suitable for rickety subjects, and in many osseous affections. Cases of chronic tuberculous adenitis with low nutrition will often be benefited by residence at the seaside.

Persons predisposed to pulmonary tuberculosis, whose nutritive changes are unduly active, should be kept at a distance from the sea. According to Robin, the great majority of the tuberculous derive no benefit from the seaside. Rheumatic subjects, with acute or subacute attacks, usually find their state to be aggravated by residence close to the sea, and the same may be said of arthritics subject to neuralgic attacks. Arthritics, whose nutrition is merely slowed; the subjects of arteriosclerosis without grave complications; the obese by nutritional slowing down; and the gouty and hyposthenic dyspeptic may derive marked benefit from the seaside. Certain phosphaturic neurasthenics also derive benefit therefrom, but the pure neurasthenic will, as a rule, do better in a sedative climate. Lastly, hysterical subjects are often worse near the sea, or feel so, but they need not, on that account, be sent elsewhere.

The indications for sea baths, according to Dr. Gubb, are in the case of the rickety, the lymphatic, the strumous, the subjects of osseous and glandular tuberculosis, in anæmia with slowed nutrition, in obesity by defective metabolism, in those predisposed to gout, in chronic autointoxication, in hyposthenic dyspepsia, in convalescence after febrile diseases, and in diabetics when nutrition has begun to give way.

A Fatal Infection by a Hitherto Undescribed Chromogenic Bacterium.

Bulletin 13, published by the Bureau of Government Laboratories, contains an account of the above by Dr. Maximilian Herzog of the Biological Laboratory, Manila. The observations recorded in the paper refer to a case of human infection by a hitherto undescribed bacterium, which is evidently not very pathogenic under ordinary conditions and probably is, as a rule, a harmless saprophyte, but which, under circumstances especially favorable, may become parasitic and may lead to a fatal issue.

A Filipino, forty years of age, died rather suddenly in hospital, and was sent to the morgue at San Lazaro. The suspected cause of death was plague, there being an open wound on the right leg, and a marked swelling of the inguinal glands of the right side. Among other post-mortem findings were these: Three of the inguinal glands of the right side were found to be markedly hypertrophic. On the left side they were slightly enlarged. The markedly hypertrophic glands of the right side were quite firm and rather pale. The cervical glands were slightly enlarged and very moderately congested. Smears from the organs showed a small number of what appeared to be small diplococci or diplobacilli. No organisms showing the characteristic morphology and staining properties of the plague bacillus were found.

When the bacillus was isolated its morphology was as follows: Short bacilli with rounded ends, varying much in size. The organism presents itself as a diplobacillus. It does not form long chains, even groups of four in a chain being but rarely seen. Spore formation is not observed. When properly stained, the organism somewhat, though rather remotely, resembles the short type of the pseudodiphtheria bacillus. A certain resemblance also exists between it and the bacillus of plague, though the similarity is not great. The name "Bacillus aureus fœtidus," selected for this microorganism, emphasizes two of its most prominent characters, its chromogenic and malodorous properties. Conclusions arrived at by Dr. Herzog were as follows: Experiments showed that the bacillus was not a highly pathogenic microorganism, because single inoculations of moderate doses brought about only a very slight reaction in the animals experimented upon.

It is very probable that *Bacillus aureus fœtidus* is ordinarily a saprophyte. In the case reported it may simply have lived for some time in the necrotic tissues of a neglected ulcer, and may have slowly become modified in these environments until it finally gained entrance into the tissues of the patient. From the lymphatic system it entered the blood current, reached the liver and kidneys, and led to subacute and somewhat chronic interstitial fibroid process and parenchymatous degeneration.

Suicide in Chicago.

In August there were forty-two suicides in Chicago, according to the Chicago *Record-Herald* of September 3. This is ten more than in the corresponding month last year, and four more than the monthly average last year. In most countries the proportion of suicides is largest in the hot summer weather, but recent Chicago suicides do not indicate a similar tendency there. The large number of suicides in the exceptionally cool August of this year is itself in conflict with the generalten dency.

The method by which suicide was committed last month was gas asphyxiation in fourteen cases, carbolic acid in eleven, drowning in seven, hanging in three, and shooting in three, leaving only four cases for sundry less usual methods. The *Record-Herald* remarks: "This aspect of suicide is grewsome, but nevertheless, it is important and deserves consideration because of the efforts that are from time to time made to take away from would-be self-murderers their easy opportunities for attaining their end. A reference to Mulhall's Dictionary of Statistics shows that in nearly all European countries hanging and drowning have been chosen by more than two-thirds of the suicides. In Chicago to-day these two forms of death are comparatively rare. They were chosen, it is true, by almost one-quarter of last month's suicides, but in 1903 they were chosen in less than one-seventh of the total number of cases. On the other hand, carbolic acid has for some time been the main resort of Chicago's suicides, and it furnished a means of death to more than one-third of the total last year. Now, however, it would

seem that it is being replaced by gas asphyxiation, which was made use of in fourteen cases in August as against eleven in which carbolic acid was taken. From less than one-ninth of the cases last year gas asphyxiation has sprung forward till it is employed in one-third of the cases in August."

As the writer in the Chicago paper says, it is possible to make the sale of carbolic acid in concentrated form difficult to any but physicians or persons provided with a physician's prescription, but if ordinary illuminating gas is the agency henceforth to be favored, it would seem to be impossible to devise any effectual method of preventing its use. Even in buildings where this has been replaced by electricity for lighting purposes, it is usually piped to the rooms for use in heating or cooking

News of the Week.

A Reception in Honor of Our Medical Guests.—A reception will be tendered by the New York Academy of Medicine on Thursday evening, October 6, at half-past nine o'clock, to the many distinguished medical men now in this country, most of whom have been in attendance at the International Congress of Arts and Science in St. Louis.

Dr. Chapin's Jubilee.—Dr. John B. Chapin, superintendent of the Pennsylvania Hospital for the Insane in Philadelphia, who has been for fifty years engaged in work in behalf of the insane, is to be entertained at a dinner given in his honor in October. At the same time his medical friends will have his portrait painted. He was appointed assistant physician to the New York State Lunatic Asylum, Utica, in 1854. Afterward he became connected with the late Dr. George Cook in the conduct of Brigham Hall, Canandaigua, N. Y., and then, first as one of the building commissioners, and subsequently as physician and superintendent, with the Willard Asylum for the Chronic Insane.

Vaccination Controversies in California.—More than two hundred children were refused admission to the public schools of Berkeley, Cal., on account of their not having been vaccinated. Among those who involuntarily submitted to vaccination, one little girl contracted tetanus and died. Now the antivaccinationists are up in arms, and suit has been threatened against the "responsible parties." Fortunately, the physician who performed the vaccination was serving in an official capacity, and the responsibility for his act rests upon the State.

Death of Dr. Niels Finsen.—It is announced that Dr. Niels Finsen died in Copenhagen on September 24. He was the originator of the method of treating lupus and other affections of the skin by means of the violet and ultra-violet rays. He used first the sun's rays, but those are rare in Denmark, and he was forced to employ the electric light, which he found would give equally good results. He was greatly assisted in the extension of his work by Queen Alexandra of England, who provided a complete set of apparatus for one of the London hospitals and secured the introduction of the method in England. Finsen also advocated the employment of red light as a preventative of the pitting of smallpox. The Nobel prize was awarded him in 1903.

Quarantine Rules for Diphtheria.—The Iowa State Board of Health has issued the following rules relative to the quarantine limit after diphtheria: Quarantine shall be released in those houses in which diphtheria has been diagnosed when synchronous cultures taken from the noses and throats of all infected persons quarantined show two consecutive negative examinations, providing the regulations of the Board regarding disinfection and fumigation have first been complied with. Those who have been quarantined with diphtheria patients may be released from quarantine, when both nose and throat cultures on examination by a bacteriologist of the State Board of Health do not show the presence of diphtheria bacilli. In districts where it is not possible or desired to use the laboratory findings as a means of regulating quarantine, those suffering from diphtheria shall be quarantined for a period of not less than four weeks for initial symptoms when antitoxin is used, and five weeks when antitoxin is not used.

Medical Society of the County of New York.—At a meeting of this society on Monday, September 26, the following officers for the coming year were nominated: *President*, Dr. Henry S. Stearns; *Vice-Presidents*, Drs. F. M. Crandall and W. L. Carr; *Secretary*, Dr. J. V. D. Young; *Treasurer*, Dr. C. H. Richardson.

The Eastern Medical Society.—The first open meeting for the season of the Genitourinary Section of the Eastern Medical Society, will be held on Tuesday evening, October 4, at the society rooms, 151 Clinton Street, at 8 P. M. The paper of the evening will be "Ureteral Catheterization—with Special Reference to the Treatment of Pyelonephritis Catarrhalis," by Dr, Winfield Ayres. The paper will be discussed by Drs. W. G. Pulley, Follen Cabot, Frederic Bierhoff, Ferd. C. Valentine, and possibly others. Cases will also be presented.

Hertzstein Lectures at the University of California.—It is announced that the first series of the Hertzstein lectures will be delivered in October, by Dr. A. E. Taylor, Professor of Pathology. The lectures have been made possible through the generosity of Dr. M. Hertzstein, of San Francisco, who fully equipped the physiological laboratory and endowed the lectureship for the discussion of special problems in scientific medicine. Professor Taylor's subject will be "Ferments and Fermentations." The lectures will be delivered on Tuesdays and Thursdays and will be open to the public, particularly to medical students and physicians.

Medical Society of Virginia.—The thirty-fifth annual meeting of this society will be held at Richmond, October 18-21, under the presidency of Dr. Joseph A. Gale of Roanoke. On Wednesday morning, October 19, there will be a discussion on serum therapy, the following papers on this subject being announced 1. "Theories of Serum Therapy," by Dr. Charles R. Grandy, Norfolk; 2. "Sera for Diphtheria, Tetanus, Streptococcic Infections, the Plague, and Pneumonia,' by Dr. J. S. Davis, University Station, Charlottesville; 3. "Other Sera, Including Those for Tuberculosis, Dysentery, Typhoid Cholera, Snake-Venom, and Veterinary Diseases," by Dr. Ennion G. Williams, Richmond; 4. "Organotherapy," by Dr. Lewis G. Pedigo, Leatherwood. The "Annual Address to the Public and Profession" will be delivered by Dr. William S. Gordon of Richmond on Tuesday evening, October 18, and this will be followed by the "Address of the President." The corresponding secretary of the Society is Dr. John F. Winn of Richmond.

An Old Code Medical Association.—In a letter to the *Lancet-Clinic*, Dr. J. R. Allen announces the formation of a new national medical society (the membership in which is at present confined to Covington, Ky.) by some physicians who "refuse to be reconstructed on the present plan of the American Medical Association." They purpose to reaffirm the code of ethics as adopted by the American Medical Association in 1847, unamended and unrevised,

and agree to be guided by this code and the Hippocratic oath in their daily conduct. They charge that "the action of the American Medical Association in allowing the affiliation of all legally qualified physicians was prompted by the commercialism of specialists, and is the direct result of their greed; that it was done to enlarge the consultation field; that it is a step toward making a trade of what we have fondly looked upon as a profession; that it is a concession of honor, a confession that the regular profession has been wrong for over half a century; that it is the sale of a birthright for a mess of pottage." Further, that "specialists began this degradation in the new code movement of 1882, and that it has culminated in the humiliating position in which the regular profession is now placed, the present organization compelling the fellowship of all legally qualified physicians, with membership in the American Medical Association used as a means of compulsion, as a whip." We understand that the new organization looks for a recruit from New York State.

Extermination of Mosquitos.—The New Jersey State Commission on Mosquito Extermination recently held a meeting in Newark to receive reports of work done during the past summer. Prof. John B. Smith, state entomologist reported that in the two large operations carried on during the past season absolute success had been obtained. The first operation was in the region about the mouth of the Shrewsbury River and the government reservation on Sandy Hook. Beginning early in the season, more than 250,000 feet of ditching was cut through the salt meadows, and throughout the region drained by these ditches not one mosquito had been bred this summer. The evidence of the good results of this operation was so marked that the North Long Branch authorities were anxious to join in the work and complete the drainage of the mosquito breeding places in that section. The second big operation, the salt meadows contiguous to Newark, Prof. Smith declared, would result in the complete suppression of mosquito breeding in that section.

A Gift to McGill University.—At the opening exercises in connection with the medical department of McGill University, Montreal, Dr. Roddeck announced that Lord Strathcona has made a donation of $50,000 to the endowment fund of McGill Medical College. This magnificent contribution is not the first from Lord Strathcona, who has always been a warm friend of McGill.

Consolidation of Medical Journals.—Announcement is made of the consolidation of *Southern Medicine*, published in Savannah, and *Gaillard's Medical Journal*, published in New York, the united journals to be published in Savannah under the editorial management of Dr. William Edwards Fitch. In announcing the change, the editor says that "In 1897 the present editor of *Southern Medicine* established the *Georgia Journal of Medicine and Surgery*. On the first of January, 1904, *Southern Medicine* was thought to be a more appropriate name. *Gaillard's Medical Journal* was established at Richmond, Va., in 1866, by Dr. E. C. Gaillard, a Charlestonian, and a graduate, in 1854, of the State Medical College of South Carolina. Dr. Gaillard was a prominent surgeon in the Confederacy, and *Gaillard's Medical Journal* has always been considered a Southern journal though for many years past it has been published in New York City."

An International Congress of Military Surgeons will be held at St. Louis, October 10-15. The opening session will be on Monday afternoon, October 10, at 2 o clock; the other sessions will convene at 9 A. M. on the successive days of the meeting.

Dr. William A. Edwards, for many years a prominent surgeon of San Diego and Coronado, Cal., and well known as a medical writer, has recently gone to Los Angeles, where he assumes the chair of pediatrics in the medical department of the University of Southern California.

Dr. S. Henry Dessau has resigned from the faculty of the New York School of Clinical Medicine.

Losses of Russia in the War.—A despatch from St. Petersburg says that the General Staff issued, on September 22, a detailed list of the casualties of the Russian army at Liaoyang. It gives the following figures: Men killed, 1,810; wounded, 10,811; left on the field, 1,212. Officers killed, 54; wounded, 252; left on the field, 5. Two Generals were killed and three were wounded.

An Italian Hospital in New Orleans.—A donation of a quarter of a million dollars has been made by Mr. Salvatore Pizzati, a resident of New Orleans, to found an Italian hospital in that city.

Hospital for Panama Convalescents.—It is announced that a hospital will be established at New Orleans for the reception of officials who will have been invalided home from the Isthmus during the construction of the canal.

Testing the Moore Theory.—The Illinois State Board of Health has instituted a number of experiments to determine the correctness of the assertion that water containing typhoid bacilli will be sterilized by standing for a few hours in a copper vessel.

Pneumonia Increasing in Chicago.—The deaths from this disease in Chicago, for the week ended September 17, were thirty-four, an increase of fifteen, or nearly 80 per cent., over the mortality of the previous week from this cause.

Crime and Cocaine.—There has been a large number of crimes committed lately by the colored population of Cincinnati, and Chief of Police Millikin attributes it to the large increase in the cocaine habit, especially among these people. It is estimated that 250 ounces of the drug are sold to them each month.

The French Surgical Association.—The seventeenth annual meeting of this association will be held in Paris in the hall of the Faculté de Médecine, October 17-22, under the presidency of Dr. S. Pozzi. Three subjects are announced for discussion, as follows 1. "Surgical Treatment of Cirrhosis of the Liver," opened by Dr. Monprofit of Angers; 2. "Diagnostic Value of Blood Examinations in Surgery," opened by Dr. Tuffier of Paris; 3. "Traumatic Separation of the Epiphyses," by Dr. Kirmisson of Paris. The secretary-general is Dr. Walther, 21, Boulevard Haussmann, Paris.

Cholera at Port Arthur.—A despatch to *The Sun* says that the Russian naval officers at Kiaochau have received official advices of an outbreak of cholera in Port Arthur. Only a few cases had developed up to September 19, but grave fears of an epidemic were entertained.

American Academy of Ophthalmology and Otolaryngology.—At the Denver meeting of this society, held on August 24, 25, and 26, 1904, the following officers were elected: *President*, Dr. H. W. Loeb of St. Louis; *Vice-Presidents*, Drs. D. T. Vail of Cincinnati, Robt. Levy of Denver, and Eugene Smith of Detroit; *Secretary*, Dr. Geo. F. Suker of Akron, Ohio; *Treasurer*, Dr. Otto J. Stein of Chicago; *Council:* Drs. H. W. Loeb, Edw. Jackson,

W. L. Ballenger, Casey A. Wood, and J. M. Ray of Louisville.

The Cost of a Paraffin Nose.—A woman in this town was kicked in the face by a horse some years ago and lost the bridge of her nose. When paraffin prosthesis came into vogue she thought she saw in it a means of recovering a measure of the good looks she had lost, and accordingly submitted herself to the manipulations of a physician. She paid for the operation and subsequent treatment $246, but not being satisfied with the cosmetic results, recently sued the surgeon to recover this amount. The judge, however, after an inspection of the before and after photographs, dismissed the suit, holding that the surgeon did improve the plaintiff's appearance so far as nature would permit.

Obituary Notes.—Dr. George S. Conant of this city, died suddenly on September 23, at the age of fifty-one years. He was born in Troy and was graduated from the Bellevue Hospital Medical School in the class of 1877. He had been a sufferer for several years from diabetes. He willed his brain to Cornell University.

Dr. John J. Mackey of Brooklyn, died at his home in Bergen Beach, on September 24, after a prolonged illness. He was born in Dublin, Ireland, and when sixteen years old he entered the Medical School of the Dublin Catholic University, coming to this country a few years later with his parents. He was graduated from the Bellevue Hospital Medical College, in the class of 1882.

Dr. Juan N. Navarro, consul-general for Mexico in this city, whose death from apoplexy occurred on September 24, was for nearly twenty years of his life, a practising physician. He was born in Morelia, Michoacan Mexico in 1823, and was graduated with honors from the School of Medicine in the City of Mexico, and immediately began the practice of medicine. He entered the ranks of the Mexican Army at the outbreak of the war between Mexico and the United States and soon rose to the rank of colonel. After the war he returned to the practice of his profession, but later was elected to the Mexican Senate. Throughout the war with Maximilian he was Surgeon-General of the Mexican Army. After its close, he returned again to practice, but was soon appointed Consul-General at this city. He took up his duties here in 1863, and had lived in New York continuously ever since.

Dr. James G. Hyndman of Cincinnati, died at the Good Samaritan Hospital in that city on Sunday, September 18, after an illness of ten days. He was born in 1853, obtained his Academic education in the old Woodward High School in Cincinnati, and was graduated from the Medical College of Ohio before he became of age. He then served as interne in the Cincinnati Hospital and later became connected with the Medical College where, for seventeen years, he has been secretary and professor of Laryngology.

Dr. Herman Schafer, formerly residing at San Diego, died September 1, at Monrovia, Cal. He received his medical degree from the Long Island College Hospital, in 1866.

Dr. Josephine Briggs, a native of the State of New York, died in Pasadena, Cal., on September 8, at the age of fifty-six years. For many years previous to their coming to the Pacific coast, she and her husband Dr. Solon Briggs, engaged in practice in New York City. Mrs. Briggs had been totally blind for the past eight years, yet endeared herself to a large circle of acquaintances by her charming personality, the brilliancy of her intellect and her continued activity in literary and religious undertakings.

Professor Wassermann's Lecture on Immunity.

Professor A. Wassermann of Berlin delivered an address on "Several New Points Concerning the Theory and Practice of Immunity" before the New York Pathological Society, September 28, 1904.

The first condition to be fulfilled by a substance which is to serve for immunizing against any toxin, he said, is that it must form a firm union with the cellular elements of the organism. Thus, we cannot immunize against strychnine because this poison does not form a firm chemical union with the cell, but may be readily dissolved out of the tissues of the poisoned animal. This is not so with a bacterial poison, *e. g.* tetanus toxin, which forms a firm union with the nerve cells which it affects. According to Ehrlich, the specific immunizing substances, which are formed in the animal body and are contained in the therapeutic serums, are simply those portions of the cells which have a specially marked affinity for the specific toxin which it is desired to neutralize. The parts of the system which receive and are acted upon by a specific toxin are called "receptors"—those portions of a toxin which carry the poison to the receptors are called "haptophores" and those portions of a toxin which represent the actual poison are the "toxophores." A "toxoid" is an attenuated toxin which has still haptophores, but no toxophores. It may be compared to a snake with its poison glands removed.

When a toxin is injected it unites with the specific receptors which possess special affinity for it. Then the law of over-compensation, declared by Weigert, is brought into play, and there is a great over-production of receptors. When this has reached a sufficient degree, the receptors are thrown off as ballast, and circulate in the blood as "antibodies." Hence the specific sera are nothing but "receptors."

The process of immunization therefore takes place in three stages: (1) The union of toxin with receptor, (2) the over-production of receptors, and (3) the elimination of the receptors in the blood. To prove the occurrence of the first two of these stages has been a matter of some difficulty in the past, but the speaker said he had succeeded in doing this recently, with the aid of his assistants at the Berlin Institute for Infectious Diseases.

He injected an old attenuated tetanus toxin which he had kept since 1896 into guinea pigs, and found it to be so weak that no tetanus resulted. This toxin was thus really a "toxoid," for it did not possess any "toxophores" or real poisons, but merely the "haptophores" or poison-carriers. Of this tetanus toxoid he injected $\frac{1}{2}$ c.c. into guinea pigs. He then injected virulent tetanus toxin fifteen minutes after injecting the immunizing dose into these animals, and found that a larger amount of the toxin was needed to kill them than to kill the control animals. This was because a portion of the toxins had already been tied to the receptors. When the virulent toxin was injected three hours after the weak toxin, the animals required less of the former to kill them than those of the first series, in fact less than normal animals. This meant that the second stage of immunization, the increase of receptors, had set in when the virulent tetanus toxin was injected. The third stage—elimination of receptors—is not a function of the haptophores. For this toxophores must be present.

The question as to the relation of antitoxins to toxins has been widely discussed and studied. Arrhenius and others tried to apply to it the laws of pure physics and mathematics, but the speaker did

not think that these could be successfully made use of in this connection in a living being. He was able to show by experiments that antitoxin first forms a loose chemical combination with toxin, and then gradually enters into a closer and firmer union with the latter. It is well known that tetanus toxin is absorbed only through the nervous system, *i. e.* it is neurotropic, while tetanus antitoxin is absorbed through the blood channels. He injected a mixture of toxin and antitoxin into guinea-pigs, and no tetanus followed. Then he injected the same mixture into guinea-pigs after having injected a solution of adrenalin into the area attached (the hind leg). These animals did develop tetanus because the toxin went in by the nerve route, while the blood route was closed in virtue of the contraction of the capillaries by the action of the adrenalin, so that the antitoxin could not get in. The antitoxin was therefore in loose chemical combination with the toxin. But this took place only when the mixture in the bottle had been allowed to stand for a short time. When the mixture of toxin and antitoxin was allowed to stand over half an hour, the combination was firm, and the guinea-pigs did not develop tetanus in these conditions. The combination became firm within fifteen minutes if the mixture was warmed, or if there was an excess of antitoxin in it.

The practical applications of immunization, the speaker said, were, of course, of the greatest interest. One great difficulty encountered hitherto in serum therapy was that some serums immunized only against a certain "race" or species of germs. This was because the bacterial cellbody was composed of different elements which are called "partial groups." Each of these elements has its corresponding receptor in the serum. Now various races of germs of the same species have different partial groups of elements in their bodies—just as each variety of oak is built slightly differently, and and yet all are of the same species. Some receptors are common to all, but some are present only in a certain race of the same variety of germs. The conclusion is, that, in order to obtain a serum of general utility, we must use colonies of a large number of races of germs—as, for example, diphtheria bacilli taken from many different children. Very good results have already been attained in the treatment of swine plague with this method.

About a year and a half ago the speaker prepared a new diphtheria serum on these principles. The old serum is only antitoxic, and does not act upon the bacilli proper. This new serum is also agglutinating and directly affects the germs. It is prepared from cultures of many "races" of germs, and, therefore, is called "multipartial." One part in 5,000 agglutinates diphtheria bacilli.

The speaker, and also Martin of Paris, had dried this serum, powdered it, mixed it with sugar of milk, and made tablets of it, which, when dissolved in the mouth of diphtheria convalescents who had still Loeffler bacilli in the throat, agglutinated these germs. Then a gargle was given, and the germs were quickly removed, while ordinarily it took weeks for them to disappear. The action of the new serum tablets was mechanical, and also stimulating to phagocytosis. The white cells are attracted and swallow large numbers of the bacilli, thus removing them from the infected spot. The new method is also used in nasal diphtheria in children, in the form of a powder blown into the nose, an alkaline wash being subsequently used to remove the germs. Experiments with this new serum in Berlin and Paris, Dr. Wassermann said, had given very favorable results.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE COMING SESSION—PROFESSIONAL PROSPECTS—LUNACY QUESTION—THE "NEW BODY," ITS NAME—PIROPLASMA OR TRYPANOSOMA?—HOSPITAL ABUSE—SANITARY INSPECTORS IN CONFERENCE.

London, September 9, 1904.

We are now in what may be called the dead season, so far as medical topics are considered, for a great proportion of men are on their holidays. But the winter session will soon be upon us, and already our journals are issuing their so-called students' numbers, which, with a few words of advice, contain for the most part the official regulations of our too numerous corporations and schools—a series of advertisements, in fact, of these institutions. After the manner of introductory addresses, they also devote a few lines to the glorification of the profession, and one of them this year has circulated to the general press a statement of its pecuniary prospects, saying that the young qualified practitioner "should be able to earn from £400 to £500 a year." Alas for the hope! Hundreds of qualified men are only able to scrape a bare existence by accepting the lowest prices and competition is constantly increasing. Even among the higher walks there are many able young physicians and surgeons who have never earned as much, and are plodding on steadily in hopes that with hard work distinction and some more solid remuneration will come to them.

On Wednesday the fifty-eighth annual report of the Commissioners in Lunacy was issued, and as there has of late years been so much discussion as to the alleged increase of lunacy, some of the statistics may interest you. At first sight the figures seem to support the opinion that there has been considerable increase. On January 1 there were 117,199 persons in England and Wales certified to be insane, being 3,235 in excess of the number on the same date last year. The average annual increase for the previous ten years was 2,513. But, of course, the total population, of which the insane form a fraction, has also been increasing. The returns show that the numbers of insane under care have for some years been increasing at a greater ratio than the growth of the population, but this increase is practically confined to the "pauper class." The rate of increase in the decade 1891 to 1901 (last census year) of the population was 12.2 per cent. of the insane, 24.4. But the ratio of insane to population in that period was only 10.9 per cent. The figures giving the assigned causes of insanity do not materially differ from those of previous reports, and they are only approximately true. Moreover, in any one case more than a single antecedent condition, predisposing or exciting, may be present. A "previous attack" was recorded in 16.1 per cent. of male admissions and 22.6 of females; heredity was noted in 18.6 per cent. males and 24.4 per cent. females. The chief physical cause was "alcoholic" intemperance; 22.8 per cent. of males and 9.5 females. This cause is more prominent among the pauper class, while the rates for private patients were higher for "moral causes," especially those involving anxiety and worry, than for the paupers.

It is refreshing to find that the commissioners renew their protest against the tendency to undue increase in the size of asylums for the insane poor. Its advocates try to justify it on the ground of convenience and economy, but many persons, especially those who feel the increasing burden of the rates, hold that extravagance is a more appropriate word for the lavish expenditure on huge buildings which has of late prevailed. The commissioners favor asylums of simpler construction for the aged and harmless, who are now removed in increasing numbers from their homes and workhouses into asylums built and fitted for acute cases. They think such asylums could be built and furnished less expensively, and well they may; for it is monstrous to hold that these patients require the same medical and nursing care and as luxurious apartments as rich patients can obtain in private institutions. To take a pauper from the workhouse and put him in a palatial hotel at the expense of the struggling ratepayer is an absurdity which would only be committed by boards, the members of which do not have to "pay the piper." The weekly cost of the maintenance of pauper lunatics is reported to be increasing.

Trypanosoma or piroplasma? which is it? It has generally been called the Leishman-Donovan body. Major Leishman's description at Oxford will be fresh in your memory. He found the parasite in 1900 and published his first description in 1903. Major Donovan found it a little later and sent specimens to Laveran and Mesnil, who named it *piroplasma Donovani*. Colonel Bruce would call it Leishman's body parasite, and others desiring to do justice to all offer the cumbersome name, "The Cunning-

ham-Leishman-Donovan body." Now Captain Rogers says he has seen it develop into trypanosoma. If this observation be confirmed, the name piroplasma must be rejected. I think I will follow some observers and be content while the experts settle the matter, to call it "the new body."

An official of the London Hospital in the course of an interview respecting abuses brought before the committee by the local medical societies, remarked that "it is very difficult to gather accurate particulars of every case when about four hundred patients pass through the receiving wards daily." He did not seem to think it possible that the fact of the reception of four hundred out-patients a day is important evidence against the management. He admitted that the hospital is often abused, many persons coming for treatment who could well afford to go to general practitioners. He even quoted glaring instance that had been mentioned by the medical society, and said the chairman of the hospital had suggested that the local doctors should make it their business to walk round the receiving wards daily, note the cases, and report to the secretary any person they recognized as not in need of charity, on receipt of which report the secretary would investigate it. Was there ever a more preposterous proposal! The half-ruined doctors are to spend their time in parading among the four hundred persons attending the out-patient department and report to the secretary the abuses they see. No greater indication of a determination to continue the competition is required—and this competition is pauperizing the population as well as the doctors.

The sanitary inspectors are holding a congress this week at Bournemouth, where they have been warmly received by the Mayor and corporation and accorded the use of the Municipal Building for the occasion. Papers on various subjects connected with the duties and responsibilities of a sanitary inspectors have been submitted to discussion and some on wider subjects, such as aspects of the Hygiene of a Health Resort—very appropriate to Bournemouth; factory laws and local authorities; the inspector's responsibility for prosecutions and the Food and Drugs Acts. The chairman of the Central Committee gave an address on Thursday, in which he pronounced the present rate of infant mortality a blot on our civilization and said inspectors only wanted to do their duty fearlessly and benefit everyone around them. A reception was given in the winter gardens by the Mayor and Mayoress, and Sir J. Crichton-Browne, M.D., delivered an address to the members of the association.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Sept. 22, 1904.

Exploratory Laparotomy in Cachectic Subjects.—Daniel Fiske Jones believes that ether is the most satisfactory anæsthetic in cases of exploratory laparatomy. If the patient is not strong enough to stand ether narcosis, operation should not be done. The incision should be in the median line, unless strongly contraindicated, and its length should be from two to two and a half inches as a rule. The surgeon must have clearly in mind what is operable and what is not. A positive diagnosis, however, in every case after opening the abdomen, is impossible. The surgeon should be the only one to make the diagnosis and the only one to judge of the advisability of proceeding. Gauze should not be used for walling off if it can be possibly avoided, as it increases shock and makes convalescence more painful. The most rapid method of suture is the simple through and through method with silkworm gut. But a safer method is to place the silkworm gut sutures and then put in a row of interrupted silk sutures, including the sheath of the rectus, the rectus, and peritoneum, after which the silkworm-gut sutures are tied. The writer emphasizes the importance of rapidity in these operations. He declares that one can open the abdomen, make a diagnosis, and close the abdomen in ten minutes or less, as well as in half an hour.

After-treatment of Gastroenterostomy.—E. A Pease believes that it is well to begin feeding immediately after the cessation of the nausea or vomiting, gradually increasing the amount as rapidly as after an ordinary case of laparotomy. Milk and lime water, beef juice, veal tea, black coffee, brandy and water, and sometimes very dry champagne, are given in teaspoonfuls every half hour at first, and soon increased up to half ounces every hour. It is important to see that no unusual strain comes at the seat of operation, as would be caused by vomiting or flatus. To avoid the after vomiting, the author has the stomach washed out just before the ether is given, and he also gives a small dose of morphine, $\frac{1}{8}$ and atropine, $\frac{1}{100}$ subcutaneously. The excretion of mucus is is thus stopped for the time, and restlessness is calmed. Morphine is rarely given besides this dose, only on the evening of the operation, and then, if restlessness or pain demands it. The flatus should be dissipated. For this a rectal tube is placed in the rectum soon after recovery from ether, and if no gas comes, and there is distention, an enema of suds and glycerin is given. Calomel, $\frac{1}{10}$ grain, is given every hour, till one grain is given, beginning the evening of the operation. Nothing effervescing is given, until after forty-eight hours from the operation. If there is nausea and vomiting, tablets of cocaine, $\frac{1}{10}$ grain hourly often stop it. If due to bile, drainage of the gall-bladder is often successful. The patient should have the head and shoulders raised on a pillow or two to allow the contents of the stomach to drain into the intestine. This position also better allows the bile to flow naturally along the intestinal course instead of flowing back into the stomach.

Special Preparation of the Patient for Operations on the Stomach.—C. A. Porter states that although in emergencies, such as perforation or acute gastric hemorrhage, no previous preparation of the patient can be made; nevertheless, if possible, the rectum should be thoroughly emptied previous to or during anæsthesia, in order that subsequent enemata may be given. In operations of election, however, attempts may be made to improve the nutrition and anæmia, to empty the stomach, and to render it and the upper intestine as free from bacteria as possible, and to minimize shock. The writer believes that the value of rectal feeding has been overestimated. This does not apply to cases in which an ulcerated stomach must be rested, but to prolonged attempts to improve the nutrition previous to operation by nutritive enemata. It is a delicate question of judgment to decide as to the amount of preliminary treatment to be given in cases which have not received proper medical treatment, and in those in which there is pyloric obstruction and starvation. In cachectic cases, especially those of stasis, the organ should be cleansed for a week or ten days, by daily, or twice daily stomach lavage. Easily digested foods leaving small residue, may be given at short intervals. The fluid for washing the stomach is of secondary importance, and warm saline, bicarbonate of sodium, or boracic-acid solutions are among the best. The value of antiseptics is doubtful. Not more than a week, as a rule, should be given to this preliminary treatment. The amount of a rectal feeding should not, as a rule, exceed 8 to 10 ounces, three times in twenty-four hours. In exceptional cases of very marked cachexia, or malnutrition, besides the stomach and rectal feedings, the subcutaneous use of sterilized olive oil, and 10 per cent. glucose solution may be used. The weight gained may be rapidly lost, and at the first step backward, operation should be done. In cases of gastric stasis, the amount of urine is apt to be small, and for several days before operation the patient should have plenty of liquids. The following treatment may be suggested for rendering the operative tract as clean as possible: Gastric lavage, once or twice daily, until the fluid returns clean; careful attention to carious teeth and suppurating gums; free catharsis by salines when it is not contraindicated, and the administration of nothing but sterilized food and boiled water by the mouth. This last factor is open to some question. On the evening before operation, the stomach should be emptied and washed out, and no food should be given after this. The operation should be done in the morning. The value of washing out the stomach after anæsthesia has been induced, is difficult to estimate. Careful attention to the prevention of shock is most necessary in these cases, on account of the poor condition of the patient. The temperature of the room should be from 72° to 75°. The patient should be well wrapped. Anæsthesia should be as light as is compatible with the conditions present. All delay should be avoided. Morphine and atropine given half an hour before operation often produce a quieter anæsthesia.

Journal of the American Medical Association, Sept. 24, 1904.

Autochthonous Sinus Thrombosis of the Cerebral Dura.—William G. Spiller and Carl D Camp report three such cases which belong distinctly to that class of cases in which the thrombosis is due to a general bodily condition. An extensive review of the literature upon this subject follows.

Symptomatic Cure of Convulsive Tic Douloureux by Injections of Osmic Acid.—Joseph Rilus Eastman reports the case of a woman, seventy-one years old, who had a typical intense tic douloureaux involving the right side of the face. The first attack occurred twenty years ago, and the attacks gradually became more frequent and more severe, and practically all the remedies recommended had been tried without benefit. A two-per-cent. solution of osmic acid was injected into the supraorbital, infraorbital, and dental nerves. The manner of operating was precisely that practised by Dr. John B. Murphy. Ten drops of this solution were injected into each branch and two

or three drops were forced into the perineural fat of each foramina around the nerves. One week after the injections the symptoms abated and there has been no return of the pain since. An interesting feature of the case was the severe nephritis occasioned by the elimination of the acid.

A Case of Early Acute Pancreatitis without Hemorrhage.—H. H. Germain and H. A. Christian give the clinical narration of such a case which was of less than four days' duration from the onset of the first symptoms. The clinical history was a fairly characteristic one. All of the findings seem to point to an intense intoxication due to a pancreatic lesion which is described. The etiology is not clear. There is no indication of any entrance of bile into the organ. There is a duodenitis. Assuming this to be the primary lesion, extension may have taken place to the pancreas either by way of the pancreatic ducts or by direct extension, possible in the close connection existing between the duodenum and the head of the pancreas. This cannot be said to be a clear case of pancreatitis of bacterial etiology. The interest of the case lies in its short duration, the extent and character of the inflammatory lesion, the slight degree of the necrosis of the pancreas and fat tissue, and the absence of hemorrhagic lesion. Such a case strengthens the belief in the inflammatory nature of acute hemorrhagic pancreatitis.

X-ray Therapy in Leukæmia.—Joseph A. Capps and Joseph F. Smith make this preliminary report with special reference to lymphatic leukæmia, and their general conclusions are as follows: 1. The action of the *x*-ray in leukæmia seems to be of two kinds: (*a*) A local influence on the spleen and glands, characterized by an inflammatory reaction and later by a breaking down and disintegration of the gland tissue. (*b*) The formation of toxins which have an inhibitory action on the manufacture of leucocytes by the bone marrow. 2. In no recorded instance of either lymphatic or splenomyelogenic leukæmia has the spleen tumor entirely disappeared. 3. With the discontinuance of the *x*-ray, the disease, after varying periods, tends to reassert itself. 4. Death may take place when the glands and spleen are smallest, and when the white count is normal. 5. Acute cases seem to receive no benefit from the *x*-ray. 6. The chronic form of lymphatic leukæmia responds to the *x*-ray even more promptly than the splenomyelogenic type. In every instance the glands rapidly softened and dwindled to small proportions. 7. The *x*-ray holds the disease process in abeyance, but probably is not curative. Yet it is too soon to say that persistent treatment of an early case may not give permanent relief.

Medical News, September 24, 1904.

Bone and Cartilage in the Tonsil.—James E. Newcomb briefly reviews a number of cases of this nature which are reported in the literature, first giving the history of a patient who came under his care. The patient was a woman of about thirty years, who presented herself for treatment for frequent though slight sore throat. The faucial tonsils were moderately enlarged, and their removal was advised. The Mackenzie instrument was employed, and the right tonsil was removed with no complications. A few days later the left side was operated upon, and as the blade of the instrument was driven in, a hard substance was encountered. This tissue, however, was easily pierced. On examining the tissue that had been removed, a small tip of bone was discovered. On palpating the tonsillar stump, it was noted that the tip of bone had been removed from the styloid process. It was, therefore, a case of abnormal length and direction of the left styloid process. The writer declares that it is not possible to state just how common this anomaly is. For, although few instances are on record, the report of an unusual clinical case is apt to call forth reports of similar cases, so that what at first was considered very rare is found later to be quite common. According to the writer, there does not seem to be any special importance attached to this condition, unless the bony projection is long enough and the direction of the styloid process oblique enough to cause tonsillar irritation. The abnormality seems generally to be discovered accidentally. There is a more voluminous literature in relation to bony deposits scattered through the tonsils. Cartilage has also been found. The writer himself has removed tonsils which showed masses too large and too hard to be foci of connective tissue and which were probably cartilaginous, but this was not confirmed by microscopical examination. Wingrave found cartilage three times in examining two hundred tonsils. Nosske found many deposits of bone and cartilage in the deeper layers of connective tissue coating the tonsil. This author includes in etiology, inflammation, retrogressive changes and a sort of local predisposition. Recently, Zuckerkandl has declared that cartilage develops independently of the skeleton in the connective tissue of organs when mechanical relations demand the presence of such tissue, as, for instance, in the Eustachian tube. The author concludes by noting that the Eustachian tube is formed from the first bronchial arch; thus a part of the cartilage might be shut up in the tonsil.

New York Medical Journal, September 24, 1904.

Some Causes of Menstrual Disorders in the Girl.—R. S. Hill states that when from 75 per cent. to 90 per cent. of the girls entering young womanhood manifest an incapacity properly to discharge the functions peculiar to their sex, we should investigate the causes of this deplorable condition, and root out the evil which is sapping the vital force of so many of our girls. Attention is called to antenatal and postnatal factors. A study of the antenatal factors embraces the study of the laws of heredity. As a general rule, Nature protects best and first those parts of the body which are most essential to personal existence, or the preservation of the individual. He concludes that the sexual organs contribute less than any others to personal health, or individual existence; if this conclusion is correct, it indisputably follows that, in the development of the child, better provisions are made for the growth, anatomical and physiological, of all other organs than the sexual, and, therefore, if any organs suffer from general deleterious influences, these are usually the ones furnishing, as it were, the *locus minoris resistentiæ*. Attention is then called to the two most frequent sources of evil, viz., school life and tight lacing.

Immunity.—Anna M. Stuart says that antisepsis has given way to asepsis, and that asepsis is not the final word, for we often forget our greatest ally, the resistance of the tissues. The poor are delivered in safety, on a surgically clean bed, while we dread our fine class of obstetrical work. Any animal, including man, poisoned by diphtheria, goes to work to elaborate an antidote in its own tissues, sometimes successfully, at other times not in sufficient quantity. The antitoxin reinforces the deficient quantity. Following out this analogy, one is forced to conclude that small repeated doses of a poison do develop their own antidote in all our common germ diseases. Is the principle "away with germs," she asks, the true one? May we not by our efforts to avoid the germ, destroy the power of the blood to develop immunity, simply by lack of use, as any organ of the body after long disease, loses the power to functionate to greater or less extent? She believes that the typhoid fever patient, the pneumonia patient, and the tuberculosis patient will stand a better chance of developing his own antitoxin if we conserve his strength, and stop irritating his tissues with foreign substances. The chief point is that in our eagerness to destroy the germ, we forget to build up our chief ally, the immunity of the patient against that germ.

Some Unusual Forms of Acute Myelitis.—B. Sachs wishes the term acute myelitis to be understood to be a disease process causing a more or less rapid, or a more or less complete destruction of the substance of the spinal cord at any given level, excluding, however, those forms which are due to large hemorrhages, and to the breaking down of neoplasms. He reports one case in which there was every reason to make a diagnosis of acute transverse myelitis, from the clinician's point of view, and yet the autopsy failed to reveal the first sign of any inflammatory process. His special object, in referring to this case, was to draw an analogy between the cerebral and spinal vascular accidents of the senile period. It is curious that the vascular accidents which befall so many persons of advanced age, so rarely bring about disease of the spinal medulla. The spinal cord of the first patient shows arteriosclerotic changes, and the affection from which he died cannot be interpreted otherwise than a general degeneration of the spinal cord due to the affected blood supply. There was an entire absence of inflammatory conditions. A second case is reported, which was most unusual, because of the remarkable suddenness of the onset, such as one is accustomed to associate with hemorrhage into the cord. There was a simultaneous development of the cord affection and multiple abscesses, showing the septic character of the myelitis. In this case there was strong reason to suppose that it was a streptococcic myelitis from which recovery had been at least unusual, but by no means complete. Both cases reported were recorded merely for the purpose of insisting that the spinal cord does, at times, become the seat of similar morbid processes that occur in the brain, and he does not believe it will do to restrict the term of myelitis merely to the morbid process that can be distinctly traced to trauma, syphilis, and to the ordinary acute infectious diseases.

Summary of an Experimental Research into Strychnine in Shock and Collapse.—G. W. Crile states that, in the majority of instances, in the normal animal, when

sufficient amount of strychnine was given to cause an increased excitability of the spinal cord, a rise in blood-pressure was noted, and this stage of increased excitability represented the border-land between the dosage without effect, and that of maximum effect. When more was given after this stage had been reached, convulsions appeared, and the blood-pressure rose abruptly and high. The curve during the convulsions was exceedingly irregular and continued for some time above the normal, exhibiting a secondary rise, if later convulsions appeared. In a series of experiments in which the convulsions were prevented by curare, and in which convulsive doses of strychnine were given, the blood-pressure rose as high as in the experiments in which the convulsions did occur. In another series, both vagi and accelerantes were severed, curare given, and varying doses of strychnine administered. The general effect upon the blood-pressure did not materially differ from the effects of corresponding doses upon the normal animal. In the curarized animal, and in the animal having both vagi and both accelerantes severed, the rise following the physiological dose of strychnine continued from half an hour to one hour and a half. Successive repetitions of the dose caused rises, in each instance not so high as the previous dose, until a period was reached when no further effect was noted. After each dose the blood-pressure fell, after the effect had worn off, to a lower point than it was before the injection was given. When strychnine no longer produced a rise, no effect was noted on burning the paw, or electrically stimulating the sciatic nerve. After the blood-pressure had reached the stage of terminal helplessness, the administration of saline solution caused a rise, as also did the use of adrenalin; bandaging and other means of external pressure also caused a rise. In the animals in which both vagi and both accelerantes had been severed, no change in pulse rate was noted in any dose that was given. In animals in which varying degrees of shock were produced, strychnine caused a rise of blood-pressure proportional to the degree of the shock.

American Medicine, September 24, 1904.

Nerve Blocking to Prevent Amputation Shock; Illustrative Reports of Two Thigh Amputations.—Hermann B. Gessner reports these two successful cases. The first patient was a man of twenty-three years, suffering with tuberculosis of the right knee-joint and femur, with partial ankylosis. Amputation was decided upon, and when the posterior flap was being fashioned through the muscles, care was taken to identify the great sciatic nerve. This was infiltrated with 1.54 c. c. (25m.) of a 2-per-cent. solution of cocaine hydrochlorate, then divided at the infiltrated level. When the amputation was concluded, the great sciatic and the internal saphenous nerves were injected with the same solution on being drawn out for shortening. The pulse, which had been 80 when the patient was in the ward, by the end of the operation had fallen to 62. Its character was excellent throughout. Stimulation during the operation was limited to 2 mg. of strychnine sulphate, given hypodermically, just before the first nerve section. The writer believes that but 1 grain of cocaine was used. Of this quantity a large part must have been lost when the nerve tissue was divided. The second amputation was performed for chondrosarcoma of the right tibia. A good immediate result was obtained as to prevention of shock by the use of a 1-per-cent. solution of cocaine. There was a later rise in pulse, which may have been due to "delayed shock." In neither case was there any evil result from the blocking. The author states that he feels justified in recommending the method as one well worthy of further trial, promising much that is good, and so far showing no disadvantage. Five minutes would more than cover the time necessary for the blocking.

Garlic in Tuberculosis and Lupus.—John Knott gives a most interesting review of the history of garlic as a therapeutic agent. Even in the Middle Ages garlic enjoyed an excellent reputation for its curative properties. It is found three times in the verses of the famous "Regimen Sanitatis Salernitanum," which was addressed A. D. 1100 to Robert of Normandy, by the heads of the oldest European medical schools. Sir Thomas Browne gives a most interesting account of the therapeutic properties of this plant. The list of its curative properties is stated at such length, that, as the author says, the only remaining wonder is why sickness or death still remained—in presence of garlic! Some of its traditional therapeutic powers have been confirmed by modern science. Its objectionable odor is doubtless the cause of its having fallen into neglect. Koch states that the presence of a small percentage of allyl alcohol successfully inhibits the development of *Bacillus anthracis*. The "essential oil" of garlic is almost wholly composed of allyl sulphide. This oil is an intense rubifacient. In Ireland favorable reports have been made in regard to the administration of garlic in serious bronchial affections. Carazzani believes that a sufficient amount of garlic used in tuberculosis will produce immunity against infection. The writer expresses his hope that its uses in tuberculosis may be thoroughly investigated. He believes that its influence on the respiratory mucous membrane is due to the fact that the allyl compounds are so largely eliminated here. Garlic is bactericidal and presumably stimulating, consequently there are reasonable grounds for the hope that the traditional powers of garlic may be at least partly realized.

Tuberculosis of the Abdominal Lymph-glands.—Charles F. Painter and William G. Erving give as the three sources of tuberculous infection of the abdominal lymph-glands: 1. Direct extension from adjoining diseased tissues. 2. Infection from the blood stream. 3. Infection through the lymphatics. With a focus of tuberculosis in a lymph-gland, it is always a source of danger to the rest of the body. Often the fatal termination is due to complications. Complete intestinal obstruction, both chronic and acute, is not infrequent. Occlusion may follow secondary involvement of the wall of the intestine itself. Sometimes the glandular cyst-like masses reach enormous size, and rupture may take place through the peritoneum, giving rise to a local or general peritonitis. Often the mass of tuberculous detritus follows the general course of the psoas abscess of Pott's disease, and points either in the loin or in the thigh below Poupart's ligament, where it ruptures. As to differential diagnosis, the authors state that among cases with spinal symptoms, mesenteric tuberculosis must be distinguished from Pott's disease, aneurysm of the abdominal aorta, malignant disease, especially cancer, osteo-arthritis, osteomyelitis, and other inflammatory diseases in or about the spine. The writers consider the treatment of this condition under three heads: General, mechanical, and operative. The first is perhaps the most important and includes all factors which tend to build up the general system. Even when the spine is not directly involved there are many conditions in which fixation of this part affords relief from pain. As to the operative treatment, the same general rules hold good for the treatment of abscesses derived from broken-down lymph-glands as apply to abscesses from tuberculous bone lesions. As it is important to prevent them from becoming secondarily infected, incision should be delayed as long as possible. If aspiration can be safely practised, it is preferable to open incision. The writers have observed at operation an abdomen filled with glands so broken down and matted together that resection was impossible, but the patient, when seen two years later, showed absolutely no evidence from external examination of a pathologic condition of the abdomen. Much can be done to favor the prognosis in these cases, but their care requires great patience and perseverance.

The Lancet, September 17, 1904.

Cancer Facts and Cancer Fallacies: A Plea for the More Scientific Study and Treatment of Malignant Diseases.—Herbert Snow calls attention to the progressively increasing mortality from cancerous diseases in apparently all civilized communities. The common practice of grouping together a large number of diverse maladies under the single title "cancer"—no more definite and precise a term than "fever"—he believes to be fatally opposed to the interests of science. Classification, according to tissue origin reveals nine distinct *genera* of malignant new growth with thirteen well-marked *species*. Each of the nine owns a different mode of causation; and of every one the exciting cause is accurately known and clearly defined in technical works. Of what avail are arguments, researches, or statistical returns which bracket together such distinct varieties as an epithelioma of the tongue or lip, and a carcinoma of the mamma? and which, in addition, commonly designate both as "carcinoma." There is a distinction between the qualities of the neoplasm in each of the two maladies, now more or less confounded. He urges that an attempt should be made to place our knowledge of malignant diseases upon a truly scientific basis, and also that there should be placed on record authoritatively the facts we already know respecting their genesis and phenomena. Appended is a table showing the diseases known as "cancer," with their mode of causation.

Epithelioma of the Tongue in Women.—Charles R. Keyser says that this condition in women is decidedly uncommon, but the frequency with which it occurs varies apparently according to the sources from which the cases are derived. Age does not seem to differ in the two sexes. As in men, the disease is almost invariably preceded by prolonged local irritation. The precancerous condition or leukoplakia is commonly seen, and runs a course identically the same as in the opposite sex. Syphilis is by no means a constant precursor of epithelioma of the tongue. Appended are reports of ten cases.

Congenital Word-Blindness.—Sydney Stephenson says that so far fourteen cases of word-blindness have been reported by six authors, but he states that these cases are not so rare as the scarcity of records might lead one to infer. The writer places on record two cases, one slight, the other severe, that had fallen under his notice. It cannot be doubted that there exists a congenital condition where the learning of letters or of words from printed or written characters is difficult or even impossible. This may be due to some defect in the visual memory center for words and letters. Males were affected in 82.25 per cent., and the ages of the patients averaged thirteen years. Vision was normal in all but two, and the general intelligence was good in thirteen of the sixteen cases. The improvement in these cases was generally described as "slow but satisfactory." The diagnosis offers but few difficulties unless the condition coexisted with a considerable error of refraction. Congenital alexia, he believes, will be found to be commoner than hitherto supposed.

Case of Spontaneous Gangrene of the Skin in an Hysterical Woman.—W. A. Mearns reports the case of a woman, twenty-four years old, very anæmic, delicate, and known to be of a hysterical disposition, with a skin lesion on the lower part of the neck and just above the middle third of the right clavicle. The area involved was rather larger than a half-crown piece, and its appearance had been preceded by a hot, burning sensation. One week later the part was seen to be quite black in color and evidently gangrenous; on raising the surface slightly a sloughy débris of pus-like matter could be seen. Boric acid fomentations were applied, and soon the slough separated and left a raw, red surface exposed. Two successive areas of skin were involved, extending from the original spot up toward the right ear. The same cycle of changes were here noted, ending in gangrene. The appearance was exactly as if the skin had been burned with a corrosive acid. Thereafter the lesions extended progressively below the clavicle down to the right breast, in all there being about seven distinct areas affected. Gradually all the sloughs were removed by fomenting, and a large raw surface was left extending from just below the right ear down to the right breast. Convalescence was very slow and protracted. The cicatrix broke down several times when nearly healed. After five months in the hospital, she was discharged with an exceedingly large disfiguring cicatrix on her neck and breast.

British Medical Journal, September 17, 1904.

Evanescent Subcutaneous Nodules Accompanied by Eruptive Fever in a Patient from Southern India.—James Cantlie on examining this patient, learned that for many months he had had several nodules about the size of No. 6 shot beneath his skin. Each nodule was accompanied by a slight increase in temperature, and caused a little irritation and local redness. The nodule lasted about three weeks, at the end of this period all local traces disappeared. The nodules had developed in the upper and lower limbs. The skin was slightly adherent to the nodules, but these moved freely on the deeper tissues. There were no filarial embryos in the blood. Examination of the nodules also revealed no worm. Microscopical sections showed newly formed connective tissue, embryonic in nature, with a number of dilated lymphatics or lymphatic spaces in the center. The writer declares that he is convinced that the disease was an evanescent obstruction of th lymphatic in the limbs.

Lymphoid Cells.—James M. Beattie, in describing the cells of lymphoid tissue, says that they are like the cells of lymphatic glands. They are small; the nucleus is rich in chromatin; usually it is round and central. The staining is so dark that very little structure can be made out in the nucleus. The protoplasm is generally very scanty, and takes on a reddish stain with eosin. In dealing with the function of lymphoid cells, not only the small forms, but the larger ones which are derived from them, must be considered. The writer has never seen phagocytosis by the smaller forms, but he states that the larger forms and the plasma cells are doubtless phagocytic not only to foreign particles, but also to other cells and bacteria. The mononucleated phagocytes are the most important of the cells of inflammatory exudations. In the healthy peritoneal fluid and in the later stages of infection, where recovery is taking place, they are almost the only cells present. In all of the writer's experiments, in which the animal recovered from infection, the mononucleated cells became greatly increased, as compared with the polymorphonuclears, from about 30 hours onward. In fatal cases, the polymorphonuclears were always in excess. The writer's observations lead him to think that these lymphoid cells in repair and in tubercle granulations are capable of producing fibroblasts and fibrous tissue. But, nevertheless, he is convinced that their rôle here is a very secondary one. The fibroblasts are formed, at any rate, principally from the fixed cells of the part. Most of the lymphoid cells apparently are destroyed in the newly-formed tissue.

The Congo Floor Maggot, a Blood-sucking Dipterous Larva Found in the Congo Free State.—J. Everett Dutton, J. L. Todd and Cuthbert Christy in describing this maggot, tell how the natives collect them by digging with the point of a knife or scraping with a sharpened stick in the dust, filled cracks and crevices of the mud floors of their huts. Many were turned up from a depth of three inches. In moist, soft earth, they are found even at greater depths. There is no doubt that these maggots feed only at night. The natives said that the maggots drop off at once if the limb on which they are feeding is moved. There were specimens of all sizes, ranging in length from 2 to 15 m.m. When ready to pupate, the larva lies dormant upon the surface, changes in color to a pinkish-brown and later becomes a dark reddish or brownish-black, chitinous, segmented, with oblong paparium. The natives believe that the maggot is able to jump to a height of 18 inches, but the authors have never been able to substantiate this. It probably feeds nightly, for blood in varying stages of digestion, and ranging in color from bright red to black, is often seen in its alimentary canal. The writers think that the maggots reach the raised beds by crawling up either the supports or the grass wall against which the bed is usually placed. The distribution of the larva is very extensive. This larva maggot is semitranslucent, of a dirty white color, cephalous, and amphipneustic. It resembles, when adult, the larvæ of the bot-flies, and consists of eleven very distinct segments. Paired groups of minute spicular teeth are placed around two tenacula so as to form a sort of cupping instrument. The integument of the larva is tough and thick. The larva can stand a great deal of pressure without injury. The time required for the maturation of the larva is not yet known. The writers saw a large light brown fly which is believed by some observers to be developed from the floor maggots. The writers have allowed a number of these maggots to feed on rats and guinea-pigs. They mean to determine whether they are able to play a part in the transmission of the human trypanosome. They have not been able yet in any entomological works which they can command, to find any reference to the habits or morphology by which this fly can be identified. E. E. Austen, dipterologist to the British Museum, states that these flies are specimens of *Auchmeromyia luteola*, Fabr. (a species of the family *Muscidæ*). He declares that the writers of this article have come across an entirely novel and very interesting fact in the biology of diptera.

Leprosy a Curable Disease.—T. J. Tonkin believes that it is the same with leprosy as it is with tuberculosis. He speaks of the well-known fact that at autopsy old tuberculous lesions are frequently found in patients who have died from another cause entirely. Every grade of leprosy exists. Many patients may recover without any more than suspecting the nature of the malady with which they are affected, or even without suspecting it at all. Among the severer cases, the occurrence of some improvement in their circumstances, almost always betters the individual's condition, and in some of the cases abolishes the disorder. The writer states that the average period of fatal leprous disease is not often longer than twelve years. Of over two hundred cases that he has examined, 24 per cent. had survived fifteen years, while 8 per cent. had left the invasion period from twenty to fifty-five years behind. The effects of the disease may remain—as mutilated fingers and toes, but the writer believes that if the patient is devoid of the signs and symptoms of the active disease, if his organs are performing their functions in an ordinary manner, if he enjoys life and can work, then it is rational to consider him hale, and if the accessible fluids of his body are free from bacillary pollution he can hardly be regarded as a danger to the community. That in this sense leprosy is curable there can be little doubt, for many individuals of this description are living. It is important to recognize the curability of the disease, for if this fact is not recognized a community will not be apt to look with favor on an asylum for lepers which discharges its patients. If this disease is considered incurable, it is not likely that any educational movement will be instituted to correct the prejudices of the people. Again, the patient himself, in the institution, believing himself to be beyond hope, will not avail himself of any of the aids which in the early stages of the disease offer such golden opportunities for treatment. Owing to this general belief, large numbers of leprous persons are rendered ineffective as wage-earners. Taken early it is possible that the man can not only be cured, but that he will be able to go back again to take his original place in the world. The writer finally speaks of the responsibility of the medical profession in this matter, which he believes is not small. He believes that sooner

or later his ideas concerning the curability of this disease will be acknowledged; but that time will then be too late for many victims who are now in the first stages of this disease.

Deutsche medizinische Wochenschrift, September 1, 1904.

Beck's Operation for Hypospadias.—C. Bötticher reports on the results obtained by this procedure, which consists of freeing the urethra, then displacing it forward and suturing it to the edges of a new meatus, formed by an incision directly into the gland. Of ten cases, six were examples of glandular hypospadias, and the remainder penile hypospadias. It was found preferable to tunnel the glans rather than to split it, both of which are recommended by Carl Beck. For the erections which are liable to occur after operation, a few drops of tincture of opium afforded most relief. The writer claims that the best time for operating is during the third year, as the parts are easier to handle and easier to keep clean.

Dangers of the Bottini Operation.—P. Rosenstein calls attention to an accident which may occur during this operation, to which insufficient notice has been extended, namely rupture of the bladder. He instituted a number of experiments with reference to the changes in the intravesical pressure, in an endeavor to arrive at an explanation of this complication. In the case reported, the bladder was distended by about 200 c.c. of air, and ruptured without warning, during the course of the operation. The organ was repaired through a laparotomy incision, but the patient died on the eleventh day of bronchopneumonia. A number of physical experiments were made by the author, and in the first of these he was able to prove that the rupture could not take place from the mere heating of the air contained in the bladder, as has been claimed. When moist organic tissue was heated by the "incisor," a bursting of the glass globes, intended to represent the bladder in the experiment, took place, and a pressure of two atmospheres was registered. As the "incisor" enters the substance of the prostate gland, small globules of water collect on the blade, surrounded by a layer of steam. As the instrument is slightly cooled by the tissue, the water drops suddenly become steam, and a consequent increase in the pressure results in the bladder. These experiments were confirmed by observations carried out in animals and the cadaver.

Berliner klinische Wochenschrift, August 29, 1904.

Employment of Filter Paper in Hæmatology.—Tallyquist comments on the value of white filter paper in making a diagnosis of anæmia, when used in connection with the author's hæmoglobin scale. A phenomenon to which he calls attention is the formation of a ring of moisture around the red stain itself, which becomes visible on holding the paper up to the light. This always points to a marked diminution in the number of the blood corpuscles, and has been determined as appearing whenever the number falls to one-half the normal or less. The greater the diminution, the more extended the ring. Another disease of the blood which may be recognized is leukæmia. In sharp contrast to normal cases, it will be found that the filter paper takes up the blood drop with difficulty, and considerable time is consumed before the spot is dry enough for the purposes of the comparative color test. The color, moreover, is uneven, and does not correspond with any one of the colors on the chart. This condition is probably due to the unusually large number of leucocytes present.

Enuresis in Children.—J. G. Rey states that the views regarding this complaint may be classified as follows: (1) That enuresis is nothing more than an anomaly of function in an otherwise healthy child with a normal urinary apparatus. (2) In opposition to this is the view that every case depends on a pathological basis which may result from one or a number of causes. (3) A combination of these two views: The author has carried out an extensive series of investigations with the urine of fifty-two patients, and has arrived at the conclusion that in the majority of instances the trouble is due to a disease of the bladder or the neighboring organs, unless there is no lesion of the central nervous system, idiocy, or athyreosis. Enuresis must be considered a physiological condition during the first ten months of life, but if it extends beyond this and continues beyond the third year of life, there is present, in addition to the direct or indirect irritation of the bladder, a diminsshed will power. Where the children have suffered from ionie disease of the bladder during their early years, the enuresis becomes a matter of habit, but the effect on the will power may persist for a long time after the bladder symptoms have disappeared. In order to clear up the etiology in any given case of enuresis, it is necessary to make frequent chemical and bacteriological examinations of the urine, and in older children, to institute an endoscopic examination if possible. The treatment is mainly dietetic, milk in the form of soups and gruels having been used by the writer with considerable success. Meal times should be regular, and nothing given in the interim. A bitter tonic with HCl is given before meals and, for the vesical irritation, salol in moderate doses after meals, together with strychnine in older children. Exposure of the genital region and cold feet must also be avoided.

Münchener medizinische Wochenschrift, August 30, 1904.

Unusual Injury to the Middle Ear.—M. Scheier reports a case in which there was an isolated injury to the anvil with complete exfoliation of this bone. Nothing of this kind has hithe to been observed. A woman on cleaning her ears with a hair pin wrapped in a towel, was suddenly seized with severe tinnitus and vertigo. There was complete deafness on the injured side. Examination showed a perforation of the drum and in the canal was found a perfectly normal anvil. No otitis media followed as might have been expected and the woman recovered but with hearing only partially restored and some tinnitus still present.

Hydrophobia and Trauma.—Ed. Pfister describes an interesting case in which trauma evidently played an important factor in producing a recurrence of a hydrophobia. The patient was bitten by a dog, which later developed true hydrophobia, and had also bitten a number of other persons. All these were treated by the Pasteur method at the institute in Cairo, Egypt, where the occurrence took place, and made a good recovery, including the individual first noted. About three months later, the latter was forcibly struck on the head and sustained a severe scalp wound, which promptly healed, however, under appropriate treatment. No fracture of the skull could be made out. Within a few weeks the man began to act queerly and his general condition became one of melancholia with marked depression. Then he began to complain of pain on swallowing, which grew rapidly worse and was accompanied by spasm of the œso hagus. Deglutition, especially of cold articles of food, soon became impossible. These, in combination with other signs, designated the case as one of hydrophobia, without prospects of recovery, and the man died shortly after. The writer suggests as a possible explanation of this case, that the virus, in a latent condition, remains localized in the bulbus and certain other parts of the brain nearby. A blow which affects this region might set free the toxin and distribute it through the brain. In this case the infection might have been favored by the fact that the patient presented a hereditary history of mental disease, which is known to be a contributory factor in the production of hydrophobia or other cerebral diseases.

Retrograde Metastatic Currents from the Thoracic to the Abdominal Cavity by the Lymphatics.—Tendeloo calls attention to the changes which may be present in the retroperitoneal lymph nodes and account for the transmission by the lymphatic channels of material from tumors and infectious processes in one cavity to the other. There are several groups of these nodes, and the one to which he has paid particular attention he designates the para-aortal group. His observations are largely based on autopsy findings and the present discussion is limited to metastasis from the thoracic to the abdominal cavity. In a number of cases of pyopneumothorax, a purulent adenitis of this para-aortal group could be made out, while the mesenteric and the remaining abdominal nodes are unchanged. The same was noted in pulmonary tuberculosis. This localization seems to confirm the supposition that the path of the infection was through the lymph rather than through the blood channels, for if the latter were true there is no reason why the infection should not have been more widespread. Four cases of mammary carcinoma were also examined, in which the involvement of the surrounding parts was quite extensive. In one case no abdominal metastases were found, in two the nodes around the lower end of the aorta were involved, and in the fourth case, there were deposits in the liver and the portal lymph nodes. It is also likely that here the extension was through the lymphatics. Scattered through the nodes around the abdominal aorta in certain cases, pigment was found which on careful examination was determined to have originated outside of the body. The lungs also contained it and it therefore seems reasonable that this inhalation pigment found its way through the lymph channels from the lungs to these retroperitoneal glands. In some instances the pigment could even be detected in the diaphragm.

French and Italian Journals.

Chronic Pleurisy with a Large Osteoid Plaque.—Pelletier reports this interesting case. The patient, who had been admitted to the hospital for aortic insufficiency, died suddenly. At autopsy it was discovered that the left lung

which was decidedly atrophied, was completely adherent to the chest wall, being attached by fibrous adhesions. There was no pleural cavity. A very hard plaque was found in the parietal pleura. This plaque measured about ten cm. by five cm. Nearly always these induration pleural plaques are calcareous, but in this case the consistence of the tissue is decidedly like bone. A histological examination will probably be made to prove this point.—*Bulletins et Mémoires de la Société Anatomique de Paris*, April, 1904.

Gastroenterostomy for Gastric Ulcer or Cancer.—Depage has kept records of the history of eight patients operated upon since the beginning of the year for various affections of the stomach. He used Roux's "Y" method of gastroenterostomy in all of the cases, confining himself to two rows of sutures. The operation took from thirty-five to forty-five minutes. The results were very satisfactory. There were four cases of gastric ulcer, three of pyloric cancer; while in the eighth case there was cancer of the pylorus adherent to the abdominal wall and to the transverse colon. In this last case, the tumor was resected "en masse" without any difficulty. The writer then gives a short summary of the cases, showing the marked improvement in the general condition of the patients since the operation.—*La Policlinique*, August 1, 1904.

The Persistence of the Klebs-Loeffler Bacilli in the Throat of Children Who Have Had Diphtheritic Angina—B. Auché sums up his conclusions as follows: (1) In cases of diphtheritic angina, the Klebs-Loeffler bacillus may persist in the throat three and even four weeks after the disappearance of the false membranes. (2) In general, it is transformed, and becomes shorter and less virulent in proportion to the length of time that it remains in the throat. (3) It may, however, grow again, and cause a relapse, or be transported to the throat of another person, and give rise to an acute attack. All such chances should be avoided. (4) The only way to prove the time of disappearance of the bacilli, is to make cultures on gelatinized serum. The patient should be isolated until the culture gives a negative result.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, August 14, 1904.

Cure of Alcoholism.—Legrain reports on the method of treating alcoholics in Russia by hypnotism. In some of the cities in that country there have been for some years instituted under the auspices of the government, dispensaries or sanitariums where hundreds of patients flock. The treatment is gratuitous, and hypnotism is, if not the only, at least the principal therapeutic agent. It is demanded of the patients that they sincerely desire to be cured, and that they abstain from all spirits while they are under treatment. This is asking a great deal of these patients, and requires of them a tremendous effort, especially as very often their volition is almost abolished. They are subjected, also, to a continual surveillance. Nevertheless, hypnotism remains an extremely valuable and efficacious means in the cure of alcoholism. It gives good direction to the mental processes, and the necessary vigor to maintain the good resolution not to drink. In order to avoid relapses it is neessary to enroll the alcoholics in societies of abstinence or temperance.—*Archives de Neurologie*, August, 1904.

The Actual Status of Radiotherapy.—M. J. Bergonié reports a case of tumor of the face of long standing which had resisted all medication. The histological structure of the tumor is not noted. The patient had been treated by a distinguished dermatologist, but to no avail. The growth increased rapidly from day to day, and had encroached upon one side of the nose as well as involving the tissues both above and under the eye. This tumor was cured by means of radiotherapy after eight treatments. It is now three months since the last treatment was given, and the patient has stadily improved. She has begun to be able to raise the eyelid, and there is no trace of recurrence. However, as the writer adds, the results in all cases are by no means so happy. In one case of rodent ulcer, there was absolutely no relief after twenty sittings. The inflammatory reaction is the first good sign in cases treated by radiotherapy. The writer believes that radiotherapy is a means of treatment particularly efficacious in certain skin diseases, and in nearly all cases of cutaneous epithelomata. Aside from the good results obtained, another advantage of this method is its absolute painlessness.—*Journal de Médecine de Bordeaux*, August 14, 1904.

Abscess of the Posterior Mediastinum.—Piet cites this case which came under his observation. The patient was a woman fifty-seven years old, and entered the hospital for what she believed to be an obstruction in the œsophagus. She thought she had swallowed a piece of bone which had lodged there. The œsophagus was carefully explored, but nothing was found in the nature of a foreign body, although the bougie met with a resistance at about the junction of the middle and lower thirds of the tube. The symptoms increased in severity after the exploration. Pain, agonizing dyspnœa, and cardiac collapse made the patient's condition very grave. The temperature also rose. The patient died a week after entering the hospital. Autopsy revealed an abscess in the posterior mediastinum. It was as large as a hen's egg, and a little to the right of the median line. It reached below almost to the diaphragm. The result of the autopsy explained the symptoms of the patient satisfactorily. But the pathogeny of the abscess did not appear. There was no perforation of the œsophagus, nor was there any focus of peribronchial gangrene. The case is obscure, and interesting on account of its rarity.—*Journal des Sciences Médicales de Lille*, August 6, 1904.

Vaginal Hysterectomy for Cancer of the Cervix During Pregnancy.—R. Condamin and A. Condamin present the following conclusions: In the case of operable cancer of the cervix, determined during the course of pregnancy, intervention is the duty of the surgeon, for by practising total hysterectomy in time, there is a chance of saving the mother; 22 per cent. of non-recurrences after four years is the record of cases reported in this article. The chances of survival of the fœtus, if pregnancy is not disturbed, are very small. If the parametrium (the broad ligaments, and vesical wall) is invaded, if it be even slight in extent, the mother is doomed. The infant will then be the only object of interest. During the sixth or seventh month of pregnancy, if the cancer has just started, and if the surgeon thinks that by waiting a month or two he will be able to perform a radical operation, he may await the viability of the fœtus. But on the contrary, if the cancer is then operable, intervention should be practised without regard to the fœtus. Vaginal hysterectomy may be done by the classic method. But the infant ought to be extracted by abdominal cæsarean section. It would be necessary to combine the two methods to give both mother and child the best chances.—*Lyon Médical*, August 7, 1904.

So-Called Cystic Cystitis.—Umberto Parodi tells us that cystic degeneration of the wall of the bladder is exceedingly rare. The patient whose case he reports had atheroma of the aorta, and peripheral arterial sclerosis, bronchitis and pulmonary œdema. The pelvis of the kidneys was normal, as well as the ureters, and the urethra. The bladder walls were contracted and presented a slight grade of cystitis, with marked cystic degeneration of the sub-mucosa. The cysts were the size of a grain of millet, scattered over the surface, but most frequent in the postero-superior portion. On microscopic examination solid epithelial nodes were noticeable, with a tendency to degeneration in the center. Other nodes had become cystic by continuation of the degenerative process; the cavity of the cysts was filled with amorphous material, and degenerated epithelium. The nodes and cysts were independent of the vesical epithelium; there was only a slight degree of inflammation of the mucosa of recent origin; there was nothing to account for the origin of the cysts from chronic inflammation; they had not the characteristics of true adenomatous formation; and they were not localized in any one portion of the bladder, but distributed over its surface. The author believes them to have been developed from congenital epithelial nodes.—*Archivio per le Scienze Mediche*, Vol. XXVIII, Fasc. 1, 1904.

Paratyphoid Fever.—Raoul Bensaude and Lucien Rivet in a paper on this subject pays special attention to the history and symptoms of this disease—touching on the diagnosis. Paratyphoid belongs in the large family of general severe infections. It is much like typhoid fever not only clinically, but also from the bacteriological point of view, for the paratyphoid bacillus is closely related to the bacillus of Eberth. The clinical resemblance between these two fevers is so close that the differential diagnosis is possible only after bacteriological researches are made, which show in the case of paratyphoid: (1) The absence of, or at least the feeble intensity of Widal's agglutinative reaction; (2) The presence of the paratyphoid bacilli in the organism, especially in the blood. (3) The agglutination of these bacilli by the serum of the patient. The name "paratyphoid" was given to these bacilli for the first time by Achard and Bensaude, in 1896. The paratyphoid bacillus, like the bacillus of Eberth, can give rise, clinically, to local infections which are rare; and to general infections with the form of ordinary typhoid. In a large number of cases, the symptoms for the first few days are vague—headache, general malaise, anorexia and abdominal pain being characteristic. Constipation is the rule. Albuminuria is sometimes present. The diaoz reaction is present in only 30 per cent. of the cases. The temperature is highest in the evening. These are the diagnostic points of most value—*Gazette des Hôpitaux Civils et Militaires*, August 13, 1904.

Book Reviews.

Medical Tuberculosis; Its Rational and Natural Cure; Its Several Stages and Relationship to Cancer. By R. B. Searle, L.R.C.P., M.R.C.S., L.S.A., Mayor of Dartmouth. London: The Scientific Press, Ltd., 1904.

The writer advocates the introduction of the typhoid bacilli with their toxins into patients afflicted with tuberculosis which is passing into the third stage. He believes that cancer may be looked upon as a malignant variety of tuberculosis. He states that his treatment requires skill, intelligence, experience, and conscientiousness.

Über den Schluckmechanismus. Von Prof. Dr. J. Schreiber. Berlin: A. Hirschwald, 1904.

In this very valuable monograph Schreiber has published a series of important experiments on the act of deglutition. Meltzer's works on this subject are fully discussed. Schreiber arrives at the conclusion that solid as well as liquid substances reach the stomach by the peristalsis of the œsophagus, and not by any act of throwing from the pharynx directly into the stomach. The experiments of Schreiber certainly deserve careful study.

The Brain of the Sheep. Part IV, Revised, of Physiology Practicums. Third Edition. By Burt G. Wilder, B.S., M.D., Cornell University. Ithaca, published by the Author, 1904.

This pamphlet contains explicit directions for examining the brain of the sheep as an aid to the study of elementary physiology. It is in the form of practical lessons and well illustrated by the author's characteristic drawings. The concise exposition of the various features in the anatomy of the brain will greatly aid the student in his dissections of this organ.

Précis de Thérapeutique Oculaire. Par le Docteur Scrini, Chef de Clinique Ophthalmologique de la Faculté de Paris à l'Hôtel Dieu. Préface du Professeur de Lapersonne. Paris: G. Steinheil, 1904.

The book is one of 322 pages and, in addition to the work of Dr. Scrini, it contains a short preface by Professor de Lapersonne. It takes up the consideration of the sterilization of instruments, the methods of rendering the hands of the operator, and the site of the operation aseptic, as well as a consideration of the various remedies employed in the treatment of diseases of the eye.

A chapter is devoted to a discussion of the merits of the various general and local anæsthetics employed in eye surgery. The various drugs used are discussed, as is also the method of their application. The value of physical applications is considered—dry and moist heat, dry and moist cold applications, electricity, magnetism, and light. Mechanical appliances and mechanical measures, such as bandages, protection shields, massage, brossage, and the surgical treatment of trachoma, are briefly described. Remedies that are employed systematically to influence conditions of the eye are also mentioned. The use of different sera is given full consideration. Throughout the greater part of the work the general application of remedies is considered, and at the end some twenty pages are devoted to the therapeutics of special diseases of the eye. As stated by the author in his introductory remarks, the volume reflects the practice, as far as therapeutics is concerned, of the Ophthalmic Department of the Hôtel Dieu under the supervision of the late Professor Pannas. The work is one of value to all ophthalmologists.

Ueber Immunität der Syphilis nebst Bemerkungen über Diagnostik und Serotherapie der Syphilis. Von Dr. Franz Nagelschmidt. Berlin: August Hirschwald, 1904.

This brochure represents the original investigation of the author carried out in Lesser's laboratory in Berlin; in that of Neisser in Breslau, and in his own private laboratory since 1900. The result would point to syphilis as conferring a certain immunity to the individual affected, and the hope of finding a therapeutic serum is strengthened. The animal experiments given with brief detail and conclusions, will interest many workers in these fields.

First Report of the Tenement-house Department of the City of New York. Vols. I and II.

These two volumes report in full the organization, problems and results of the department during the period between January 1, 1902, and July 1, 1903. The relations between the other city departments and itself, the workings of the new tenement-house laws, the laws and regulations, and the results obtained are all described in detail and make most interesting reading. As a guide book for other cities contemplating a similar department it would be indispensable. The illustrations describing the conditions existing before and after interference are many and instructive. All those interested in humanitarian effort and social conditions should read the work, and can be sure that their time will have been well spent in so doing.

Traitement de la Tuberculose Pulmonaire par la Médication Intra-trachéale. Par le Dr. Henri Mendel, Ancien Interne des Hôpitaux. Introduction par M. le Professeur Brissaud. Deuxième Édition, remaniée et augmentée (avec 7 figures et 26 tracés pneumographiques). Paris: F. R. Rudeval, 1904.

The author explains the method of treatment of tuberculosis which he has already presented to the medical public in several communications and in a first edition of this book in 1900. Since that time he has perfected the method and simplified the technique. The medicament for injection used by him is a solution of eucalyptol in olive oil. This substance, though active, is inoffensive. It does not give rise to unpleasant symptoms, but rather diminishes them. The treatment of tuberculosis by these tracheal injections, the writer believes, gives better results than are obtained by other methods. He claims to have had himself excellent success with it. The book is clearly illustrated.

Diagnosis from the Eye. A Scientific Essay for the Public and Medical Profession. By Henry Edward Lane, M.D. Chicago: Kosmos Publishing Co., 1904.

This ridiculous book pretends to describe a new art of diagnosing with perfect certainty, from an inspection of the iris, the normal and abnormal conditions of the organism in general and of the different organs in particular. The author seems to believe that all morbid conditions can be detected in an examination of the eye, no matter what their origin, as every organ is represented in exactly defined parts or sections of the iris. Based on this he has constructed a key, with the aid of which diagnosis should prove a simple matter. There is also appended a chapter on the method of "natural treatment," containing a number of puerile assertions, such as the statement that scabies has its origin in an impure state of the blood, the itch mite merely being a secondary factor. The book furnishes a certain degree of amusement, but otherwise does not merit shelf room.

A Clinical Handbook of Urine Analysis. By Charles H. Bedford, D.Sc., M.D. (Edin.), Professor of Chemistry, Calcutta Medical College; Consulting Chemist to Government of India, Calcutta; Chemical Examiner to Government, Bengal; Major, Indian Medical Service; Author of "Practical Chemistry (Qualitative), Inorganic and Organic," "The Symptoms and Treatment of Poisoning," etc., formerly Professor of Chemistry, Lahore Medical College; Chemical Examiner to Government, Punjab; and Editor *Indian Medical Gazette*. With Illustrations. Second Edition. Edinburgh: Bell & Bradfute; London: Simpkin Marshall, Hamilton, Kent & Co., 1904.

The first edition of this work was published only in India. The present edition has been enlarged by about sixty pages. An entirely new set of illustrations has been prepared for it. The author states that the methods herein described are considered to be those most suitable for clinical requirements. The volume is a valuable on for practitioners.

Beitrag zur Pathologie und Therapie der Pankreaserkrankungen. By Dr. Paul Lazarus, Priva Docent in Berlin. Berlin: Aug. Hirschwald, 1904.

This monograph is an extended and amplified reprint of articles which have recently appeared in the *Zeitschrift fur klinischen Medizin*. It contains an extensive review of the literature and the author's own observations, with especial reference to the question of pancreatic cysts and calculi. The first part of the book is devoted to pancreatic cysts, and fourteen cases seen by the author are reported in detail. The clinical picture presented by this class of cases is very varied and depends on etiology, the anatomical origin and the mode of growth. He has found that the diagnosis depends on determining the presence of a fluctuating retroperitoneal tumor, springing from the epigastric or left hypochondriac regions, and accompanied by disturbances of the pancreatic function. In the section on calculi he refers to his experiments in dogs, where he endeavored to produce calculi by producing secretory stasis, by infecting the pancreatic passages, and by a combination of these two procedures. The experiments showed that there was a close connection between duodenal catarrh and pancreolithiasis, and that a lesion in the epithelium of the ducts or acini and a change in the secretion is necessary before stone formation can take place. The symptomatology, prognosis, and treatment of pancreatic cysts are fully discussed, and although therapeutic measures directed against this condition are still imperfect, rational methods are now being developed, thanks to the achievements of experimental pathology and abdominal surgery. The work is timely and interesting.

Society Reports.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Seventeenth Annual Meeting, Held in St. Louis, September 13, 14, 15, and 16, 1904.

Dr. Walter B. Dorsett of St. Louis, President.

An address of welcome, on behalf of the St. Louis Obstetrical and Gynecological Society, was delivered by Dr. Louis E. Newman.

The remarks of Dr. Newman were followed by an interesting and instructive address by David R. Francis, President of the Louisiana Purchase Exposition.

The response to these addresses of welcome was made by Dr. L. H. Dunning of Indianapolis, Ind., and Dr. Herman E. Hayd of Buffalo, N. Y.

Operative Treatment for Painful Menstruation in Young Virgins.—Dr. Wm. A. B. Sellman of Baltimore, Md., read a paper with this title. The author pointed out the great necessity of giving relief to young unmarried women who suffered from painful menstruation. The forms of dysmenorrhœa that could be relieved by the operative means suggested were expatiated upon at length. These means should not be of a character to unsex the patient or prevent her from bearing children or from fulfilling her marital relations. The operation should not be one which would endanger life or interfere with the woman's general good health. To illustrate the condition and to demonstrate the manner in which cases could be operated upon without unsexing the individual and giving absolute relief from the suffering experienced, the author related the following case in which he operated in the early part of June, 1904: Miss H., aged twenty-four, a brilliant vocalist with a register of three octaves, had been unable to use her voice with any satisfaction for a long period on account of the pain developed in the ovarian region when attacking the high notes. June 7, 1904, under ether anæsthesia, the author curetted the endometrium, removing a quantity of congested tissue from the cavity of the uterus. He then made an abdominal incision in the median line and found both ovaries hyperæmic and distended. Upon the left side he opened three good-sized cysts and upon the right side two medium-sized cysts. The Graafian follicles in each ovary were distended. He enucleated these with a sharp spoon curette and scraped the walls of the cysts in order to destroy the germinal membrane. He then closed these openings with catgut sutures and used the same material with which to close the opening in the abdominal wall. The patient made an uninterrupted and rapid convalescence, and had not had the slightest amount of pain in the ovarian region, and no pain during two menstruations which she had passed through, since the operation. He thought very many gynecological surgeons would have removed both ovaries under these conditions, and the result would have been the unsexing of the patient and probably the loss of her voice, especially in the upper register. He had heard her sing, and he was certain that her voice had not been impaired in the slightest degree. Two physicians present during the operation, when they saw the condition of the organs in the pelvis, expressed the opinion that no relief would follow unless he performed the radical operation, and removed the appendages completely. Resection of the ovary was followed by such successful results that one was not justified in removing the organs unless the complications present gave no opportunity to perform the conservative operation. Lastly, the author spoke of that class of cases in which dysmenorrhœa was due to a general systemic neuralgic condition. In these cases one at times secured great relief by the use of the various forms of electricity. It was doubtful, in many of the cases, whether removal of the appendages would accomplish anything more than to bring about a premature change of life, and the patient would remain just as nervous as before she was operated upon. The author exhibited three sizes of reamers devised by himself, which he had used for examinations for ten years. In not a single instance, when handled properly, had he witnessed any injury inflicted by them, and he had a record of a large number of instances in which by the use of these instruments he had succeeded in overcoming the condition of stenosis or obstruction when every other means had failed.

Dr. H. W. Longyear of Detroit, Mich., stated that in operating, if one could save an ovary or part of an ovary, he should do so. But sometimes one might have to operate again. In the majority of cases one could conserve tissues there with perfect safety, and with the result of allowing the woman to menstruate as she would in a normal condition. He would enter a protest against operating upon cases of dysmenorrhœa that were of short duration in young persons. One should not subject any unmarried woman to an operation if it could be avoided. The minor cases of pain of short duration did not need operative measures.

Dr. Herman E. Hayd of Buffalo, N. Y., alluded to the importance of examination in these cases, and even after an examination was made one might find that the most distressing cases were the ones that practically had no evident pathology which could be made out by such an examination. On a previous occasion the speaker read a paper on this subject in which he pointed out that retrodeviation of the uterus was responsible for much of the dysmenorrhœa in unmarried women.

Dr. William H. Humiston of Cleveland, Ohio, said he had not been able to find a case of dysmenorrhœa that was not accompanied by an inflammatory condition of the mucosa. He had seen cases of narrow, conical os, with the patients menstruating without the least sign of distress, but the moment there was an inflammatory condition of the mucosa added to that, that moment the patient began to have painful menstruation. In cases of this kind he thoroughly dilated the uterine cavity, curetted, and had the patients wear an Etheridge pessary, closely watching them for several months, and if there was no accompanying disease of the appendages, the cure was decided and complete. But in these cases occasionally one would have a failure because of failure to recognize the cirrhotic ovary, which was hard to detect unless an examination was conducted under an anæsthetic. In these cases there was no relief afforded except by removal of these shriveled, corrugated, smaller than normal ovaries.

Dr. D. Tod Gilliam of Columbus, Ohio, spoke of the undeveloped condition of the uterus as a cause of dysmenorrhœa. A great many men had come to the conclusion that it was not a superficial condition; it was not produced by the condition of the mucosa, as a rule; it was not the result of stenosis of the internal os or of many of the other orifices of exit, but was due to the undeveloped, unripe condition of the uterine tissues. The uterine tissues were just like unripe fruit, and one of the functions of the uterus was to throw off this membrane at stated intervals, and in doing so there were certain physiological processes that must work their way or be concerned therewith. Unripe fruit was hard to dislocate. If one tried to pick an apple from a tree before it was ripe, it would not come away very easily. If one stripped the capsule from any fruit which was not ripe, it was not easily done, but when it was ripe it would come away almost of itself. It was the same way with regard to the uterus. The time for the casting off of this membrane was at the menstrual period, a time when this membrane would easily come away, but which could not be removed at any other time without more or less violence. Vessels permeated this dense structure; these vessels were undeveloped; they were unable to accommodate the amount of blood sent there during the menstrual molimen, and this induced distress. The membrane closely adhering to the uterine wall

was not ready to be exfoliated, hence it was a source of distress.

Dr. John Young Brown of St. Louis, Mo., said that his experience in dealing with cases of painful menstruation was that unless there was a palpable pathological condition present, it was better to leave these cases alone. He was opposed to indiscriminate treatment of conditions of this kind. In looking up the etiology of pelvic disease, he had found, in a rather extensive operative experience, that the majority of cases that came to operation were of gonorrhœal infection, puerperal infection, and those cases that came as the result of infection following minor office gynecological procedures. He did not feel that a young woman, who suffered from painful menstruation, should be subjected indiscriminately to operative treatment or even to a gynecological examination.

Dr. L. H. Dunning of Indianapolis, Ind., said that one ought not to approach any case of dysmenorrhœa without studying the surroundings very carefully. He should have a complete and thorough history of the case in order to be able to determine the character of the lesion which was present before undertaking the treatment of the case. He had been surprised in studying the collected histories of some two thousand cases to find that in about 15 per cent. of them there was dysmenorrhœa at the beginning of menstruation. This, he thought, would go to disprove one statement made by the essayist, that nearly all of the cases were due to inflammation, or that most of them were due to gonorrhœal infection or some other kindred infection. In the majority of cases in which dysmenorrhœa began with menstruation, he thought one would find some errors in the development of the organ or errors in the development of the nervous system which would lead to painful menstruation.

Dr. Sellman, in closing the discussion, stated that the object of his paper was to prevent, if possible, this suffering to women, which came on about thirteen times a year. He thought that if any member of the association had to undergo or endure the pain from which some of these patients suffered, even for only six times a year, he would seek some means of relief.

Pseudomembranous Monocystic Tuberculous Peritonitis.—Dr. H. W. Longyear of Detroit, Mich., said that pseudomembranous monocystic tuberculous peritonitis was that form of tuberculous peritonitis which was characterized by the formation of a thick, white, fibrinous pseudomembrane on all of the tuberculous peritoneum, it being found covering the parietal peritoneum and cementing together and covering the intestinal coils in such a manner as to form a sac of greater or less capacity, which contained straw-colored fluid, with occasionally jelly-like masses and shreds floating therein. The author reported three cases of this affection, and stated that the treatment consisted of abdominal section, with evacuation of fluid and the thorough washing out of all shreds and gelatinous masses with decinormal salt solution; thorough drainage by glass or rubber tubes, both abdominal and vaginal. This was to be followed by after-treatment consisting of frequent lavage with a weak aqueous solution of iodine, a drachm to the pint of water, until the pseudomembrane was disintegrated and the purulent discharge that followed had ceased. Internally, the rational treatment of tuberculosis was indicated. The prognosis was bad, although a few cases might recover, if not too far advanced, after months of constant drainage and careful nursing.

Dr. Rufus B. Hall of Cincinnati, Ohio, said he differed from some of the quoted writers in regard to the different varieties of tuberculous peritonitis. He was of the opinion that it was the same disease in different stages of development. In dealing with the operative treatment, ultimate success depended largely upon the variety of the disease, the general condition of the patient, the previous history, the great prostration, etc. Very many of them were in such a condition that they could not withstand much trauma of any kind. His experience in dealing with that variety in which there was no accumulation of fluid had not been very satisfactory from a surgical standpoint. The greatest relief was to be afforded in those cases in which there was an accumulation of cysts, by letting out the fluid and draining. Every one of them should be drained, in his experience. He had, time and again, made section when the patients were in a desperate condition, had put in a drain, and in six months or a year later the patients returned, when he removed one or two infected tubes, and cured them, whereas he thought that if he had done a prolonged operation at the outset, with the patients in a feeble condition, and unable to withstand trauma, they never would have rallied.

Dr. L. H. Dunning said there were two or three questions which ought to be settled in regard to the treatment of cases of encysted tuberculosis of the peritoneum. First, as to whether one ought to remove the Fallopian tubes in all instances. His belief was we should. He believed that all cases of encysted dropsy, when the fluid accumulated in the pelvis, were dependent upon infection of the tube, and it ought to be removed or a fistula would persist indefinitely. It did not require much effort to remove such a tube. These cases ought to be drained through the abdominal wall. They need not be drained through the vagina if one could possibly drain them in the other direction. Should one in these cases attempt to break up the adhesions? Dr. Price had insisted upon breaking up adhesions in all cases of tuberculosis of the intestines. The speaker's belief was that this pseudomembrane was protective, and that one ought not to attempt to separate adhesions.

Dr. Herman E. Hayd of Buffalo, N. Y., believed every case should be treated as a law unto itself. Some need to be drained, others not. Usually those cases with simple effusion or dropsy, which was circumscribed, got well if opened and the opening immediately closed. One did not need to disengage bowel or disturb the adventitious membrane. Simply the entrance of air was an important factor in the cure of these cases.

Dr. J. Henry Carstens of Detroit, Mich., thought that all that was necessary in ordinary simple encysted cases of this condition was to wash them out and let them alone. One should not try to break up adhesions, as serious complications might follow. In tuberculous peritonitis the patients should be let alone as much as possible, and nature given a chance. He said if he operated upon a case of tuberculous appendicitis and drained it, he would get trouble, because along the track of his drainage tube there would be tuberculous deposits, and he would have a fistula there for a long time. On the other hand, if he took out the appendix, closed up the opening with silkworm gut sutures *en masse*, tightly, he would have union without the formation of a fistula.

Dr. D. Tod Gilliam did not believe in too much interference in such cases as had been described. He thought many of these patients would be better without operation. In some cases of encysted tuberculosis, whatever the treatment, the results were likely to be bad. There were other forms of encysted tuberculosis, however, in which one did not have these bad results, and in such cases it was necessary to open up the cysts. He did not believe in breaking up adhesions and separating viscera.

Dr. Longyear, in closing the discussion, said that he had wished to illustrate a rather unusual form of tuberculous peritonitis. Take a case of simple tuberculous peritonitis, with a large cyst, the abdomen full of dropsical fluid, he did not believe it needed to be drained, but agreed with Dr. Hayd that all it was necessary to do was to open it, wash out the cavity, sew up the wound, and the patient would get well. Many of them, however, would have a re-formation of the fluid.

Chronic Adhesive Peritoneal Sclerosis.—Dr. N. Stone Scott of Cleveland, Ohio, said that this was among the rarer abnormal conditions found within the abdomen. It

was progressive, yet was characterized by an absence of active symptoms, including ascites. In the early stages the peritoneum was rigid and contracted; later the connective tissue became excessively hypertrophied, with adhesions between the involved peritoneum and all viscera with which it came in contact. As soon as these adhesions interfered with the functions of any organ, symptoms referable to such interference supervened. When the involvement prevented some important organ from performing its necessary functions, death ensued.

The Relative Value of the Means and Methods Employed in Accouchement Forcé.—Dr. E. Gustav Zinke of Cincinnati, Ohio, read a paper with this title, in which he said that the graduated steel or vulcanite dilators and the ordinary branched or bladed dilators were mainly employed for the purpose of dilating the cervix or os preparatory to digital, manual, and bag dilatation.

The bag or hydrostatic dilators should be employed only when time was not an important element in the case. This form of dilatation was contraindicated in central placenta prævia, and in eclampsia. Deep cervical incisions, or vaginal or abdominal hysterectomy, promised the best results for mother and child. To prevent continuation of the cervical incision, a suture might be placed in the upper angle of the wound. Manual or bimanual dilatation was to be preferred to hydrostatic dilatation when time constituted an important element. Deep cervical incisions and Duhrssen's vaginal hysterotomy were destined to play a permanent and important rôle in the management of forced labors in the future. Many of the cases now subjected to manual or balloon dilatation would be treated by cervical incisions. It was the method of choice in the presence of sepsis of the vagina, because the operation was short in duration and could be performed under a continuous flow of an antiseptic solution. An intact cervix was always an indication for cervical incision. Vaginal hysterotomy was indicated principally when the cervix was the site of malignancy or extensive cicatrization. If there were a palpable difference between passage and passenger, the conservative cæsarean section should be the choice of operation. Metal dilators were very dangerous instruments.

Dr. Henry Schwarz of St. Louis fully agreed with all that Dr. Zinke had said, except that he (Dr. Zinke) appeared to be too radical in some respects. Whenever one made a diagnosis of central placenta prævia, the cervix was so far dilated that no one would think of doing anything except to deliver the child through the natural way. He thought Bossi's metal dilator had a limited sphere of usefulness. He would not condemn the instrument, because he knew it had been used very successfully.

Dr. James F. W. Ross of Toronto, Ont., said he had done cæsarean section three times, with the recovery of the mother in each case, and the loss of the child in each case. The question between cæsarean section and the Porro operation had been pretty well settled, and the conclusion had been reached that the Porro operation, when cæsarean section failed, enabled one to control hemorrhage.

Dr. J. Henry Carstens called attention to the point that many practitioners were too anxious to dilate the cervix in the class of cases under discussion. He had seen them use dilators of all kinds, working around the uterus for two or three days at intervals, and then finally send for someone to help them out of their difficulty. In some cases, after he had been called in consultation, he had found that the women were not in labor at all.

Dr. Eugene J. Brown of Stanford, Ky., said that in these days of aseptic surgery, with the results we were having with mechanical and manual dilatation, cæsarean section would become more popular, and evidently in selected cases more lives to both mother and child would be saved than by other methods.

Dr. M. W. Meyer of Columbia, Mo., spoke of the use of the Bossi dilator, and concluded that one had to go back to the old methods of delivery in cases of placenta prævia, namely, to resort to the use of tampons. One could accomplish more with them than in any other way.

Vaginal Cæsarean Section in Grave Cases of Puerperal Eclampsia.—Dr. J. Henry Carstens of Detroit, Mich., said that mild cases of puerperal convulsions could be controlled by the treatment generally advocated for this class of cases, but there was a grave form of puerperal eclampsia in which one convulsion followed another in quick succession, and the patient finally died. This severe variety of eclampsia could generally be subdued by immediate delivery. This was accomplished usually by manual dilatation or the use of powerful steel instruments, like that of Bossi, but what was better still was the operation called vaginal cæsarean section, which enabled the obstetrician to deliver the woman in about five minutes with little or no danger. He concluded that in grave puerperal eclampsia, as a rule, prompt delivery would save the patients; that manual effort was too slow, and that powerful steel dilators were not always at hand, and often caused serious injuries; but vaginal cæsarean section enabled the obstetrician to quickly and safely deliver the woman.

An Unusual Case with Many of the Symptoms of Appendicitis.—Dr. Magnus A. Tate of Cincinnati, Ohio, narrated this case, which presented an unusual history. The symptoms and history of the case following scarlatinal nephritis led him and others to suppose that probably they were dealing with a case having appendicitis as a complication. The patient urinated regularly and at no time was there a dribbling of urine. The presence of adhesions and the enlarged bladder, with its thick walls, had only problematical causes, not explained satisfactorily by the history of the case.

The patient, a boy, aged seven, was attended by Dr. L. Linss of Cincinnati for scarlet fever, from February 25 to March 18, 1904. On March 21 Dr. Linss was called to see the boy on account of a swelling of feet and hands. On the morning of April 1 all œdema had disappeared; the urine was highly colored, but normal in quantity, with no sugar, albumin, or casts. That afternoon the patient had a chill, vomited, and had pain in the abdomen; the temperature was 99.5°; pulse 90. On April 5 the patient had two more attacks of vomiting; pain in the abdomen was constant, and he had not slept for twenty-four hours; temperature 102°, pulse 130. Dr. Wm. Johnson saw the case with Dr. Linss, and upon examination of the abdomen they found an uneven swelling which extended to the umbilicus, and over the right lumbar region. Upon palpation exquisite tenderness over the appendix was elicited. A diagnosis of appendicitis was made, but further consultation was asked for. The next day Dr. Tate was called. When he saw the patient, six days after the initial vomiting spell and chill, the child had been crying and moaning day and night, and could not sleep; temperature 102°, pulse 132, very irregular; abdomen swollen, especially on the right side, and such marked tenderness that the child screamed if the slightest pressure was made over the region of the appendix. The bowels were constipated and the urine was highly colored. The following day there was no improvement, the pulse was even worse; the temperature remained at 102°. Before putting the child on the operating table, a bed-pan was placed under him and he passed nearly a pint of urine. Chloroform was administered, and an incision was made on the right side two inches in length, over the most prominent portion of the swelling. It revealed a dark-colored sac and a number of adhesions. The incision was lengthened to three inches; some adhesions were broken down with the finger, but a few of them were so firm that they had to be cut. The enlarged opening gave a field of about two inches to work in, and the sac in appearance was not unlike that of a gangrenous bowel. They were at a loss to say exactly what it was, and as adhesions limited the field, gauze was packed about the opening, the child turned to the right side, and a half-inch cut was made into the sac.

A dark green fluid spurted out, which had a strong, heavy odor of stale urine. After the evacuation of about two quarts of fluid, the finger was introduced into the sac, which proved to be the bladder. The opening in the bladder was sewed up, adhesions binding the bladder to the abdominal wall and on the right side to the large and small intestines were broken up, and the enlarged, thick-walled bladder was dropped back into the abdominal cavity. The appendix and appendical region, except for the presence of some adhesions, were normal. An opening was left in the abdomen for gauze drainage, and the rest of the wound was closed. The subsequent history was that the bladder was emptied by means of a retention catheter for forty-eight hours, after that catheterization was practised night and morning for three days. There was a gradual decrease in pulse and temperature, and in seven days both were normal. On the third day a quantity of fluid drained out through the opening, but this gradually ceased, and on April 23, sixteen days after operation, the abdominal wound had closed, and the patient was now in good health.

(To Be Continued.)

INTERNATIONAL CONGRESS OF ARTS AND SCIENCE.

Department of Medicine.

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OPENING SESSION—TUESDAY, SEPTEMBER 20.

The Modern Conceptions and Methods of Medical Science.—Dr. William T. Councilman of Boston delivered an address with this title at the opening session of the medical division of the congress. An acquaintance with present conditions in medicine and with the literature of the past, he said, had made us aware of a great change both in the conception of medicine and in the methods by which these conceptions were reached. Medicine had been brought into closer accord with other sciences than ever before, and had accepted the methods of science. Its problems were the cause, the nature, the prevention, and the cure of disease. The ontological conception of disease as something differing from and entering into the organism was no longer held, but disease was to be regarded as a condition of living things in which there was a disharmony of function. There were two methods by which knowledge had been sought. In one the endeavor had been made to form conceptions of the objects studied by means of impressions conveyed by the senses. By means of this method an hypothesis might be formed which, tested by observation and by experiment, and found to hold good in all cases under the same conditions, could be used as a basis from which new questions might be formed. The other method was by speculation, a tendency inherent in the nature of man. One of the greatest changes was the general acceptance of the idea that medicine was a natural science and knowledge must be sought by the methods of science, and that disease was the result of injurious conditions acting upon the tissues. The influence of the appreciation of knowledge in medicine was seen by the general acceptance of the idea that the hospital, in addition to caring for the sick, should furnish facilities for the investigation of disease.

A brief review was then given of the more important periods in medical history which began with Hippocrates. The microscope introduced a new era in the study of disease, and the knowledge of the influence of bacteria in disease is due, in the first instance, to the improvement of the microscope, and in the second to the discovery by Koch of methods of cultivation by means of which individual species could be studied. The brilliant results in surgery had changed this from the most despised to the leading branch of medicine. The production of antitoxin was the greatest triumph of scientific medicine, and was due to knowledge obtained by the application of scientific methods to the study of disease. Another great change was in the greater specialization not only in the exercise of medical art, but in investigation, which had brought a great increase in knowledge in different fields. Anatomy and physiology had both become comparative, physiology undertaking the study of the processes taking place in living things, anatomy their form and structure. The unicellular organisms could be studied directly under the microscope, the changes which were produced by injurious conditions and the effects of the changes could be seen. Knowledge derived from such study could be said to be the basis of our conception of inflammation. General medicine had gained by this study a greater knowledge of parasites, their mode of action, and the means by which the organism was protected against them. The study of disease in animals had been directed chiefly to the infectious diseases, and especially to these artificially produced. Diseases were found in animals which were similar to the most obscure diseases in man, and ignorance of these diseases in man was due to their complexity, and the difficulties of investigation. Of recent discoveries in medicine the most striking was that the blood serum contains many complex substances, some of which played an important rôle in the economy; but for others no purpose had yet been discerned, and knowledge of these substances was chiefly confined to their effects. These substances might serve an important rôle by protecting the body against disease, or they might act in the opposite way by providing a means by which injurious substances were brought in contact with the cell. Experimental medicine was comparatively new, and the number of animal species experimented upon had not been large. The opponents of animal experimentation should remember that the greater our knowledge of disease which came in this way the further would disease in man be removed from experiment. There had been in the past a too-wide separation between the public and the medical profession. The public had derived its medical information chiefly through the newspapers, and the information so given had been sensational and unreliable. There was evidence that this is being slowly changed. The successful practice of medicine depended more than ever before upon the use of methods which gave accurate knowledge of the condition of the sick, and training in the exercise of these methods was the most important part of medical education.

SECTION OF PUBLIC HEALTH—WEDNESDAY, SEPTEMBER 21.

The Relation of Public Health Science to Other Sciences.—Prof. Wm. T. Sedgwick of Boston read this paper and said that he used the term public health science advisedly, for any division of human knowledge that had worked out its own laws with strict adherence to the rules of inductive and deductive reasons as public health science had done, and which had reached results which enabled it to predict with accuracy as could now be done in public health science, was entitled to an honorable place among the physical sciences. Public health science had its rise and remarkable development in the eighteenth century; before that time, efforts tending to promote or protect public health being entirely empirical and as often directed to the convenience of mankind as to their safety. In 1767 Sir George Baker made the first scientific discovery in public health science, which happened to be in epidemiology, when he found that the epidemic of colic in Devonshire, England, was due to an obscure poisoning by lead conveyed through the common cider of that district. In 1774, the foundations of state hygiene and sanitation were laid, in consequence of the startling revelations of John Howard, by an act of Parliament providing for the sanitation of jails and prisons. The beginnings of marine hygiene and sanitation appeared in 1776 when Captain Cook was awarded the Copeley medal of the Royal Society for his remarkable success in protecting the lives of his sailors on his second voyage. In 1796 Edward Jenner, who also worked in a strictly scientific manner and employed the

methods of rigid inductive research, laid securely for all time the foundations of personal hygiene and immunization by showing that such modifications of the physiological resistance or susceptibility of the human body could be produced at will so as to make it immune to smallpox. In the eighteenth-century discoveries were the germs of some of the most important divisions of public health science, namely, epidemiology, sanitation, and immunization, and their importance to the public health science of the time and to the development of public health science for all centuries to come was incalculable. In 1802 the beginning of factory hygiene and sanitation was made; in 1829 the first municipal water filter was constructed; in 1834 the discovery of the important relation of poverty to public health, revealed in the famous report of the Poor Law Commissioners; in 1839 the beginnings of registration and accurate statistics; in 1854, for the first time, was clearly taught the lesson, even yet not properly taken to heart, that water may be the ready vehicle of a terrible epidemic of cholera. From 1860 striking epidemics of trichinosis came into public notice, and here, also, belonged the magnificent work of Pasteur; in 1868 Lister, following in the footsteps of Pasteur, revealed the true basis of cleanliness in asepsis; in 1876 bacteriology became firmly established by Koch's studies on anthrax. The decade from 1880 to 1890 could be called the decade of etiology, since then were discovered the hitherto unknown microbes of typhoid fever, tuberculosis, malaria, Asiatic cholera, diphtheria, and tetanus. There was an extraordinary public awakening in England in the middle of the nineteenth century to the importance of sanitation and public health measures, but for some time there was no marked inosculation between public health science and other sciences, such as physics, chemistry, microscopy, bacteriology, climatology, engineering or education. It was not until Pettenkofer and his disciples in Germany, and Angus Smith and others in England, began their splendid chemical work that the tributary stream of sanitary chemistry added materially to that of public health science. The science of architecture, including building construction, heating and ventilation, had done and will continue doing much of importance to the student of public health science. Human beings could live and survive for long periods of time in bad air, but for the best work and the greatest happiness and the largest life, as well as for perfect health, the very best atmosphere was none too good. Hence he believed that the permeability of the walls of houses and other buildings and the heating and ventilation of dwellings, school-houses, churches and other public places, required, and in the near future would receive a much larger share of attention than was given to them to-day. The present had rightly been called the "Golden Age of Engineering," and to no other science to-day, excepting only medicine itself, was public health science more indebted than to engineering science. Compared to the first water filter erected to the water supply of the Chelsea Company of London, in 1829, were the conditions of to-day when nearly the whole of London, Berlin, Paris, Hamburg, and a thousand cities of lesser importance all over the civilized world were to-day protected more or less perfectly from epidemics of typhoid fever, Asiatic cholera and other water-borne diseases by municipal filters, the work of skilful and faithful engineers. Innumerable storage reservoirs and vast distribution systems for supplies of pure water further bore witness to the enormous debt which public health science owed to engineering science, as did also proper street construction and, still more, the splendid systems of sewerage with which so many modern cities were equipped and which served not only to remove quickly the liquid wastes of human and animal life, but kept low and wholesome the ground water, reducing dampness and promoting dryness of environment, thereby apparently strengthening that physiological resistance by means of which the human mechanism fought against the attacks of infectious diseases. The services of the engineer to public health science had not been in any respect more conspicuous than in the application and in the further studies of the principles involved in the processes of water purification. In many cases the introduction of pure water supply had shown a lowered death rate so conspicuous that it was impossible to escape the conclusions (1) that the germs of a greater number of infectious diseases than was formerly supposed were capable of prolonged life in and readily conveyed by public water supplies, and (2) that as a result of the greater purity of the water supply the physiological resistance of the consumers of pure water supplies were enhanced in some manner as yet unknown; the net result being that the general death rate was lowered to such an extent as to lead to a rapid increase of population in communities previously multiplying far less rapidly. Such a diminution in death rate meant a far greater diminution in morbidity rate; in other words, it meant a heightened working efficiency of the population as a whole. And for the most of the results obtained in the scientific purification of water supplied we are indebted to the science of engineering. The reciprocal relations of public health science and the science of education in their beneficial effects upon school children and school-houses had long been emphasized by sanitarians and were sufficiently obvious, but the reverse of the picture was by no means so well understood. The splendid progress that had been made in the last fifty years in public health science as yet seemed to have had little effect upon the curriculum of education. From top to bottom and bottom to top the schools, whether primary, grammar, high, normal, technical, medical, or any other class, wholly neglected any adequate training of their pupils in the principles of public health science, though just now there seemed to be a popular wave of enthusiasm touching the extermination of tuberculosis; but in the United States, both schools and universities were negligent of their most elementary duties in this direction. In regard to bacteriology, he said the bacteria and other forms of plant and animal life had so lately begun to be appreciated that they were still of the greatest importance, and the discoveries of botanists and zoologists and the revelations of microscopists in this domain were comparable in importance to the public health to nothing less than the revelations of the telescope to astronomy. The relation of physiology to public health science was a field ripe for the harvest, but one in which the harvesters were almost altogether wanting. The industrial and commercial age in which we live was characterized by the sedentary life, and the sedentary life was almost unavoidably abnormal, and the problem of maintaining a high degree of resistance became a very serious one; but if the vital resistance of the community in general was lowered then public health was directly and unfavorably affected. In America there were symptoms of a reaction against the evils of a sedentary life in parks being thrown open, public and private gymnasiums, public play-grounds, baths, and other devices for the promotion of personal hygiene, and personal hygiene had a most plain and direct bearing upon the science of public health.

Public Health—Its Present Problems.—Dr. Ernst J. Lederle of New York sent this paper, in which he said the watchword of the new school was sanitary science, and that sanitary science had been the means of calling a new profession into existence, that of the sanitarian. Medical men had been so active in setting forth the importance of sanitary science that it had come to be regarded as the peculiar work of the physician, but the training of the physician did not fit him for administrative offices. A layman was more eminently fitted to accomplish results in public sanitation when working in connection with men skilled in medical knowledge upon purely medical questions. The board of health which would be nearest the ideal was that one which had at its head a skilled physician, one thoroughly schooled in bacteriology, and numbered among its members a competent engineer

who, in the broadest sense of the word, should be a man of affairs, eminent for his administrative ability and knowledge of sanitary science. A national board of health should be established, and this would be a means of accomplishing much. A central body could be resorted to for the settlement of vexed questions such as national quarantine, and direct the training of sanitary officers. The establishment of a national board of health would have the effect of offering suitable inducements to secure men of a higher grade than those who at present enter this field, as men of a higher grade would not take up sanitary science as a specialty unless the work showed sufficient financial returns. The chief business of the board of health was to prevent the spread of contagious diseases, but there had been added many other duties, and one of the greatest responsibilities was to prevent the sanitary service from being corrupted by the evils of partisan politics. When the politician was in control of the sanitary office he controlled all the subordinates, and when that happened the board ceased to be of practical use, and until the sanitary office was taken out from under the control of the politician there could never be any radical improvement in the condition of things. Appointments as sanitary officers should be for life, or during good behavior. The actual work of sanitary inspection was usually done by men who had no theoretical knowledge of the work, and were usually without any training other than a little reading. The laxity of the rules governing the examination of immigrants had resulted in much mischief, the federal government having made no adequate arrangement for the care of sick immigrants. Public schools, it had been truly said, were the foci of contagion, and the rigid medical inspection of schools was therefore a necessity, and a good system would entail extreme care and considerable experience; nevertheless, when the work was carried on by a capable man with thorough experience, the results were manifest. The work to be done in the methods for the prevention of smallpox was still very great and compulsory vaccination should be a requirement to entrance in public schools. While the work done by the bacteriologist had done more than any one thing to prevent the spread of contagious diseases, he believed that private laboratories should be under the direct control of the national board and one function of this body should be the maintenance of laboratories for the manufacture of sera. Better facilities for fighting tuberculosis had been advocated by medical men, and knowledge on this subject had already been increased through efforts to discover a serum for the cure of this disease. Hospitals and sanatoria of large capacity should be provided for the care of tuberculous cases, and the cost of their care and treatment would be small compared with the loss sustained by the community through the loss of their services. Conditions surrounding child labor and the inspection of factories should be carefully regulated. A pure water supply seemed possible only by filtration, and statistics had shown that certain diseases known to result from the use of impure water had decreased, and also that when impure water had been displaced by pure water there was an invariable decrease in certain diseases which had not been suspected of having their origin in the water supply. Coöperation between state and municipal authorities had been productive of much good, and the growing interest in public health problems was one of the auxiliary forces at work for the betterment of conditions. The bacteriologist, the engineer and the sanitarian should work together for the prevention of the spread of contagion, the disposal of waste, and in the solution of a score of other problems.

Dr. Walter Wyman of Washington said there had been recent legislation which provided for the establishment of a national board of health. A number of manufacturers of sera had gone out of business in the past year because they were not willing to have a thorough inspection made of their plants, and others had been unable to obtain a government license until after they had remodeled their methods.

Milk.—Dr. Arthur J. Reynolds, Chicago, in a brief paper on this subject, made a plea for the reduction of time between the production of milk and its consumption. Great improvement had been made in supplying large cities with milk, yet this point had not been fully comprehended, and he had not been able to find one word in literature as to the age of milk. From a dietetic standpoint, milk sold from cans was much less desirable than milk only twelve hours old, and milk thirty-six hours old was not fit for use. Milk became unfit for use many hours before it began to sour. As milk was the only article of diet during the first three or four years of the child, no trouble or expense should be spared to obtain fresh, clean milk, as old milk not only starved but poisoned the young. It cost more to produce clean milk, but it was worth the price, as it meant health and strength for the child. Education was really the important part, for pure, fresh milk, would, be supplied if the public would demand it.

Dust.—Dr. J. N. Hurty, Indianapolis, said that many conditions, such as malaria, rheumatism, "colds," etc., were the result of infection from dust that had accumulated in places where no sunlight could penetrate. Symptoms of coryza had been produced in himself and in a pet dog after having inhaled dust in an attic. He mentioned a case which presented all the symptoms of a "cold" which was relieved when the patient was removed from a dusty atmosphere. The old idea that "colds" were due to excesses, nerve strain, exposure, etc., was incorrect. He had produced symptoms common to "colds" when the factors ordinarily accepted as causing the trouble had not been present. His belief in the theory of dust infection was confirmed by microscopic findings.

SECTION ON PREVENTIVE MEDICINE—WEDNESDAY, SEPTEMBER 21.

The Logical Basis of the Sanitary Policy of Mosquito Reduction.—Prof. Ronald Ross, F.R.S., Liverpool, presented this communciation. He reviewed the work that had been done in the attempt to exterminate mosquitos, and said that no experiments made in this connection had, as yet, proved very satisfactory, owing to the fact that no accurate method had been found for estimating the number of gnats in any given locality. Personal impressions as to the number being large or small might be correct, but this could not be accepted as proof that the number had been really reduced in the absence of any criterion to estimate the actual numbers in figures. The question of mosquito reduction was only part of a larger subject, that of the local reduction of any animal organism. Although all the mosquitos in any given area could not be killed, their propagation could be arrested for as long a time as was desired, provided all breeding places were obliterated, or the larvæ persistently destroyed. The number of gnats, or of any animals, within an area must always be a function of four variables, *i.e.* the birth rate, the death rate, emigration into and immigration out of the country. If such an area be surrounded by a net all gnats within that net would be natives. On the other hand, if propagation is arrested in a certain given area, the gnat population must necessarily consist entirely of emigrants. By the law of probables it was assumed that a very small proportion of mosquitos would travel the limit of migration, but the vast majority would remain in the neighborhood of their birth and die there. The limit of migration was the extreme limit the animal might travel in a straight line during its entire life. A very small proportion would travel that distance in a straight line. The majority would travel back and forth, or in a circle, or at various angles, always remaining not far from the place of birth, and finally die in that neighborhood. By dividing the life of the mosquito into certain arbitrary stages, it was as-

sumed from the calculus of probables that a certain number would reach the extreme limit of migration, proceeding in one direction during all the stages of its existence; a larger number would reach a point somewhat short of the limit of migration, a still larger number reach a point short of that, and so on, until it would be found that the greatest number would be in the neighborhood of the birth-place. If an area of country was then treated, and the propagation of mosquitos arrested in that area, there would be a certain point, the limit of migration of the mosquito, which would be entirely mosquito free, and approaching this mosquito free district there would be a line in which the number of mosquitos would become less and less, until the point of the limit of migration had been reached. If, however, the area thus treated were not large enough, and did not extend beyond the limit of migration, there would always be a number of mosquitos even though propagation was arrested, for there would be emigrants constantly entering the area from without, though the country would be entirely free of native gnats, and the point of greatest density would be near the line of the treated and untreated country, and diminish at an undetermined rate the further advance was made into the no-propagation country until the point of the limit of migration was reached, when the mosquitos would cease altogether. The analysis, imperfect though it was, contained four theorisms; first, mosquito density can be reduced at any point as much as was desired by making the radius of the antipropagation operations large enough. Second, in order to reduce the density at any point to absolute zero, the radius of operations must be greater than the limit of migration. Third, at the boundary of the no-propagation country the mosquito density should be one-half the normal density, provided radius of operations is not less than one-half the limit of migration. Fourth, the effect of the operations will be felt not only within the antipropagation area, but to a distance quite to the limit of migration beyond it.

SECTION ON PEDIATRICS—WEDNESDAY, SEPTEMBER 21.

History of Pediatrics—Its Relation to Other Specialties.—Dr. A. Jacobi of New York presented a paper on this subject. The history of the gradual evolution of pediatrics as a special branch of medicine, and the work of eminent men who labored to this end as well as the literature on the subject, were reviewed. Before 1769 there was no institution specially provided for sick children, but in that year Dr. G. Armstrong established a dispensary in London. In 1784, a similar institution was founded in Vienna by Dr. Marstalier. The first and largest child's hospital in Europe, the Hôpital des Enfants Malades, was founded in 1802. In St. Petersburg the Nicolai Hospital was established in 1834 by Dr. Friedburg, and in 1839 the Poor Children's Hospital in Buda Pesth by Dr. Schopf Merei. Since that time, the increasing interest in the diseases of children on the part of humanitarians and physicians and teachers has multiplied children's hospitals. The United States was the last country to participate in these endeavors. The mostly proprietary medical schools did not find pediatric teaching to their advantage, and it took the hearts and purses of the public a long time to open. The waves of humanitarianism and the demands of science finally overcame previous indolence, and many general hospitals gradually opened special children's wards, while there are pediatric hospitals in all the larger cities. Practical teaching was not extensive, and it took the medical faculties even of universities a long time to appreciate the necessity of special and well-regulated bedside teaching. At the present time, however, there was hardly a great medical school that did not give amphitheater or bedside instruction, either in the children's ward of a general hospital, or in a special children's or baby's hospital. The connection of pediatrics with obstetrical practice was very intimate. Three per cent. of all the mature living fœtuses were not born into post-natal life. To reduce the mortality to that figure it had taken increase of knowledge in the art of obstetrics to such an extent that it had become possible by cæsarean section not only to save the fœtus of a living but also of a dead mother, for the fœtus may survive the dying woman. Not a few were born asphyxiated on account of interrupted circulation, compression of the impacted head or meningeal hemorrhage, which destroyed many in the first week of life, and those who were not so taken away lived only to become paralytic, idiotic, or epileptic. Within a few days after birth microbic infections had been observed from tetanus to hemorrhages, and the intense forms of syphilis. Nephritis was a not uncommon disease of the newly-born and very young, and in many cases was a consequence of what appeared to be a common jaundice, or of uric acid infarction. Otology was mostly a specialty of the young. The newly-born exhibited changes in the middle-ear which were variously attributed to the presence of epithelial detritus, to aspiration of foreign material, or to an œdema occasioned by the separation of formerly adjacent mucous surfaces. Pus was found in the middle ear of 75 per cent. of still-born or dead nurslings. Many of the newly-born that died from unexplained fevers perish from septic material, or its toxins, absorbed in the middle ear, or in the intestines. The great vascularity of the middle ear and the accessibility of the Eustachian tube in the infant, rendered otitis media very frequent. Difficult hearing was very frequent in the young. As early as 1886, Berzold found that of 1,900 children 25 per cent. had only one-third of normal hearing. Whether deaf-mutism was the result of consanguineous marriage could not be definitely asserted. The majority of cases were caused by cerebral or cerebro-spinal inflammation, and many of the congenital and most of the acquired cases were preventable. In dermatology some of the problems should be studied on antenatal and postnatal lines. The congenital absence of small or large parts of the surface was probably due to certain amniotic adhesions, seborrhœa and the mild form of lichen to rapid development in the second half of intrauterine life of the sebaceous follicles. In pemphigus of the palms and soles syphilis was recognized, in eczema constitutional disturbances of the nutrition. A dermatologist who knew no embryology or pedology, or a pediatrist who knew no dermatology, was anything but a competent and trustworthy medical practitioner. The diseases of the muscles interested the pediatrist, the surgical specialist, the orthopedist, the neurologist to an equal extent. Torticollis alone proved that neither the pediatrist, the orthopedist nor the general surgeon could raise the claim of ownership. The relation of pediatrics to forensic medicine was very close. Apparent death of the newly-born and the causes of sudden death in all periods of life had been studied to such an extent as to render negative results of police investigation and of autopsy reports less numerous from year to year. In London there were annually 8,000 inquests, one in fourteen of which were on over-lain infants. In the etiology of sudden deaths the most difficult questions could not be solved except by the facilities furnished by the observations on the young. Forensic medicine had to guard the interests of all, and there was nothing in all medicine more difficult to discover than the cause of death. The best knowledge of the advanced practitioner, of the pathologist, the chemist, the bacteriologist, the obstetrician should be at the service of the people. Every European country understood this and acted upon that knowledge and in this country Massachusetts had broken away from the coroner's institution, which was a fit authority for a backwoods municipality but was so no longer for a cultured people of eighty millions. Now and then even an expert or a body of experts did not succeed in discovering the cause of death. What should be said of a system which now and then did discover the hidden cause of a sudden death? When the New York State Legislature half a year ago passed a bill abolishing the no longer competent office of coroner it was vetoed by the mayor for the reason that the new law was not perfect. It was not pronounced perfect—no law ever was perfect,

but the absurd incompetency and anachronism of the coroner's office was perfect. One of the greatest questions which concerned at the same time the practical statesman, the humanitarian and the pediatrist was that of the excessive mortality of the young. Forty per cent. of the mortality of infants that died before the end of the first year occurred in the first month. This was mostly preventable. Statistics from large obstetrical institutions proved that only 50 per cent. of women were capaple of nursing their offspring for merely a few weeks. What then could be said of the refusal of the physically perfect and well situated women to nurse their infants? He did not speak of 400 but of 400,000 who preferred their ease to their duty, their social functions to their maternal obligations, who hired strangers to nurse their babies, or acted upon their belief in claims of the infant food manufacturers, or were tempted by their own physicians to believe that cow's milk casein and cow's milk fat could be changed into woman's casein and fat, that the live stomach was like a dead laboratory bottle, that the warmth of the human breast and that of a nursing flask were identical. The nursing question was a social and economic one which like so many other problems confronted modern civilization.

Modern therapeutics, both hygienic and medicinal, had gained much by the close observation of what was permitted, or indicated, or required in early age. One of the main indications in infant therapeutics was to fight anæmia which was a constant danger in the diseases of the young. The appreciation of electricity as a remedy had been enhanced by obstetricians, pediatrists, and general practitioners. There was no more powerful remedy for asphyxia and atelectasis than the cautious use of the interrupted or of the broken galvanic current. The domain of preventive therapeutics had expanded with the increased knowledge of the cause of disease, and immunizing, like curative, sera would play a beneficent part from year to year. Among the probabilities of the therapeutical future he counted the prevention of congenital malformations. Knowledge of the physiology and pathology of the nervous system of all ages would be defective without lessons derived from the fœtus and infants. In concluding he said pedology was the science of the young. The young are the makers and the owners of the future and their physical, intellectual and moral condition would decide whether the globe would be more criminal or more righteous. For their education, training and capabilities the pediatrist, as the representative of medical science and art, should become responsible. Medicine was concerned with the new individual before he was born, while he is being born, and after. Heredity and the health of the pregnant mother were the physician's concern. The regulation of labor laws, factory legislation and the prohibition of marriage of epileptics, syphilitics and criminals were his preventive measures to secure a promising progeny. The physician was the legitimate adviser to the judge and the jury, and a seat for him in the councils of the republic was what the people should demand as their right.

SECTION OF PSYCHIATRY—THURSDAY, SEPTEMBER 22.

Relation of Psychiatry to Other Sciences.—Dr. C. L. Dana of New York read this paper. He summarized the things to which psychiatry turned in allied science with expectation of help and coöperation, as follows: Psychiatry turned perhaps first of all to clinical medicine and clinical pathology and physiological chemistry in order to enable it to make complete records and secure the profoundest knowledge of the cases and types of alienation which came under observation, and should form its closest alliance with internal medicine in the broad meaning of that term. As an assistance in such work a sound knowledge of the elementary principles of psychology was needed. Psychiatry expected but little from gross pathological anatomy. It expected a great deal from what might be termed teratological anatomy or a study of congenitally defective conditions not only of the nervous system but of the circulatory and secretory organs. And here again clinical microscopical pathology and chemistry must be associated with the work. Psychiatry as a practical science dealt with administration and custodial care and expected help from the various sciences included under the head of state medicine, and of economics, which worked for a good government and the improvement of the social conditions of a people. Since psychiatry, like all medical sciences, dealt with prevention of disease as well as care and cure, it looked for help to those same sources in procuring the prevention of insanity. Therefore help was expected from the education of the children and of the people—to wise methods of living and especially of marrying; to trying in or out to offset or reduce the effects of increase of urban life, of the use of alcohol and the spread of venereal disease. In the further development of psychiatry help was expected from anthropology and allied sciences, and important relations to law and forensic medicine should continually be held. By these means it was hoped that finally psychiatry would reach that degree of perfection when the increase of the insane would be reduced one-half, *i. e.* to 1 to 600 at least. Then it might be expected that all the insane would be earlier recognized as such and promptly and more effectively treated, so that the percentage of cures would be at least one-third higher. The psychiatrist could then recognize the type of the disease and outline the proper treatment as well as give a rather definite prognosis. The insane who were acutely or curably ill could be properly treated in suitable, easily accessible hospitals, and more serious cases placed in larger and more remotely accessible institutions or private houses, while the hopelessly insane should be cared for in colonies. Finally, there was no more precious thing in a social organization than a sound mind and no more serious hindrance to social progress than a defective one. It was to be hoped that all the sciences which by any means could contribute to interpreting the phenomena of mental disease, to checking its prevalence, and to palliate or cure the suffering of the victims, would feel a special inspiration to secure these ends.

SECTION ON NEUROLOGY—THURSDAY, SEPTEMBER 22.

The Value of Physiological Principle in the Study of Neurology.—Prof. James J. Putnam, Boston, read this paper, and referred to "The Anatomical Principle in the Study of Disease," the title of an address by the late Professor Virchow before the International Congress at Rome in 1894, and pointed out the successes which had been won under this banner of anatomic research. The principle was one that appealed to the faithful plodder and to the man of genius, and its history was the best part of the history of medicine during the past half century. In full recognition of all that had been accomplished there were, however, reasons for the statement that the very successes of the anatomical principle, had thrown unduly into the shadow the claims of another mode of approaching the problem of disease without the aid of which anatomical research must prove inadequate to the task imposed upon it. For this latter principle, which demanded the investigation of the organism as a whole, and saw in disease only a modification of health, the designation of the physiological principle seemed appropriate. The argument was not that the anatomical principle was faulty because it failed to accomplish all that had been hoped for it, as regards the discovery of the essential nature of disease, but that under it the disease process alone was made the object of research, and the mind was turned from the fact that the real object of study should be the organism as a whole seen as readjusting itself to the effects of disease. To make this study was the province of the physiological method of research. There were many conditions where the best insight into the mystery of disease could be obtained by studying the manifestations of life in that form which was called the symptoms of disease, and when this was

done thoroughly the extent of the derangements to which the symptoms pointed was surprising. If these symptoms did not carry the investigator to the heart of the disease they did carry him to the heart of the symptoms. A thorough inventory of the symptoms, that is an inventory of the signs of disordered "functions," would tell even more of what was desired to be known than an inventory of anatomical signs of altered structures. The problem that presented itself most obviously to the physician at the bedside of the patient was the analyzing of a complex group of signs or symptoms, and the more striking part of these symptoms was often due, not to the direct action of anything that could be called a primary lesion, not even to secondary lesions, but rather to efforts on the part of the organism to readjust itself to the new conditions, or internal environment, which both these sets of lesions had created. Two questions suggested themselves; first, what was the significance of symptomatology as a help toward solving the riddle of disease, and, second, did the fact that many symptoms are the signs of "reaction" on the part of the organism, rather than the direct result of any given lesion, disqualify them for the purpose of making a diagnosis and deciding on the proper treatment? The answer to the first question depended largely upon that to the second, and to this he replied that the signs of reaction so far from being disqualified for the purpose of the physician were eminently suited thereto. These signs if properly interpreted through their mode or origin, gave clear information as to the resources of the organism in struggling with the effects. The effects of such a lesion constituted the main part of what was necessary to be known and all that could really be learned, for the disease process considered as independent of these reactions was an abstraction without real existence. Three instances of the overshadowing of the direct effects of a lesion by the process of readjustment were mentioned, namely, myxœdema, the changes which occur at the climacteric epochs of adolescence and menopause, and the extraordinary processes by which the bull is converted into the ox. In all these cases there were two tendencies at work, the one suggesting what might be called disease or failure, the other pointing toward the establishment of a new sort of equilibrium containing well marked elements of stability and health. In no department of pathology was it so difficult to arrive at satisfactory conclusions by the aid of the anatomical method alone as in the department of neural pathology. Anatomical research could hardly touch in any just sense the mental phenomena of daily life where, on the other hand, physiological analysis counted for so much. Those phenomena were of special importance from the fact of their close bearing upon therapeutics. One unfortunate result of too close adherence to the anatomical method was the introduction into medical literature and medical thought the two objectionable terms, "functional" and "organic," because they helped to perpetuate false notions of a physiological, pathological, and clinical sort. Mental action was a real force standing on the same plane with other forces which are familiar, and as such it was capable of influencing the nutrition of the body and only by evasions and subterfuges could be denied the reciprocal relationship between bodily processes and mental states. When a disorder that would be called functional was hostile to the fundamental interests of the organism, it led at once to manifest disorders of nutrition. There was but a difference in degree between the mental operations which favor nutrition and the normal flow of chemical energy and those which interfere with nutrition and hinder the flow of chemical energy.

Isolation Cars.—Owing to the pressure put upon the Pullman Car Company by the United States Public Health and Marine Hospital Service, it is said that the company will run hospital cars on certain days of each week on their California routes, and that consumptives and other sick persons must travel in these cars.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bu eau, Health Department, New York City, for the week ending September 24, 1904:

	Cases.	Deaths.
Measles	42	3
Diphtheria and croup	234	28
Scarlet fever	68	1
Smallpox	4	...
Varicella	11	...
Tuberculosis	307	107
Typhoid fever	84	19
Cerebrospinal meningitis	...	13

Jamaica as a Health Resort.—In the *Journal of Balneology and Climatology* for April, 1904, Dr. E. E. Lewis advocates the claims of Jamaica as a health resort for English people. The tradition attaching to Jamaica as an unhealthy station is rapidly being dissipated, and the pretensions of this beautiful island to be regarded as a health resort are meeting with many advocates. Of a total area of the island more than half is 1,000 feet above sea level. Cool nights, a temperate wind—"the doctor" as it is termed—and an equable climate go far to commend Jamaica to both the sick and the whole. Mineral springs at Bath, some forty-five miles from Kingston, possess the same mineral constituents (but in larger quantities) as those of Aix-la-Chapelle, Bareges and Bagneres de Luchon. —*Journal of Tropical Medicine.*

Health Report.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 24, 1904.

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Illinois, Chicago	Sept. 10–17	14	2
Louisiana, New Orleans	Sept. 10–17		1(Imported.)
Massachusetts, Lawrence	Sept. 10–17	1	..
North Adams	Sept. 10–17	9	..
Michigan, at 41 Places	Sept. 3–10		(Present.)
Minnesota, Morrison County	Sept. 6–13	1	..
Missouri, St. Louis	Sept. 10–17	11	..
New York, New York	Sept. 10–17	2	..
Pennsylvania, Philadelphia	Sept. 10–17	1	1
Rhode Island, Providence	Sept. 10–17	1	..
Tennessee, Memphis	Sept. 10–17	1	..
Nashville	Sept. 10–17	2	..
Wisconsin, Milwaukee	Aug. 27–Sept. 17	6	..

SMALLPOX—FOREIGN.

Belgium, Antwerp	Aug. 27–Sept. 3	1	..
Borneo, Brunai	Aug. 8		(Epidemic.)
Brazil, Pernambuco	Aug. 17–31	..	28
China, Hongkong	July 30–Aug. 6	2	..
France, Paris	Aug. 27–Sept. 3	29	1
Great Britain, Bradford	July 31–Aug. 27	9	..
Bristol	Aug. 27–Sept. 3	1	..
Glasgow	Sept. 2–9	2	1
Leeds	Sept. 3–10	1	..
London	Aug. 27–Sept. 3	2	..
Manchester	Aug. 27–Sept. 3	2	..
Newcastle-on-Tyne	Aug. 27–Sept. 3	3	..
West Hartlepool	Aug. 27–Sept. 3	2	..
India, Bombay	Aug. 16–23	..	1
Italy, Palermo	Aug. 27–Sept. 3	9	2
Russia, Moscow	Aug. 16–23	7	2
Odessa	Aug. 13–Sept. 3	7	..
St. Petersburg	Aug. 20–27	2	4
Turkey, Beirut	Aug. 20–Sept. 3		(Present.)
Constantinople	Aug. 28–Sept. 4	..	6

YELLOW FEVER.

Mexico, Coatzacoalcos	Sept. 3–10	7	2
Merida	Sept. 4–10	1	..
Tehuantepec	Sept. 4–10	..	1
Vera Cruz	Aug. 27–Sept. 10	16	..
Panama, Panama	Sept. 5–12	1	1

CHOLERA.

Borneo, Kudat	Aug. 19		(Present.)
India, Bombay	Aug. 16–23	..	12
Turkey, Bagdad and vicinity	July 23–30	522	566
	July 30–Aug. 6	322	457

PLAGUE.

China, Hongkong	July 31–Aug. 6	13	12
Egypt	Aug. 13–20	10	7
India, Bombay	Aug. 16–23	..	50
Karachi	Aug. 14–21	4	2
Japan, Formosa	July 23–Aug. 6	21	27
Turkey, Smyrna	Sept. 8		(Present

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Original Articles.

PERINEAL PROSTATECTOMY WITH REPORT OF TEN CASES.*

BY HENRY H. MORTON, M. D.,
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CLINICAL PROFESSOR OF GENITO-URINARY DISEASES IN THE LONG ISLAND COLLEGE HOSPITAL AND GENITO-URINARY SURGEON TO KINGS COUNTY AND LONG ISLAND COLLEGE HOSPITALS AND TO THE POLHEMUS MEMORIAL CLINIC.

MUCH speculation has been exercised and many vague and impossible theories have been advanced, to account for the enlargement of the prostate which takes place in elderly men, but its cause remained entirely unknown until the pathological investigations of Ciechanowski, published in 1900,[1] and of my friends, Drs. Harlow Brooks and R. H. Greene, of New York,[2] showed definitely that all varieties of prostatic hypertrophy are of inflammatory origin. Probably in the majority of instances this inflammation is remotely of gonorrhœal origin.

Pathology.[3]—The pathological change consists in a general enlargement of the entire organ, or the increase in size may be confined to one or both lateral lobes or to the median lobe. The character of the enlargement of the gland and its size and consistency, depend upon which of the normal tissues of the prostate, have been chiefly affected by the process of hypertrophy.

Prostatic hypertrophy occurs in two distinct forms: the *fibroid variety* is due to a hyperplasia of the connective tissue elements of the prostate, which lie between the tubules. The growth and contraction of this tissue results in the compression of the gland tubules, which atrophy in consequence, so that, in the pure fibrous hypertrophy, the gland is transformed into a firm fibroid mass, containing a few glandular elements. This variety is often irregular in shape for the reason that the hyperplasia does not take place equally in all parts of the gland.

It has been asserted that the involuntary muscle fibres in the prostate participate in this form of hypertrophy, but more recent investigations apparently exclude muscular hyperplasia.

The cause of the fibroid form of prostatic hypertrophy is undoubtedly the same as that of connective tissue hyperplasia elsewhere, viz., inflammation. Connective tissue of inflammatory origin, after the acute stages which excite its growth have passed, always contracts as in the formation of a cicatrix. It may happen that a small, hard prostate may in some cases result as a terminal stage of the fibroid form of prostatic hypertrophy, although this form of pure fibrous hypertrophy is exceedingly rare.

The *adenomatous form* is characterized by the presence of round or oval tumors of a semi-elastic consistence which form in the substance of the prostate gland.

In the adenomatous form the epithelial or secreting elements of the gland are involved by the hyperplasia, the result being that greater or less increase in the number and size of the tubules of the gland are occasioned. The connective tissue elements in the pure type of adenomatous hyperplasia are not at all, or but slightly, increased. In this form of prostatic hypertrophy the tubules of the gland frequently become dilated and elongated and are filled with (*a*) the secretion of the cells, which is more or less inspissated, (*b*) proliferating cells derived from the walls of the acini, or (*c*) the detritus resulting from the disintegration of these cells.

The nodules formed may range in size from a pea to a hen's egg, and each may contain many or few acini.

This type of prostatic hypertrophy is induced by inflammation, as is the first-named variety; but in the adenomatous form the inflammation affects primarily the tissues surrounding the excretory ducts and by the compression of these ducts the secretion becomes dammed up within the tubules of the gland, which thus become distended. This is accompanied by an inflammation, which excites the epithelium of the secreting tubules to growth and by the proliferation of these cells, new acini are formed. It is thus evident that while the structure of the tumor resembles that of ordinary adenomata, the etiology and manner of growth exclude it absolutely from the category of new growths.

The cyst-like nodules, formed in the adenomatous type of prostatic hypertrophy, thus originate from the distension and growth of the normal tubules, which have become obstructed and hyperplastic, as the result of inflammation acting as above described.

The nodules may thus consist of a single occluded and distended tubule, with its wall, or of any number of hyperplastic tubules, of greater or less size depending upon their individual distension.

Mixed Type of prostatic hypertrophy is by far the most frequent. In it both the tubules and connective tissue of the normal gland take part in the process, and, as a result, areas of fibrous formation are found, intermingled with enlarged and cystic tubules. Thus the nodules found in this variety consist of both fibroid masses and adenocystic tumors.

Carcinoma not infrequently arises as a complication of the changes described in hypertrophied prostate, as has been shown particularly by Albarran and Halle.

Before looking at the present status of surgery of the prostate it may be of interest to go back and observe its gradual development. The operation of prostatectomy was not evolved in a night, but was a matter of slow growth, each observer adding an increment to the sum total of our knowledge. The

*Read before the Kings County Medical Society.

earliest attempt at operative interference with the prostate was a simple incision, or prostatomy, through the perineum, in which a middle lobe was divided in halves, or a V-shaped piece was cut from the prostate, in order to get a low-level channel from the bladder. It was found that, when the prostate was not more than three inches thick, it was possible to reach a projecting median lobe through an incision in the perineum.

Once within reach, the lobe could be readily divided with a knife, or if it was nipple-shaped, could be nipped off with scissors or an écraseur.

It was, however, found to be rarely possible, by means of a simple prostatomy, to remove a sufficient quantity of the overgrowth of prostatic tissue to relieve the symptoms of obstruction, and the chief advantage which followed was from the prolonged drainage of the bladder, through a perineal tube and the consequent improvement in the cystitis.

In 1888, a great impetus was given to prostatic surgery by two operations of McGill of Leeds, England, who removed portions of the prostate through a suprapubic incision. These growths were chiefly intravesical projections and were removed by cutting with scissors and tearing off with forceps. The suprapubic wound was subsequently utilized for bladder drainage.

In 1890, Belfield of Chicago advanced the technique of prostatectomy by operating through a combination of suprapubic and perineal incisions. In this way readier access was afforded to the prostate and the growths were removed by enucleation, instead of by cutting and tearing. In these operations the prostate was enucleated through the suprapubic wound and the perineal wound was utilized for drainage. The hemorrhage was always considerable and often alarming, and the bleeding could be only controlled by packing, not only the cavity in the prostatic capsule, but the bladder as well.

The mortality of suprapubic prostatectomy remained at a very high rate, in the cases reported reaching 25 per cent., but if all the deaths were known, the death-rate would probably be much higher.

Until this time the prostate had always been removed through an incision in the bladder made above the pubes, but surgeons now began, in an experimental way at first, to utilize again the perineal incision for enucleating and removing prostatic growths.

The practice of making an opening into the bladder above the pubes was still maintained by Alexander, Nicoll, and others, but the opening was used merely for the purpose of introducing two fingers and depressing the prostate so that it could be reached and enucleated from the perineum.

At the present time the feeling among most genito-urinary surgeons is, that the prostate, in most cases, can be removed with more ease and greater safety to the patient's life through a perineal incision and without an opening into the bladder. But it is impossible to practise medicine or surgery on the rigid lines of an unvarying routine, for every case is a law unto itself and unusual conditions demand unusual measures. Occasionally a large vesical calculus or a high degree of intravesical growth, or some other irregularity may require an opening into the bladder, with perhaps complete enucleation through the suprapubic wound. And it is only fair to say that some genito-urinary surgeons—Eugene Fuller, Lilienthal and others, from a long and successful experience with suprapubic prostatectomy, regard it as the operation of choice in every case.

An objection which was urged in the beginning to the removal of the prostate through a perineal incision, was the fact that in many cases the upper border of the prostate was so far removed that it could not be reached by the finger and could not be held immovable while being shelled out of its capsule. This difficulty has been overcome by various mechanical devices, such as Murphy's hooked retractors, Parker Syms' rubber balloon retractor, and Young's prostatic retractors. They are useful instruments, and in practised hands answer the purpose for which they were intended, but in most cases can be dispensed with.

The operation to which the writer would call attention here seems to him the best form of prostatectomy which has yet been presented to the profession. We are indebted for it to the late Dr. Bryson of St. Louis, who did the first operation by this method in 1898.[4] A description of the technique of the operation is briefly as follows:

Technique.—The patient is placed in the lithotomy position and a grooved staff is introduced into the bladder. An external urethrotomy is done, and the knife is carried through the posterior urethra, incising the apex of the prostate.

The forefinger is introduced to explore the prostatic urethra, to note the amount of bulging of the prostate at the sides of the posterior urethra and the presence of an enlarged middle lobe, and also to ascertain if the bladder can be easily reached. The most prominent portion of the prostatic growth which bulges at the side of the posterior urethra is thus found, and the overlying mucous membrane is punctured with the finger-nail or a blunt instrument. The instrument is pushed well into the substance of the gland and on its withdrawal the right forefinger is introduced, tearing its way into the centre of the mass, which is usually quite friable. The finger is then swept around within the capsule of the prostate, shelling out and enucleating the adenomatous tumors, which are grasped and extracted with a lithotomy forceps. The overgrowths on the opposite side of the prostate are then removed in the same way.

The middle lobe still remains to be dealt with; this is accomplished by sweeping the finger from side to side, working up well behind the bladder and pushing the tumor downward. After the growths have been removed by the process of enucleation, the bladder should be thoroughly explored with the finger for a calculus. The oozing which seems to come from the mucous membrane, soons stops after the irrigation of the bladder and wound with hot salt water.

A soft rubber catheter (No. 34 F.) is then introduced through the wound into the bladder for the purpose of drainage, and gauze is firmly packed around it, the pressure absolutely controlling the hemorrhage.

If the field of operation is now examined with the finger, a large cavity will be made out lying immediately below the vesical outlet, which formerly

contained the prostatic tumors and is separated from the rectum only by a thin wall. The floor of the urethra is generally found to be intact, and the mucous membrane forming the sides of the urethra hangs loosely in flaps against the outer sides of the cavity from which the growths have been removed. These flaps in the subsequent healing either slough off and disappear or else become adherent to the walls of the emptied capsule like a skin graft.

In other cases in which the whole prostate has

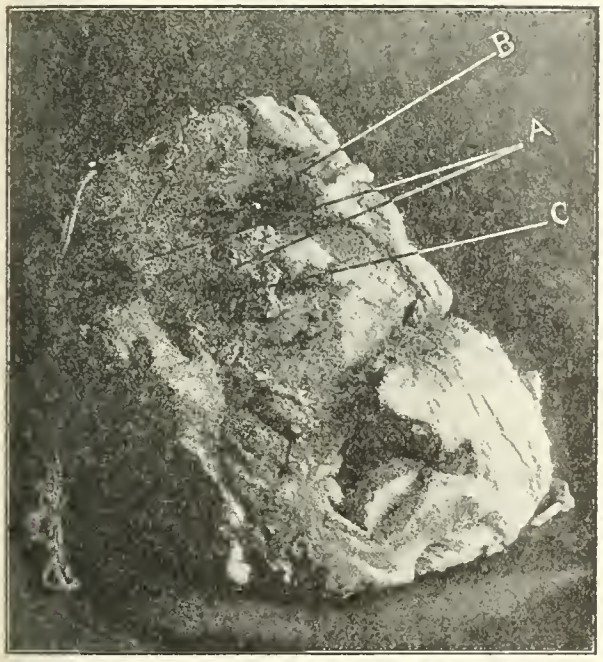

Fig. 1.—Specimen removed post mortem after perineal prostatectomy. A, tags of mucous membrane forming the sides of the posterior urethra; B, bladder; C, cavity within the capsule formerly occupied by the prostate.

been shelled out of the capsule *en masse*, the entire prostatic urethra has disappeared along with the prostate, and the new urethra is formed by a contraction and cicatrization of the walls of the old prostatic capsule.

It was formerly claimed that very large prostates could not be removed through a perineal incision, but it is surprising to find the facility with which enormous glands can be removed from below, provided an assistant will make firm counter pressure upon the abdominal wall just above the pubes with the fingers of the open hand. In nearly every case this is sufficient to bring the prostate within reach. In exceptional cases, however, it may be necessary to make a free incision through the abdominal wall opening up the space of Retzius down to, but not into, the bladder.

The bladder may be pushed down within reach and held firmly by two fingers of an assistant inserted through the incision. (Bryson, 1893; Guiteras, 1901; W. F. Campbell, 1902.)

In exceptional cases, such as a very high grade of intravesical growth, the presence of a large stone, or the escape of a prostatic tumor into the bladder during the process of enucleation, it may be necessary to make a suprabupic opening into the bladder, to facilitate the operation, or to remove a foreign body.

A suprapubic cystotomy is always to be deprecated and should be used only as a last resort, for it increases materially the shock of the operation and causes increased loss of blood. A suprapubic wound is always liable to infection, and the convalescence is materially prolonged from its slow healing; the patient also suffers a good deal of annoyance from the unavoidable soaking of the dressings and bed with urine.

Preliminary Treatment.—Before every operation for the removal of the prostate, it is desirable to give the patient the benefit of a few days' preliminary treatment for the purpose of improving the condition of the bladder and cleaning out the intestinal canal. The patient should be put to bed and calomel, gr. v., administered. A light diet consisting chiefly of milk and abundant quantities of pure spring water as a beverage should be ordered to render the urine bland. Urinary antiseptics may be prescribed for the same purpose.

The cystitis which is always marked in every operative case, should be energetically treated by washing out the bladder. In exceptional cases, when the bladder is very foul and does not clear up under irrigation, a preliminary suprapubic cystotomy, merely for the purpose of drainage has been highly recommended by Bryson.

After Treatment.—The postoperative treatment in prostatectomy requires the closest attention on the part of surgeons and nurses, for the conditions in the first few days after the operation determine whether the patient shall live or die.

Hemorrhage is not to be feared if the wound has been properly packed. Shock may be marked and should be treated in the usual way. Hypostatic pneumonia should be guarded against by making the patient lie on his side and turning him to the opposite side every two hours. To avoid suppression of urine, the patient should drink a tumbler of water every two hours, as soon as he has recovered from the anæsthetic. The bladder should be irrigated with boric acid solution twice every day, and in forty-eight hours the packing in the wound must be removed and the wound repacked, and if a stricture in the anterior urethra was divided, a straight sound should be passed down to the perineal tube. At the end of a week the perineal tube may be taken out permanently and the patient allowed to get out of bed and sit in a chair.

About the tenth day a curved sound (No. 30) should be passed into the bladder, and this must be done two or three times a week until the perineal wound heals. If this precaution is not taken the granulating surfaces in the prostatic urethra are apt to adhere together and the urethra becomes permanently occluded.

While in many cases it may not be necessary, still it is certainly safer for a sound to be passed at occasional intervals during the rest of the patient's life.

Having discussed the technique of the operation of perineal prostectomy at some length, I now beg to present the histories of nine cases of hypertrophied prostate which were operated upon by me, and one case operated upon by Dr. H. E. Fraser in my service at Long Island College Hospital.

Case I. *Hypertrophied Prostate.*—F. B. Finland, tailor. Age 62. Never been sick before present illness. Family history negative. Has had a little trouble in passing water for one year. Went to a physician to have sounds passed, but it was impossible to enter the bladder and the physician made

a false passage in the posterior portion of the prostate. Patient came to hospital immediately, being admitted December 5, 1901. He was suffering from retention of urine and great distention of the bladder. It was impossible to pass any instrument into the bladder, as everything went into

Fig. 2.—Same as Fig. 1; A, cavity within the prostatic capsule formerly occupied by the prostate; B, bladder.

the false passage. External urethrotomy without a guide was done. A finger introduced into the perineal opening showed enormous enlargement of the lateral lobes of the prostate and the entire prostate formed a ring around the vesical orifice. The bladder was drained through a large catheter for three weeks, but complete retention occurred as soon as the catheter was removed, and so it was retained until January 10, when prostatectomy by Alexander's method was performed. A suprapubic opening was made and the perineal wound was utilized for shelling out the prostate from the capsule. There was no hemorrhage and the bladder was drained through a suprapubic and a perineal tube.

January 13.—Bladder has been drained thoroughly through the tubes. The urinary secretion is free, 40 to 60 oz. in 24 hours. The patient showed no signs of shock, and feels well and is free from pain. Temperature ranged from 99° to 101°. Has had a urinary antiseptic with water to drink every two hours; bladder washing was attended to, and the patient was turned from one side to the other every hour. The wounds look healthy. On this date he had a chill and rising temperature to 104°. On January 14 temperature was 96°, but went up again and ranged from 98° to 101° until the man's death. The patient grew weaker, refused nourishment; coarse râles developed over the lungs posteriorly; the urinary secretion was free; the abdominal wound looked sloughing, although the skin had united.

The patient died on January 19.

At the autopsy it was seen that the suprapubic wound was infected, and a sloughing, rotten cavity was found between the skin and the transversalis fascia (caused by sloughing) extending as high as the umbilicus. There was left hypostatic pneumonia (septic) well marked. There was chronic diffuse nephritis with secondary septic infection. The bladder was soft, necrotic, and contracted. The cavity of the capsule of the prostate not much affected, although no signs of repair were evident. The perineal wound was soft and necrotic.

The cause of death was septic absorption, chiefly from the suprapubic wound. Evidences of infection apparent three days after operation.

The patient would probably have recovered if he had not been infected, for although the laceration of the urethra was considerable in extent, the wound looked clean, and the floor of the bladder was intact. The drainage through the perineal tube was perfect and very little urine came in contact with the wound in the prostate.

The mucous membrane at the sides of the prostate urethra, which had been torn loose during the enucleation could be seen as flaps attached at one end and looking healthy. In the event of recovery these would have attached themselves to the sides of the granulating prostatic capsule, thus forming a lining of mucous membrane for the new urethra, or if they had not become attached would have sloughed out. (See Fig. I.)

Case II. *Combined Suprapubic and Perineal Prostatectomy and Removal of a Calculus.*—J. M., ship carpenter. Age 72. About 55 years ago had an attack of gonorrhœa, a few years later another attack, and afterwards chancroids. About twenty years ago he noticed some irritation of the bladder, causing frequent urination; this has increased quite rapidly in the last four or five years, burning, itching and difficult urination being prominent symptoms.

Examination showed a large prostate, moderately soft, about the size of a small lemon. The patient passes about one drachm of urine at a time; the residual urine measures 14 oz., and is very turbid from pus.

Operation was performed January 12, 1903. The urethra was opened on a grooved staff, and a stricture of large caliber in the membranous urethra found and divided. The posterior urethra was dilated with the finger and a calculus was discovered in the bladder. The mucous membrane at the right

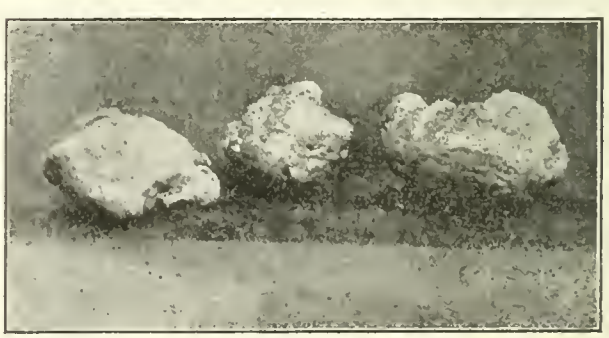

Fig. 3.—Tumor removed by prostatectomy in Case II.

side of the posterior urethra was torn through and two adenomatous tumors were enucleated from the right side with great ease. On the left side the mucous membrane of the posterior urethra was torn through and an attempt was made to enucleate the left lobe; it was partially loosened, but the upper

part was firmly attached to the capsule and out of reach of the finger. The bladder could not be depressed sufficiently from the outside to bring the uppermost part of the prostate, where it was still attached, within reach of the finger, and as it seemed impossible to tear it loose from its attachment to the capsule, I decided to open the bladder by the suprapubic route. I did so for the purpose of (1) depressing the prostate within reach, and (2) removing the stone.

On introducing the finger into the bladder, a very large stone was felt, also the left lobe of prostate, which had been enucleated through perineum, was also found lying loose in bladder, where it had been pushed by previous manipulation, after having been torn loose from its attachments. Some difficulty was experienced in removing the stone through the suprapubic incision, as it was a large one. The abdominal wound was partially closed by suture and Guyon's double tubes were introduced and the bladder was drained through the perineum by a large catheter.

Ten days after the operation, the patient was doing well and sitting up; the suprapubic fistula was still open; but the perineal fistula was about closed.

On March 24 the abdominal and perineal wounds were healed; urine was passed about every three hours, the capacity of the bladder being 4 oz., the residual urine amounting to one ounce; there was no pain on urination. No. 24 F. sound passed easily; the meatus was small and the patient refused to submit to meatotomy. The general condition was good.

Comments.—1. This case shows the importance of always remembering the possibility of the presence of a vesical calculus, and searching the bladder before the operation with a stone searcher, or, when possible, by a cystoscopic examination.

2. In the unmixed adenomatous type of prostatic enlargement the tumors can be shelled out easily through a perineal incision alone, but fibrous tumors (insterstitial fibrous hyperplasia) are so adherent that it may be necessary to make an incision into the bladder, or at least into the space of Retzius, in order to get the prostate within reach and hold it steady enough to enucleate. The various forms of prostatic retractors may often here be used to advantage.

Case III. *Prostatectomy for Enlarged Prostate.*—F. B. age 74, engineer, Belgian. Has always been well and strong except for an attack of dysentery when 19 years old. Has had linguinal hernia for fifteen years, and had gonorrhœa 50 years ago, but never had any stricture. A year ago he began to have difficulty in passing water, which grew steadily worse. Two days ago he had complete retention of urine, which was unrelieved until a catheter was passed and 64 oz. of urine withdrawn, some being left in the bladder. Examination through the rectum showed a large soft prostate as big as a lemon.

Fig. 4.—Tumors removed by prostatectomy in Case III.

Perineal prostatectomy (Bryson's operation) was performed on October 20, 1902. The man was delirious for three or four days after the operation, but little fever and the pulse was good. The bladder was drained with a tube for a week; the urine contained a good deal of blood.

On November 5 the patient was up and on November 10 he could hold his water for three hours at a time. The perineal wound was still open. On November 25, the skin of the scrotum covering the hernia became gangrenous spontaneously and sloughed, but the patient was doing well and perineal wound was nearly closed.

On January 5, 1903, the perineal wound was nearly closed, and the man passed water with perfect ease three or four times a day and once or twice at night.

Case IV. *Enlarged Prostate and Stricture, Prostatectomy.*—B. W., retired sea captain, aged 72 years. He had several attacks of gonorrhœa in youth, but had no trouble in passing water before the present attack, which came on suddenly and without apparent cause on February 27, 1903. The bladder was distended. A guide was passed, but the tunnel catheter would not pass the stricture; a quart of bloody urine flowed away, however, alongside guide, emptying bladder. On February 28, external urethrotomy was performed and a very tight stricture in the membranous urethra divided. A tumor was enucleated from the left lobe of the prostate, but slipped up into the bladder and was extracted with stone forceps. The right lobe of the prostate was not enlarged and the bladder was drained with a catheter (34 F).

After enucleation tumors often escape into the bladder and are difficult to grasp with stone forceps.

The surgeon should always be provided with a lithotomy scoop for their extraction.

After the operation the patient had a chill and rise of temperature to 103°, but the next morning the temperature was normal, and there was no shock. A week later, the patient had tympanites and a rise

Fig. 5.—Tumor removed by prostatectomy in Case IV.

of temperature, which disappeared after a copious evacuation of the bowels.

On April 5 the wound was entirely closed and the man passed all water through penis. On April 24, a perineal fistula which had formed was curetted. On May 22 this fistula was closed. The patient passed water once at night and at normal intervals through day. The patient passed a No. 32 F. sound once in three months. A year after the operation there was no residual urine.

Case V. *Perineal Prostatectomy for Enlarged Prostate.*—John T., age 62, born in Hungary, had gonorrhœa several times in youth. About six and one-half years ago he began to suffer from retention of urine (incomplete). Six months later he had an attack of complete retention for which suprapubic cystotomy was performed in Hungary. Had drainage for two months following. Since then has had to use the catheter two or three times a day. Before coming into hospital he had an attack of retention and could not use the catheter, and in attempting to enter the bladder a physician made a false passage in the lower part of the prostate; he subsequently aspirated bladder and sent the patient to hospital.

Perineal prostatectomy was performed January 26, 1903. A stricture in the membranous urethra was divided by external urethrotomy and the prostatic urethra was dilated with the forefinger, the prostate being found to be very much enlarged. The mucous membrane of the prostatic urethra was torn through and the prostate was enucleated in pieces, the tumors being loosened with the finger and removed with the stone forceps. The abdomen fat and rather tense, nevertheless the prostate was held easily in place during enucleation by pressure above the pubes. The patient had a temperature from 100° to 101° for three or four days after the operation, but by February 2 it was normal. The urine was quite clear and bladder drained perfectly through the tube. The patient was very comfortable and anxious to get up.

On February 13 he had been sitting up for a week. On the attempt being made to pass a sound through the urethra obstruction was noticed, and it was found that the surfaces had united and the posterior urethra was nearly closed; the adhesions were easily broken down with the finger and a No. 30 F. sound was passed into the bladder through the meatus.

On February 21 the patient left the hospital and went home. The perineal wound was closed; the sound passed into bladder readily. The man passed water easily through the meatus, but there was some incontinence at times.

On April 15 he called at my office. He was passing water once or twice at night, but had some incontinence through day and wore a urinal. A No. 30 F sound passed easily. There was 3 oz. of residual urine. Per rectum no enlargement of the prostate was to be felt. I advised catheterization once a day.

Fig. 6.—Tumors, weighing 1,420 grains, enucleated from the prostitute gland in Case V.

Comments.—1. The case shows the practicability of removing the entire prostate without opening the

bladder, even when the gland is enormously enlarged and extends up very high.

2. Forceps is of great use in delivering the pieces after they have been loosened from attachments by the finger.

3. The fact that the lacerated surfaces of the posterior urethra became united during the process of healing shows the necessity of keeping the canal open by the passage of large sounds.

Case VI. *Senile Hypertrophy of Prostate, Bottini Operation, with Prostatectomy Subsequently.*—J. D., æt 67, laborer. Seven years ago trouble began with diminution of strength of the stream and tenesmus in passing water, with several attacks of retention, the last occurring in May, 1899, for which he entered the hospital. There was marked enlargement of both lobes of the prostate, and the cystoscope showed an enlarged middle lobe projecting upwards like a nipple. On May 15 a Bottini operation was performed, three cuts being made posteriorly, interiorly and to the left side. Complete retention was not relieved, and great aggravation of cystitis followed, making necessary an external urethrotomy in order to drain the bladder. Examination with the finger through the perineal incision showed the cuts made by the Bottini knife distinctly. The posterior cut had divided the obstructing posterior lobe of the prostate. Palpitation with the finger in the rectum showed the thickness of the tissues between the rectum and the incision to be about half an inch. The posterior cut gaped open widely enough to admit the finger. The anterior cut was half an inch deep, and also gaped to some extent. The internal vesical orifice was well opened up by the cuts, and the obstruction of the posterior lobe was entirely severed. The bladder was completely destitute of contractile power and could not force out water injected into it with a syringe. The loss of contractile power of bladder appeared to explain the apparent failure of Bottini's operation to relieve the retention, since the operation opened up a free channel for the urine. The bladder was drained for about one month.

On leaving hospital, the patient could pass most of his water through the penis, but retention soon returned, and for the last four years he has had to depend entirely on the catheter to empty the bladder, using it about four times a day. He has been comfortable and able to work, but the Bottini operation failed signally in this case to relieve retention. In June, 1903, he came again into the hospital, saying that since the operation he had worked every day but had to depend on the catheter. About one month ago the urine became very bloody; the bladder was irritable and the patient had to pass the catheter every two hours; the catheter was introduced easily.

On July 2 perineal prostatectomy was performed. The prostate was very difficult to enucleate, being closely adherent to the capsule, and during enucleation a tear into the rectum occurred. The tear was sewed up immediately. The convalescence was uneventful but the opening in the rectum did not heal and the patient left the hospital with a urethrorectal fistula. He went to New York later and the fistula was operated on and closed by Dr. J. P. Tuttle.

Comment.—This case shows the difficulty in enucleating a prostate when Bottini's operation has been done previously.

Case VII. *Prostatectomy.*—A. M., aged 65, farmer, has suffered more or less from retention of urine for the past ten years. Lately he has had a great deal of irritation and almost constant desire to urinate with complete retention. He was treated for three months at the Poughkeepsie Hospital for severe cystitis, and was failing in strength when he entered Long Island College Hospital. His general condition was very poor; atheroma was very marked, the radial artery being like a pipe-stem. There was a beginning bed-sore on the back. The prostate was large and the cystitis was severe.

Perineal prostatectomy was performed by Dr. H. E. Fraser. The wound healed entirely and the patient could take a 32 sound; he passed water a couple of times at night, but had about 8 oz. residual urine for which the regular use of the catheter was advised.

Fig. 7.—Tumors removed by prostatectomy in case VI., four years after a Bottini operation

Comment.—The patient's condition was very unfavorable for any operation, as he had a high grade atheroma, beginning bed-sores, and severe cystitis. Nevertheless he stood the operation well and made a satisfactory recovery.

Case VIII.—*Prostatectomy and Division of Stricture.*—E. R., aged 65 years, ship builder, had gonorrhœa when nineteen years of age with double epididymitis. His general health has always been good. Four years ago he noticed difficulty in passing urine

Fig. 8.—Entire prostate, containing the posterior urethra, removed *en masse* in Case IX.

Two years ago external urethrotomy was done in St. Peter's Hospital, the tube being left in for five weeks. A fistula in the perineum remained open until six weeks before his admission to the Long Island College Hospital, on August 8, 1903. He then had a tight stricture not admitting a catheter. The urine was voided with great difficulty every hour, about half an ounce at a time, with pain and tenesmus. On August 12 external urethrotomy was performed. The deep and anterior strictures were divided and prostate was shelled out through the perineal wound. The bladder was drained. The patient made an uneventful recovery. The temperature never exceeded 99.5° after the operation; the maximum pulse was 80. He was discharged from the hospital one month after the operation.

Case IX. *Enlarged Prostate, Prostatectomy.*—G. B., aged 64, dock superintendent, had always had good health. He had gonorrhœa twice, but no trouble resulted until three years ago, when he began to have a constant desire to urinate with straining. He was catheterized and over one quart of water drawn off. In June, 1902, he consulted me. Examination showed a prostate, 1½ inches in diameter, and a stricture of large calibre. There was complete retention of urine. The patient went on comfortably, using catheter three times a day until November 10, when, retention occurring, a physician was called, who made a false passage and did not get into bladder. I relieved the patient with a guide and tunnelled catheter.

On November 12, 1903, prostatectomy with division of stricture was performed. The entire prostate containing the prostatic urethra was removed *en masse*. Recovery was uneventful. Two months after operation the perineal fistula had healed, a No. 30 F. sound being passed with ease; the residual urine measured one ounce. The man passed water once at night and three time during the day.

Comment.—In this case, although the entire prostate and prostatic urethra were removed, the ejaculatory ducts were evidently uninjured and coitus was satisfactorily performed.

Case X. *Senile Hypertrophy of Prostate, Prostatectomy.*—J. R., æt. 63, a sea captain, was always well and strong. He had had gonorrœha two or three times. Began to have trouble with his water in October, 1903, passing only a small quantity frequently. His condition improved later, and for the last five weeks he had used a catheter three times a day and passed a cupful of water himself at each act of urination.

The prostate was enlarged and soft, 2½ inches in diameter. A No. 24 F sound entered easily; the residual urine was 7 or 8 oz.; the urinary amber, acid, slightly turbid, containing slight trace of alubumin; Urea gr. vi to the ounce, no casts, pus, or blood. On December 19, perineal prostatectomy (Bryson's operation) was performed. A stricture of large calibre was divided in the deep urethra; the lateral lobes of the prostate were removed and the middle lobe was found to be enlarged and prominent, projecting into the bladder like a ball valve; this was also removed and a drainage tube was introduced. Very little hemorrhage occurred and shock was inconsiderable. The patient did well for one week after operation, the bladder being drained well, and blood soon disappeared from the urine. The temperature ranged from 95° to 100°. The secretion of urine was free, about 30 oz. a day.

On December 26 the perineal tube was removed and a sound passed easily into the bladder.

On December 27 the patient had a chill, and the temperature rose to 106°. He had persistent vomiting, feeble pulse, and almost complete suppression of urine. The temperature ranged from 100° to 105° until his death on December 29.

At the autopsy by Dr. Van Cott, a large quantity of orange-gold fat was seen in the abdominal parietes and mesentery. The right heart was dilated and filled with ante-mortem clots, which had been some time in forming. The myocardium contained considerable fat; the valves were all normal. The arteries were generally very atheromatous. The spleen was large and studded with infarcts. The lungs were emphysematous, otherwise normal. Both kidneys were small, with adherent capsule and surface uneven from old cicatrices; the cortex was thin, irregular in thickness, dull, with markings fairly distinct. The liver was quite large and showed signs of marked hypertrophic cirrhosis and fatty degeneration. The prostate gland, previously removed at operation, showed the capsule and operation wound healthy with no evidence of infection. The cause of death was uncertain, probably acute nephritis.

The results in the cases just reported in detail may be summarized as follows: Ten patients operated on, most of them desperate cases and all old men. Two deaths—one from infection of the suprapubic wound, one from acute nephritis ten days after the operation. Two patients obliged to use the catheter subsequently, on account of the residual urine, but both had complete retention before the operation and now can pass water, are not troubled with frequent urination and are perfectly comfortable. One formerly operated by Bottini's method, had a tear into the rectum which was subsequently closed, but had complete restitution of bladder function. The remaining five were entirely relieved and did not require further use of the catheter.

We all know how utterly unreliable statistics are, and we have been misled many times by placing our trust in lying figures. Personally the writer is inclined to accept the honest opinions of men who have had enough experience, so that their views can be crystallized into a definite statement of facts. It is through these facts, which, gathered slowly and with painstaking care, at the cost often of human suffering, and sometimes of life itself, that the arts of medicine and surgery move along in a steady line of advance.

If the writer may then be allowed to express his opinion on the operation of perineal prostatectomy as done by Bryson, he would summarize its advantages as follows:

1. The comparatively low death rate.

2. The rapidity, ease and facility with which the prostate can be enucleated.

3. The trifling amount of hemorrhage and shock.

4. The excellent bladder drainage and ability to keep the patient's bed and dressings dry.

5. The rapid convalescence, the patient getting out of bed within ten days.

6. The complete restitution of the bladder functions in most cases.

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32 SCHERMERHORN STREET.

HOSPITAL NOTES ON EPIDEMIC CEREBROSPINAL MENINGITIS.

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THE following notes are offered as a contribution to the history of the epidemic of 1904:

During the Spring and Summer there were admitted to St. Vincent's Hospital twenty cases of epidemic cerebrospinal meningitis. Two entered in March, five in April, nine in May, two in June, and two in August.

The cases appeared after an exceptionally severe winter, marked by the great prevalence and mortality of pneumonia.

The patients all came from the tenements. Eight were Italians, ten from the United States, one from England and one from Ireland. Twelve were males and eight females. Three were married and seventeen single. Nineteen were whites; one was a negro. There were more adults than children. The ages ranged from 3 to 39 years, as follows: 3, 5, 7, 7, 10, 11, 14, 16 17, 18, 20, 21, 23, 24, 24, 25, 28, 29, 34 and 39.

Of the twenty patients, ten died (50 per cent.): One on the day of admission, one on the day after, two in 2 days, two in 3 days, one in 5 days, one in 29 days, one in 34 days and one in 105 days.

Of the eight Italians, six died (five males and one female). Of the ten from the United States, three died (females). The English woman also died. In all five males and five females succumbed.

The cases did not materially vary from the classical course so often described. Eleven were long cases; nine were short. The duration of the long cases that died were, as nearly as could be ascertained, as follows: One (K. F.) 14 weeks, one (P. P.) 12 weeks, and one (T. D.) over 4 weeks. The long cases that recovered lasted as follows: One (M. McC.) 13 weeks, one (W. B.) 7 weeks, one (A. L.) 6 weeks, one (F. J.) 5 weeks, two (G. C. and D. Q.) 4 weeks, one (J. C.) 3 weeks and one (J. P.) about 3 weeks.

Of the short cases that ended in recovery one (G. H.) lasted 3 days and one (A. McK.) about 2 weeks. Of the short cases that died, one (E. H.) lasted 2 days, two (L. C. and J. F.) were ill 3 days, two (F. C. and F. P.) 4 days, one (M. McC.) 6 days and one (S. B.) 7 days.

There was some variation in the types of the disease. No fulminant cases were met with. Sixteen of the cases, though of varying duration, might be classified as of the ordinary type. One was of the marantic type, one of the intermittent type, one of the abortive type, and one of the chronic type.

The symptoms noted might be analyzed as follows: All the patients had pain in the head—severe as a rule. All had more or less fever. All had some degree of retraction of the head and rigidity of the neck. All had delirium of varying intensity at some time. All had more or less leucocytosis. Constipation was the rule, except in two patients, who had early diarrhœa. Seventeen had vomiting at some time—most of them at the beginning. Fifteen had general hyperæsthesia. In fifteen Kernig's sign was elicited. Twelve had initial chills. Three had chills late in the disease. Fourteen had stupor, off and on. Eleven developed coma. In one instance the coma lasted ten days before death. Twelve had general rigidity of the body. One had clonic spasms of the face. Ten had opisthotonos. Seven had the typical eruption. Nine had herpes labialis. Two had rose spots. Five had convulsions. Five had strabismus. Six had earache, deafness and slight discharge.

Complications: In two cases broncho pneumonia was noted. In two congestion of the kidneys. In one double parotitis. In one vascular keratitis. In four there was marked pain in the joints and limbs, though no true arthritis was noted.

The following sequelæ were noted: In one paralysis of limbs. In one atrophy and partial blindness of one eye. In one deaf-mutism and idiocy. In six deafness.

Lumbar puncture was done in eleven cases. In four of these the culture was positive; in seven negative.

In the treatment, the following were employed: Ice bags, sponging, laxatives, enemata, morphine, potassium bromide, potassium iodide, ergot, quinine, Warburg's tincture, sodium salicylate, strychnine sulphate, digitalis, whiskey, fluid diet followed as quickly as possible by light diet.

Appended are short reports of six of the cases:

Ordinary type; fatal case; complicating parotitis; autopsy.—S. B., an Italian flower maker, 18 years old, single. In the United States six months. Admitted to my wards May 26, brought thither by ambulance.

It was difficult to obtain a history of his family, previous health and habits, as neither he nor his friends spoke English. He was said to have had malaria in Italy recently. He had had no severe previous illness.

His present attack began suddenly two days ago with intense pain in the head which later extended to the nape of the neck. On the day of invasion he had two severe chills which were attributed by him to his malaria. He had marked nausea and frequent vomiting, which continued most of the second day. There was much thirst and the fever seemed high. The pain in the head and neck increased and he became delirious at times. No eye or ear symptoms were noted. The bowels had moved.

The second day of the disease his neck became very stiff, the head was retracted and drawn to the left side. His headache and fever continued and he grew worse.

On admission to the hospital, the third day of the disease, his temperature was 104 1-5°, pulse 90 and respirations 44. He looked very ill. The head was retracted and drawn to the left. The entire body would become rigid on attempts to move him, and he would complain of pain. There was general hyperæsthesia. Kernig's sign was elicited.

On rounds he seemed mentally clear for the time being and told me of his two chills, of his vomiting, of his malaria and wanted to know if he was dan-

gerously ill. It was noticed that he had spasmodic twitchings of the face, especially in the superciliary region. His pupils were evenly dilated. About his shoulders, chest, back and arms and slightly on the face was found the typical eruption. This consisted of petechiæ—some of them of considerable size, dark colored and not disappearing on pressure. They seemed not so much hæmorrhagic as pigmentary at this time. Several blue spots (purpuric) were seen on the lips. An examination of the blood was negative as to parasites. The white count was 32,400. The urine was amber, acid, specific gravity 1024 and contained a heavy trace of albumen, a few granular casts, many red and white blood corpuscles and urea gr. viii. to ℥i. His heart and lungs were normal. The spleen could not be felt. Abdomen negative. He was ordered a sponge bath, an enema, ice bags to the head and spine, milk diet, quinine sulphate gr. x t.i.d. and potassium bromide gr. xx every five hours.

May 27th.—Delirious and restless, retraction of head and stiffness of neck; general rigidity and hyperæsthesia. Complains of his headache. No eye or ear symptoms. The temperature this day ranged between 103.6° and 101.8°. Towards night it rose to 103°. His pluse remained all day around 90, and his respirations around 30. There was no vomiting. Bowels moved. Eruption and blue spots on lips still present.

May 28th.—On rounds I found him in a restraining jacket violently delirious. Dilated pupils. Marked rigidity and retraction of head. Retention of urine and had to be catheterized. The range of temperature was higher than the day previous, varying between 104.6° and 103°. His pulse increased very much in frequency, running between 120 and 100. The respirations were a little less, between 24 and 28. This day he grew markedly worse. In the afternoon, within a few hours, he developed an intense parotitis on both sides, which swelled his face enormously. By 9 p. m. his temperature was 104.6°, pulse 140, and respiration 22. Lead and opium wash was applied cold. He could not open his mouth well and there was sordes. Efforts were made to keep the mouth clean with a disinfecting mouth wash. The quinine was stopped, as it did not seem to have any beneficial effect. The bromide was continued, and it was found necessary to give a hypodermic of Magendie ♏ vi. An enema was given. The patient was sponged. The ice bags were continued and ℥vj of milk were given every three hours.

May 29th.—The delirium, rigidity and other symptoms persist. There is now slight strabismus. The parotitis is very marked and interferes with proper feeding. The temperature this day ranged between 104 and 103. The pulse between 120 and 116. The respirations ran between 24 and 28. A hypodermic of Magendie (♏ vi) gave him three hours' rest. The bromide is continued, ice bags, enema; milk increased to every two hours.

May 30th.—Had slept four hours in the night, but his general condition is worse. Stupor alternates with delirium. There is progressive weakness. The face is bloated from the parotitis. The lips are puffed out and have still the ecchimotic spots. Eruption persists. Blood examination negative as to Widal's reaction. The white blood count to-day is 27,000. There is no anasarca. Incontinence of urine has set in. The temperature this day ran between 104° and 103°. The pulse was between 122 and 118. The respirations increased from 26 to 44. He commenced to have dyspnœa and slight cough. Numerous small moist râles were heard over both sides of the chest and other signs of pulmonary œdema developed. At 1 p. m. his temperature had reached 106.4°, his pulse was 150 and respirations 46. Towards evening he became comatose.

May 31st.—Moribund. Unable to swallow. Coma. His temperature dropped slightly. His pulse was 150 and respirations 52. He died at 2:40 P. M.

Autopsy, 10 a. m., June 1st, by Dr. John Howland. Body of a small, fairly well nourished adult, with small amount of fat. Surface: Eruption present on shoulders and back. Purplish spots on lips. Parotids enlarged but no pus found. Pleuræ normal. Lungs ædematous. Beginning broncho-pneumonia, areas of which are small, deeply congested and elevated above the surrounding lung tissue. Bronchial glands enlarged, red and pigmented. Pericardium normal. Heart: left ventricle contracted, right ventricle dilated. Valves, normal. Kidneys, slight congestion. Cortex, somewhat swollen and cloudy. Spleen, very small and soft. Stomach and intestines, normal. Liver, surface smooth, size normal, cross section shows slight nutmeg markings. Brain, vessels of pia much congested and around a few of the larger vessels leading up from the base there is a small amount of exudation. Convolutions flattened and the whole brain seems increased in size. There is a fibro-purulent exudate on the base, beginning just behind the optic commissure and covering the interpeduncular space, the inferior surface of the pons, medulla and that portion of the cerebellum lying closest to the medulla and extending also to a slight extent over the superior surface of the cerebellum.

The ventricles contain only a slight amount of free fluid. The lateral ventricles are filled with very turbid fluid and the walls are covered with purulent exudate which is thickest upon the choroid plexus. There are small punctate hæmorrhages just beneath the ependyma, which is granular. The third ventricle is dilated and also the fourth, which has small hæmorrhages, and also a purulent exudate. The cord could not be examined. A stained smear showed the presence of the diplococcus intracellularis meningitidis.

This patient died on the seventh day of the disease (five days after admission). An interesting feature of the case was the complicating parotitis. Radcliffe, Tourdes, Jenks and Hirsch mention it as a rare complication. Stillé met with only four or five cases.

Ordinary Type: Recovery.—J. C., a girl singer, 11 years old, born in the United States. Admitted by ambulance on May 11th.

Nothing of importance was elicited as to the family history or as to the habits of the child, except that she was actively engaged in the theatrical profession as a singer.

This morning upon awaking she complained of severe pain in the front and back part of the head. She felt so ill that she ate no breakfast. In the afternoon she vomited twice, first the contents of the stomach and then a greenish fluid. The headache continued with increasing intensity throughout the day, the child grew worse, seemed very feverish and was restless. At 7:30 p. m. she had violent convulsions lasting about three-quarters of an hour, followed by marked stupor, in which condition she was taken to the hospital at 9:30 p. m. and was assigned to my service.

On admission her temperature was 103.4°, pulse 116 and respirations 28. Well nourished child. Great restlessness and delirium. She does not an- 116, and respirations 28. Well nourished child.

head. Head retracted and pulled over to the left side. Rigidity of the neck. General hyperæsthesia, the slightest movement causing the child to moan in pain and to become rigid. The pupils are even and dilated. They do not react well to light. Nose and mouth seemed normal. Lungs negative. Heart rapid, but the sounds were normal. Abdomen slightly retracted. Spleen not palpable. No typical eruption found, but a large patch of herpes was on the left upper lip and cheek. Legs were drawn up on thighs. Kernig's sign obtained. Reflexes did not seem exaggerated. An examination of the blood was negative as to Widal and parasites. There was moderate leucocytosis. The urine showed a heavy trace of albumin and was about normal in quantity.

During the next two or three days the retraction of the head became more exaggerated, so that it amounted to opisthotonos and the rigidity of the neck and body generally was increased. The child could be moved as if her body was made of one solid piece or as if she were a statue, while she pleaded to be let alone. She remained in a semi-stupid condition, lying on her side in dread of the slightest movement which would increase her pain. The stupor alternated with delirium. The fever was high, though irregular. During the succeeding days the acute manifestations of the disease varied considerably. The fever would abate for a day and then unexpectedly rise again to 104. The delirium would cease for a time, giving place to refreshing sleep, only to recur perhaps the next day for hours. The bowels remained constipated and had to be attended to daily. Ice bags, bromide of potassium, iodide of potassium, morphine, sponging, and fluid diet besides laxatives and enemata were employed.

Very gradually the spasmodic manifestations subsided, and the child commenced to ask for food, which was given her. The headache persisted for weeks. The emaciation was marked. The herpes labialis seemed slow in healing. There were no complications. Soon the symptoms all became ameliorated. In a week the delirium ceased and the child rested well. The retraction, spasm and hyperæsthesia disappeared more slowly. The temperature occasionally rose without warning, and again dropped to almost normal for days at a time.

Improvement continuing, the child was allowed to sit up a little at the end of two weeks. Regular diet was given. She left the hospital at the end of a month somewhat emaciated and pale, but perfectly well, no sequelæ remaining.

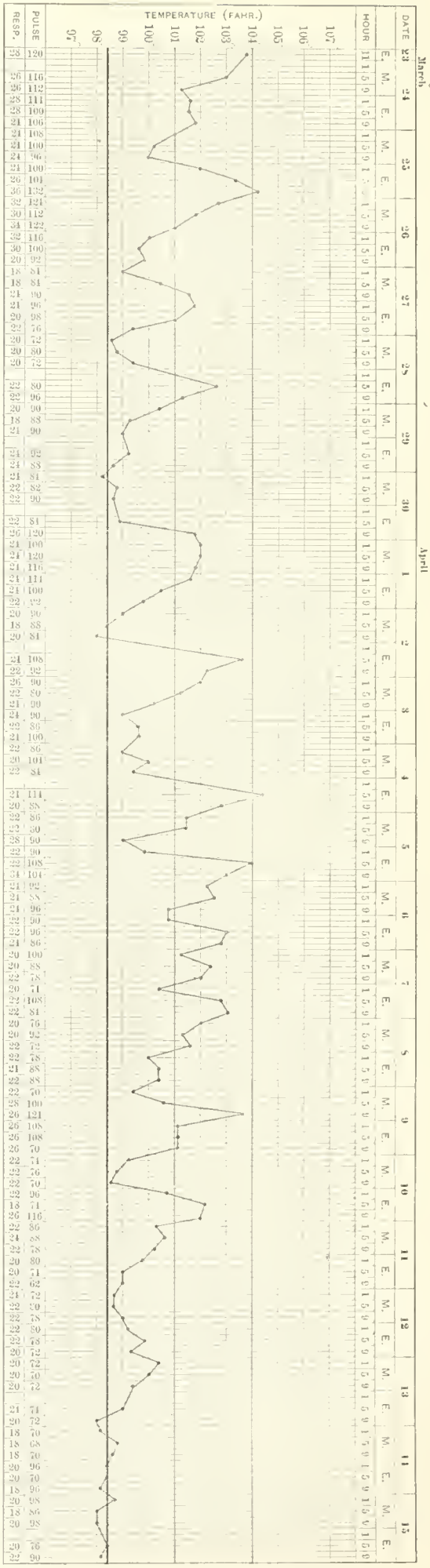
Intermittent Type: Recovery.—G. C., a married Italian laborer, 25 years old, who landed in this country nine days ago. Brought to the hospital by ambulance on April 23. (See chart.)

Impossible to obtain family history, previous history or account of his habits, as he does not speak English.

His present illness began three days ago with headache, which soon became very intense. This was accompanied by loss of appetite, marked nausea and vomiting of stomach contents and bile, without any blood. The pain in the head seemed at first confined to the frontal region, but later extended to the nucha and down the spine. There was a great deal of fever.

On the second day his neck became very stiff, and the head was pulled back and somewhat to the left. There was great pain when an attempt was made to move the head. The entire body was stiff and sore. He became worse and his friends brought him to the hospital.

On admission his temperature was 103.8°, pulse



120 and respirations 28. The patient is a fairly nourished but thin adult. He is slightly delirious. The skin is warm and moist. There are marked retraction and spasmodic contraction of the neck muscles causing inability to move the head forward or from side to side without great pain. The pupils are dilated and fixed; no reaction to light and apparent loss of accommodation; no strabismus. Hearing seems defective. The nose is apparently normal; no discharge. The tongue is red, dry and coated. The heart and lungs are normal. The abdomen is very much retracted; not tender. The edge of the spleen can just be made out. Kernig's sign can be elicited; the reflexes are present, but slow. There is general hyperæsthesia. The patient looks very ill. The urine is cloudy, of amber color, acid, specific gravity 1,020, contains a trace of albumin, no sugar; no casts, some débris.

He was ordered calomel and soda, to be followed by magnesium sulphate; milk diet, ice bags to head and spine. Later, Magendie, ♏ vi. with atropine 1-100 gr. hypodermically.

April 24th.—Slept fairly well. To-day he is delirious off and on. There is retention of urine and has to be catheterized. Examination of the blood was negative as to parasites. The white blood count was 26,200. Magendie, ♏ vi given.

April 25th.—Sleeping most of the day. Catheter still has to be used. High fever. A slight papular eruption (rose spots) is noticed on the shoulders and back. He has marked labial herpes. Taches cerebrales. Low cry at times. Very drowsy. White blood count 22,000. A lumbar puncture was done. Clear fluid, negative. Subsequently a culture was without result. He was put on fluid extract of ergot ♏ xx t.i.d., ice bags, sponging, milk, Magendie's solution.

April 26th.—Slept greater part of the night. The temperature through the day had a marked drop—from 104.2° to 99°.

April 27th.—Temperature rose again to nearly 102°. Same treatment.

April 28th.—The patient is brighter this morning. Passes urine normally. His temperature was 98.5°. By 5 p. m. it had again risen to nearly 103°. There were periods of stupor.

April 29th.—He is passing about 33 ounces of urine in 24 hours. It is cloudy and has a trace of albumin. No casts. The temperature gradually fell to normal and remained so for nearly two days. Meanwhile the retraction of the head and rigidity of the neck and body continued and he complained bitterly of the pain in the head.

May 1st.—The temperature has again gone up to 102°, gradually dropping to normal towards evening. Light diet allowed. Constipation. Ergot continued.

May 2d.—Calomel. Enema—large result. The temperature in the morning was 98.5°; by 5 p. m. it was close to 104°.

May 4th.—Temperature 99° in the morning. In the early afternoon he had a severe chill, lasting fifteen minutes, and by 5 p. m. his temperature was was 104.4°. Headache very severe. Retraction of head again marked. Delirium has returned. Moans from time to time. Examination of the blood negative as to plasmodia. No pus collection discovered anywhere. Ergot stopped. Ordered quinine sulphate gr. x night and morning.

May 5th.—Temperature at 9 a. m. was 99°. At 3 p. m. he had another severe chill, lasting about a quarter of an hour, and by 5 p. m. the temperature had risen to 104°. Patient complained of pain in the left ear, and there was a slight discharge of serum, which continued for a few days. The ear was syringed every three hours. The quinine was increased to gr. x t.i.d., and gr. x of bromide was added to each dose. The pain in the head was very severe. During the next few days the temperature was quite irregular, but did not go below 100°. His general condition was about the same. Retraction, rigidity and headache continued. Is now eating better. He is still constipated.

May 7th.—White blood count 13,800. No plasmodia. Slight anæmia. Quinine was stopped and ʒij of Warburg's tincture t.i.d. was ordered.

May 9th.—In the early morning his temperature was 99°, but a chill lasting ten minutes occurred, and by 9 a. m it had gone up to nearly 104°.

Next morning (May 10) the temperature was 98.5°. Towards evening it went up to 102°. Complains of the pain in the head.

May 11th.—The retraction and stiffness are far less marked than they were. The temperature gradually dropped to normal, but there was an evening rise. There is great languor. Emaciation is noticeable. Complains of his head. Eyes were examined by Dr. Peter Callan and found normal. Blood showed slight loss of hæmoglobin and polymorphonuclear leucocytosis. The Warburg's tincture was stopped. He was put on iodide of potassium gr. x t.i.d.

May 13th.—Resting quietly. Vomited twice. Headache still continues. The temperature dropped from 100.4° to 98.5°, and did not rise again.

May 14th.—Very dull and sluggish. Passes his urine involuntarily. Considerable prostration. His iodide of potass. was stopped. Ordered strychnine sulphate, gr. 1-60 every four hours. To-day his left eye is red, the cornea dull and slightly inflamed (vascular keratitis). This subsided in a week. The patient is eating well. The retraction and stiffness gradually disappeared. He continued to improve, and on May 21 he sat up for an hour. He was put on mistura amara and given full diet. Convalescence was slow but uninterrupted, and by May 22 he was up and about the ward.

The feature of interest in this case was the intermittency of the fever and other symptoms. His temperature chart is subjoined. His chills, remissions of fever, the absence of fever for a couple of days at a time, etc., reminded one of malaria, but no organisms were found, and quinine and Warburg's tincture did not influence the course of the disease. Again, at times it reminded one of a septic or of a pyæmic case, but no cause could be found beyond his meningitis. I have thought it fair to class this case as of the intermittent type, so often described. The disease lasted about four weeks.

Marantic Type; Recovery.—M. McC., a girl 3 years old, born in the United States, was admitted to the hospital on April 14. Her mother was admitted at the same time, ill of cerebrospinal meningitis, from which she died the following day. There were eleven children in the family. Eight of these have died from various causes. This child has had no previous diseases.

The grandmother states that the child had a fall about two or three weeks ago, since which time her left arm has been stiff. She was well until Sunday (April 10), when she had a severe attack of vomiting and diarrhœa. She had a high fever, and seemed to have great pain in the head. For the next two days she was restless and unable to sleep. Her fever continued, and the vomiting and purging persisted. She was raving and had a high-pitched cry. Her

neck became stiff, the head was drawn back, the whole body was rigid, and she became cross-eyed. There were no convulsions.

On admission her temperature was 102.2°, but rose towards evening, and next morning was 104°. Her pulse was 120 and her respirations 30.

The child is poorly nourished. She lies on her side, with legs drawn up and the whole body rigid, so that she can be moved like a statue or as if she were made of one solid piece. The head is markedly retracted and the neck stiff. She is very hyperæsthetic, the slightest touch or effort to examine her eliciting whines and cries of pain. There is pronounced strabismus, the defect seeming to be in the left eye. Heart and lungs were normal. The abdomen is markedly retracted. The spleen cannot be felt. Nose and mouth normal. Hearing not impaired. There is no evidence of paralysis of limbs. Kernig's sign present. There is no eruption. The urine was negative. White blood count 32,000.

During the night she was restless, delirious and noisy. Her temperature rose to 104°. Diarrhœa continued, but the vomiting had ceased.

For the next few days she lay in about the same condition—rigid, hyperæsthetic, with high fever, her delirium giving place to spells of marked stupor. It was difficult to feed her. The diarrhœa soon ceased.

In the course of the next two weeks she was very ill, her temperature being irregular and ranging from 105° to 100°; her pulse very rapid, from 140 to 110; her respirations from 42 to 22. Emaciation had become pronounced, her features pinched, her skin pale, sallow and loose on her bones. She remained motionless a large part of the time, and whined when moved. The retraction amounted to opisthotonos. The strabismus did not improve, and sight in her left eye seemed impaired. She had labial herpes. After rigidity had somewhat subsided her limbs hung limp and useless, but there seemed to be no real paralysis. She grew much weaker and refused her nourishment. The picture was one of marasmus. A disastrous termination seemed inevitable. But she lingered on. After a few days of improvement she again became worse with fever, delirium and rigidity as before. But at last her temperature dropped; very gradually she commenced to eat a little more. She received daily inunctions of oil and cocoa butter. She was given syrup of the iodide of iron ℥j t.i.d., and later a tonic of citrate of iron. She took cod liver oil.

Her rigidity and retraction yielded after a time. Imperceptibly she commenced to improve, and today, while still extremely emaciated, pale and limp, so that she does not move her limbs to any extent, with diminished vision of the left eye, the entire orbit of which seems atrophied and sunken, cross-eyed and pinched looking, it may be said that she is convalescing. Her mind is clear. She answers and understands. She eats better. She has gained a little flesh, and it is confidently expected that she will entirely recover, though but a wreck of her former self. The disease has lasted thus far three months and a few days.

It is worthy of comment that both her mother and herself were brought to the hospital suffering from cerebrospinal meningitis. The former died on the day after admission. Was the child infected by the mother, or was the causative environment operative in both simultaneously? It was impossible to determine. The child sickened, however, after the mother. The duration of the disease is also interesting, for at the end of three months she cannot be said to be entirely well. The type of the disease was of that marantic character which was met with in at least two other cases at the hospital.

The sequelæ of strabismus, atrophy and partial loss of sight of the left eye, and some loss of power in the limbs, particularly the legs, are noteworthy.

And, finally, the fact of recovery itself seemed remarkable, when her desperate condition for weeks warranted a positive fatal prognosis.

Chronic Type; Congenital Hydrocephalus; Paralysis of Arm and Leg; Strabismus; Deaf-mutism; Idiocy; Death.—P. P., an Italian boy, 10 years of age. In the United States a year and a half. Admitted to my service on May 23. An incomplete history was obtained from the mother through an interpreter. The boy's parents, brothers and sisters are alive and healthy. At birth the child had a very large head, which increased in size gradually. He commenced to walk at nine months. Mother says he was always active and in good health. He attended school, where he seemed as bright as the other boys.

His present illness commenced suddenly, two months ago. He then had a severe chill, lasting some time, followed by fever, nausea and vomiting. He then complained of terrible pain in the head and in the back of the neck. In a short time he became delirious, and would cry out at times. Later, the mother noticed that his head was much drawn back and that he looked cross-eyed.

About two days after the invasion the boy's chest and back were covered with hemorrhagic spots. The fever continued; the symptoms already described persisted; he was unable to talk or recognize people, and he gradually lost power of the left arm and left leg. His mental state grew worse. During the two months he lost a great deal of flesh and strength. There were periods when he seemed slightly better, but he would soon have recrudescences of the disease. He was able throughout to retain his nourishment and ate fairly well.

On admission his temperature was 98°, pulse 120, respirations 26. The child is of normal length, but his head seems out of proportion, and measures 22 inches in its greatest circumference. There is marked emaciation, all the bony framework being visible. The skin is pale and sallow.

The head is markedly retracted and pulled to the left. The muscles of the neck and spine are rigid, and the head cannot be moved without causing pain. The eyes seem always fixed and gazing to the left. The pupils are even, but dilated widely, and they do not react to light. There is well marked strabismus. There is evident loss of hearing. There is no discharge from the nose. The mouth seems slightly drawn to the left. The abdomen is very much retracted. Spleen not felt. Liver normal. The action of the heart is rapid, but no abnormal sounds present. Examination of the lungs is negative. The left arm is paralyzed, the hand being drawn up and contracted. He can use his right arm, and keeps it constantly in motion with a swaying movement. If a piece of bread is put in this hand he will carry it

to the mouth and eat it. The left leg is paralyzed and contracted. He cannot draw it up, but the knee jerk is exaggerated and there is slight plantar reflex. The right leg seems normal. The knee and plantar reflexes are very much increased.

The boy is deaf and dumb. His mentality is nil. He cannot at all be roused to his surroundings. He recognizes no one, not even his mother. He passes his feces and urine in the bed without notice. He continues to eat whatever is given to him. The urine is amber colored, acid, specific gravity 1018. There is a slight trace of albumin, no sugar, a few epithelial cells. The white blood count is 17,200.

For the following two weeks he lay in bed without any practical change in his condition—leading a purely vegetative life, without speaking or hearing, soiling the bed, eating whatever was given him, occasionally becoming very restless and agitating his right arm, sometimes being noisy inarticulately, the rigidity of the neck and head and the strabismus persisting. The range of temperature was never high.

Two weeks after admission there seemed to be a recrudescence of the disease, with higher temperature, intervals of stupor and intensification of his other symptoms. After a few days the temperature dropped and the disease resumed the chronic course which had characterized it. Afterwards the temperature never rose above 100° until shortly before his death. The pulse kept between 90 and 100; the respirations between 20 and 24.

His emaciation increased. He gradually became weaker, and died at 5 p. m. on June 21. The disease lasted three months. It was impossible to obtain an autopsy.

The interest of the case centers in the fact that the cerebrospinal meningitis occurred in a child with congenital hydrocephalus; also in the paralytic manifestations, strabismus, deaf-mutism, and idiocy remaining.

Abortive Case.—G. H., a schoolboy, 7 years of age. Admitted by ambulance on May 3. Has had measles and whooping cough, but has been in good health otherwise. For a couple of days he has not seemed well, but severe symptoms did not develop until last night. He then had a convulsion, followed by intense nausea and vomiting (stomach contents, bile and mucus). He had a high fever and complained of terrible pain in the head, down the back of the neck and along the spine.

To-day the fever continued, and the mother noticed that his head was pulled back and a little to the side, that there was rigidity of the neck and body, and that it seemed to hurt him when attempts were made to move his head or change his position. No eye symptoms were noticed. The bowels were rather loose. Micturition seemed normal. The child grew very restless and at times was delirious. The doctor who saw him before being brought to the hospital treated him with ice bags to the head and back of the neck.

On admission his temperature was 104.8°, his pulse 118, and his respirations 36. He is well nourished, but looks very ill. The skin is normal. He has opisthotonos. The neck is very rigid and painful, especially when attempts are made to flex or rotate the head. There is general rigidity of the body and general hyperæsthesia. The child lies on his side moaning and in active delirium. There is slight dilatation of the pupils, whch react slowly to light. The ears are normal. There is no discharge nor other abnormality in the nose or mouth. The tongue is red, moist and coated. The heart and lungs are normal. The abdomen is slightly retracted; spleen not palpable; liver normal. The boy lies with his knees drawn up, and the limbs seem stiff. Kernig's sign present. Reflexes slow. The white blood count was 15,000.

A dose of castor oil was administered and an enema was given later, producing a good result. A general sponging with cold water was followed by ice bags to the head and spine. A milk diet was ordered.

He was very restless all night and very noisy. The following day, in addition to the other measures employed, he was put on iodide of potassium gr. v t.i.d.

The pain in the head was still very severe, but the opisthotonos was less marked. Delirium had ceased, and the child slept a good deal. The temperature was high, but irregular. By midnight of the 5th it had dropped to 99.4°, and never rose again. The next morning there was marked general improvement, and he made a rapid recovery, leaving the hospital perfectly well on May 11.

What seemed like a desperate case, ushered in with a convulsion and vomiting, marked by high fever, opisthotonos, general rigidity of neck and body, noisy delirium, intense headache, leucocytosis and the appearance of a grave illness—cleared up completely in a short time—the entire attack lasting but three days.

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EARLY CIRRHOSIS OF THE LIVER AND ITS TREATMENT.

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Cirrhosis of the liver is a disease of wide and varied interest to both the clinician and the pathologist from its frequency and from the symptoms which it may produce. Out of 500 autopsies at the Johns Hopkins Hospital, advanced cirrhosis was the direct or accessory cause of death in 49 cases, or practically 10 per cent. In Berlin, Förster found cirrhosis of the liver in 31 cases out of 3,200 autopsies, or about one per cent., and in Kiel, Lange found interstitial hepatitis in 56 out of 3,100 autopsies, or about 2 per cent. These statistics do not cover the mild or beginning cases, which are very numerous, few autopsies failing to show a certain amount of hepatitis, proving that the disease is an adjunct with many and varied conditions, which, from the importance of the liver to the economy of the system, must be reckoned with in general treatment.

Atrophic cirrhosis of the liver is associated with chronic interstitial nephritis, with cardiac insufficiency with and without renal complications, and arterial cirrhosis without either cardiac or renal disease, which points to the hepatic loss of function, with consequent failure to destroy toxins and to imperfect metabolism, being a factor in their produc-

tion. Mayer, Wickham, Charcot and Gomboult and others have shown that obliteration of the bile ducts will produce cirrhosis, the failure of the excretion of the bile producing an hepatic toxæmia. Alcohol has been accused of producing hepatic cirrhosis, but it is probable, as shown by Boix, that it is not the alcohol, but the organic toxins produced in the perverted digestive processes. Boix's results have been confirmed by the experiments of Welch and Friedenwald. Boix obtained true cirrhosis from the administration of butyric acid, of lactic, and of acetic acids. On the administration of the above organic acids, together with alcohol, he obtained a cirrhosis, but not so marked as when no alcohol was given, which would seem to show that alcohol in small quantities retarded the cirrhotic formation. Extract of fæces, the bacillus coli and its toxins produced no cirrhosis. The cause of cirrhosis, as far as experimental evidence goes, is the absorption of toxins from the intestinal tract formed in perverted digestion and the reduction in the outflow of bile, preventing the elimination of the toxins from the liver. Syphilis and malaria are also causes which, though not due to intestinal intoxication, are toxæmias; they produce excessive hæmoglobin destruction, increasing the amount of bilirubin formed, which, if not eliminated by the bile, remains in the circulation, producing the icteroid discoloration of the skin and acting as a toxin.

The early manifestations of hepatic cirrhosis prior to the formation of structural changes which can be recognized by physical examination are very indefinite; in fact, they are the same as may be produced by congestion. It must be remembered that cirrhosis of the liver occurs in the young, and may be congenital, in middle life and in old age, in the abstemious, in the glutton, in the alcoholic and in the teetotaler, and that its manifestations are often paroxysmal in character; that it may be associated with general decline of health, icteroid discoloration of the skin, feeling of weight or vague discomfort in the hypochondrium, loss of or capricious appetite, irregularity of the bowels, the evacuations showing perhaps occasionally a deficiency of bile, a broad, flabby-coated tongue, a foul breath, loss of weight, a muddy, leaden complexion, with a permanent dilatation of the cutaneous capillaries, a true telangiectasia in various parts of the body, especially in the face. This telangiectasia is of great diagnostic value. Such a group of symptoms as the above, when combined with irritability of temper, mental depression, insomnia, mental slowness, with various nervous symptoms, the result of the toxæmia, are strong evidences of commencing cirrhosis and hepatic insufficiency, while a history of alcoholism, excessive appetite, long standing indigestion and constipation prove that whatever other organs may be implicated the liver functions are deranged. Certain physical signs are also often present in the very early stages, such as distention of the abdominal veins, hemorrhoids and tympanites of the abdomen. The above symptoms are what could theoretically be expected from hepatic insufficiency, and though cirrhosis may not be the cause of the liver incompetence, it is probable that it will be a result if the incompetency becomes chronic. The urine often gives considerable confirmatory evidence, the presence of bile pigments in the urine in small amounts is suggestive; the excess of ammonia nitrogen the result of acidosis, as well as excess of uric acid and residual nitrogen are pointers; but the diagnosis of hepatic disease in the clinical laboratory has not yet proved very satisfactory; analysis of the bile, if it were possible, would give valuable information.

The functions of the liver, in spite of an enormous amount of work, are as yet but very imperfectly understood. They can be briefly summarized as having to do with the metabolism and storing of the various food substances. It also probably both forms and destroys uric acid. It is the seat of the most energetic oxidative processes of the body, which are of many kinds and due to many varieties of oxidative ferments, producing tyrosin, leucin, hexon bases and other advanced products of proteid digestion. While the above processes occur in various other organs to a less extent and less actively, the liver has the unique function of forming and excreting bile, a function which is closely connected with the physiologic action of the organ, and also with the intestinal digestion and absorption of fats.

Bile, when injected into the circulation, is toxic, four to six c.c. per kilo of animal causes death in convulsions. The coloring matters are responsible for two-thirds of the toxicity, as bile filtered through animal charcoal loses this amount of its toxicity.

The bile salts have a powerful cytolitic action, but they are never found in normal blood. (Crofton claims to have found them in normal blood, but in very minute quantities.) With the bile are eliminated many of the mineral poisons which have been arrested by the liver, as well as some other products of proteid decomposition.

The free flow of bile into the intestine is of great importance to the functional power of the liver, as well as to the digestion of fats and the peristalsis of the intestines. Although the bile is not germicidal, putrifying easily outside the body, in the intestine it seems to inhibit the growth of bacteria, as has been shown by the increased elimination of indol and ethereal sulphates in the urine, when the quantity of bile is decreased, and by their decrease on the administration of sodium glycocholate.

The active principles of the bile are the bile salts, tauro- and glycocholate of sodium. They hold the cholesterine and bilirubin in solution and prevent the formation of gallstones and also when given by the mouth will dissolve stones in situ. Being reabsorbed from the intestine, they are cumulative when administered, and may, if given over a long period, produce burning, loose movements of the bowels. As has been mentioned, bilirubin is toxic, and it is of importance that its elimination should be accelerated, which can only be accomplished by increasing the flow of bile. As yet no chologogue has been found except bile salts; the drugs mentioned as having this action in the pharmacopœia have time and again been shown to have no such action.

Poisons circulating in the blood cause a change in normal bile increasing its visicosity, agglutinating the walls of the bile ducts, obstructing their lumen and causing retention of bile and stagnation of the liver processes. Under such conditions, the pigments are forced into the circulation, giving the icteroid discoloration of the skin which is seen in plumbism, malaria, typhoid fever, syphilis, phos-

phorous poisoning, and many other diseases, the result of a toxæmia.

Gallstones appear to be the result of inflammation of the gall-bladder, which causes a reduction in the quantity of bile acids secreted. Austin found in three cases of biliary fistula, after operation for stone, that the bile contained only a very small proportion of cholalic acid to cholesterin; under normal conditions human bile, according to Hammerstein, contains twelve to thirteen times as much cholalic acid as cholesterin. Austin found in his cases that the amount of cholalic acid was only one-eighth of the cholesterin. Evidently the absence of bile acids is connected with the formation of gallstones.

Vaughan Harley and Wakelin Barratt inserted large cholesterin gallstones into the gall-bladders of healthy dogs without producing inflammation, and found that in from six to twelve months they were completely dissolved, but when cholecystitis was induced at the time of the introduction of the stones, no solution took place, proving that the absence of the bile salts caused by the inflammation prevented the solution of stones, and it would seem to follow that the administration of the bile salts will not only prevent the formation, but dissolve stones already present.

Hepatic cirrhosis is the result of a toxæmia and its treatment must therefore consist in the removal of the cause of the intoxication, with, at the same time, stimulation of the liver so that it may do its part in the oxidation and elimination of the poisonous substances. Attention to gastrointestinal digestion is of the first importance, as, if the food supply of the organism is perverted or reduced, it cannot be expected to recuperate. The elimination of bile from the liver should be increased by the administration of sodium glycocholate with the addition of small doses of mercury. The fluidity of the bile can be increased by the administration of alkaline mineral waters with sodium salicylate, which latter drug seems to have some influence in increasing the fluidity of the bile. Biniodide of mercury with iodide of potassium has a very beneficial effect in many cases of nephritis, which are associated with hepatic insufficiency. Prof. Black, of Edinburgh, called attention to this method of treatment some years ago.

As toxæmia enters so largely into the etiology of nearly all diseases, and as the silver is the organ upon which devolves the duty of extracting, oxidizing and eliminating the toxins, it is evident that in all diseases hepatic efficiency should be promoted, an important factor of which is a free elimination of bile.

CASE OF STRANGULATED UMBILICAL HERNIA WITH UNUSUAL FEATURES.*

By J. J. BUCHANAN, M. D.,
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The patient presented for examination was admitted to the Mercy Hospital at noon, July 6, 1903. She was a married woman, aged 48 years, weighing 240 pounds, and had been the subject of a large umbilical hernia for seven years, irreducible for a year or more. Twenty-six hours before her admission to the hospital symptoms of strangulation had appeared, namely, colicky pain, vomiting, prostration, obstipation, and induration of the hernial mass.

The condition on admission was one of great prostration. The pulse was 116 and of small volume. Implanted on the abdominal surface was an immense umbilical hernia, extremely tense and with gangrenous skin covering the greater part of its area.

First Operation.—This was performed at 1 o'clock in the afternoon of July 6. The serious nature of the condition having been explained to the patient, her consent and co-operation were gained for an operation without anæsthesia. For several years it has been the writer's custom to perform operations for strangulated hernia without general anæsthesia, and especially in cases of strangulated umbilical hernia, in which, in the presence of vomiting, anæsthesia is particularly fatal. Disinfecton of the abdominal wall was accomplished, and to a degree also of the gangrenous coverings of the sac. A perpendicular incision was made over the whole extent of the hernia and the contents—gangrenous intestine and omentum—burst into view. In opening the hernial sac a small incision was made into the gangrenous bowel, and so great was the tension of the contents that the gas rushed out with a noise like the crack of a pistol, and fecal matter shot out to a distance of several feet. Through this opening most of the matter within the gangrenous bowel was removed by expression, and the opening was then temporarily closed with a ligature. The sac and its contents were then washed and examined. The entire mass of intestine, which was so large as to simulate the bulk of the gastro-intestinal tract, was in a state of complete gangrene. Incisions were made in the median line, both above and below, which freely divided the hernial ring. Traction was made on the gangrenous contents in an effort to deliver the adjoining portions of bowel, but without avail, as all had already come out that the mesentery would permit. Around the base of the mass, at the

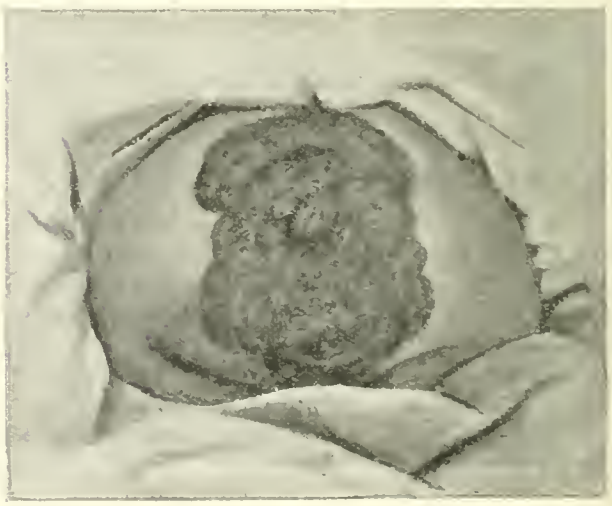

FIG. 1.

position of the enlarged ring, was packed a large quantity of iodoform gauze, for the purpose of protecting the peritoneal cavity from contamination by the discharges from the gangrenous intestine and its fecal contents until nature should have walled it off with plastic lymph. The surface was then cov-

* Paper read at a meeting of the Allegheny County Medical Society.

ered with a voluminous gauze dressing, and the patient was sent to bed with practically no expectation of her recovery.

Contrary to all anticipations, she began at once to improve. At no time did she exhibit any sign of peritonitis from leakage. Vomiting ceased, and

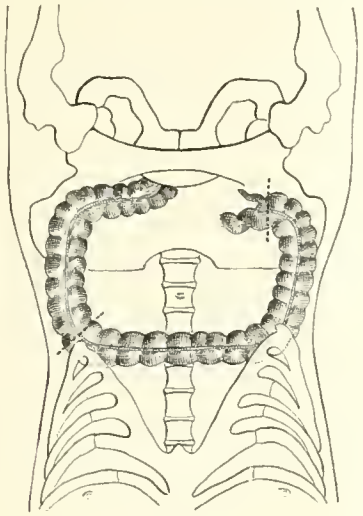

FIG. 2

such portions of the abdomen as remained accessible were soft to the touch. On the second day the gangrenous intestines were opened at numerous points for the evacuation of the contents, and on the third and subsequent days were irrigated with a catheter passed inside the lumen through the openings. It was soon evident that fresh fecal matter was being washed out and that we had now a condition of artificial anus.

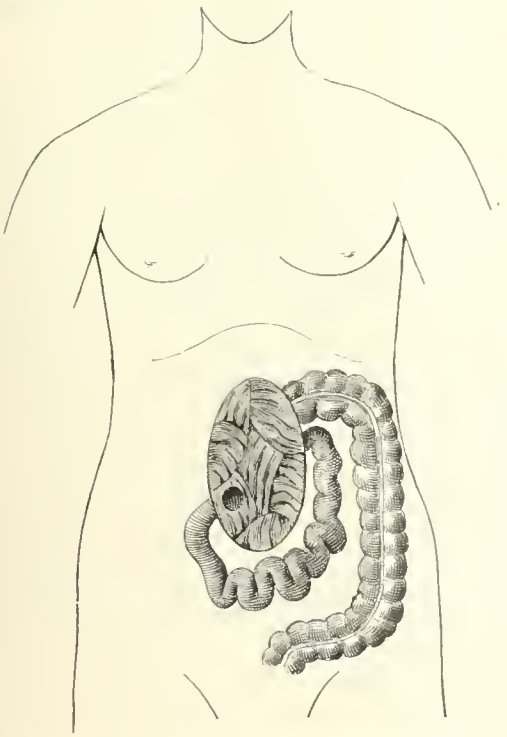

FIG. 3.

At the expiration of a week the gangrenous mass, though collapsed, was still attached, and a photograph, of which the accompanying drawing is a reproduction, was taken (Fig. I). A few days later the bulk of the mass was cut away; through a misunderstanding the specimen was destroyed before measurement. The remaining shreds were removed as they separated, leaving a large, deep granulating pit below and the protruding mucous membrane of bowel above. Examination showed that the mesenteric portion of a part of the bowel remained, due to the fact that the mesocæcum and the mesocolon of the splenic flexure were too short to permit the passage of the entire caecum and splenic flexure through the ring, and that the line of mortification had passed through the wall of those parts of the bowel longitudinally, leaving the distal part alive and its mucous membrane forming the surface of the mass protruding from the ring. It was then to be seen that the projecting artificial anus was small intestine, and that its lumen was continuous with the spread-out surface of the remains of a portion of large intestine. It was therefore the ileocaecal valve; and the destroyed intestine had been the free surface of the caecum, the ascending and transverse colon, with the distal border of the splenic flexure (Figs. 2 and 3). It was now evident that an intestinal anastomosis would restore the continuity of the alimentary tract.

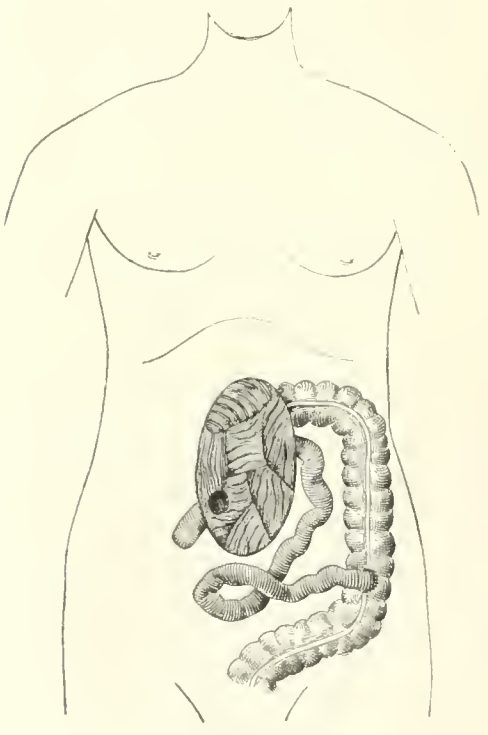

FIG. 4

Second Operation.—This was performed on August 24. Prior to operation a solid, flexible bougie was passed about six inches into the ileum through the artificial anus, and the protruding collar was tied firmly about it. This procedure served two necessary purposes; it prevented the escape of fæces during the operation, and it identified the lower end of the ileum from the peritoneal side. Thorough washing of the exposed mucous surface was followed by covering it with a dry aseptic dressing, which was stitched to the skin to prevent shifting. This allowed the performance of a median laparotomy entirely below the defect, and with an aseptic field. Under ether anæsthesia the abdomen was opened in this location and the lower end of the ileum, containing the bougie, was brought to the surface. The bougie was then withdrawn somewhat and the ileum was severed transversely between clamps at the low-

est practicable point. The distal portion, containing the bougie, was then closed with two rows of silk sutures. The sigmoid flexure of the colon was then brought into the wound and an incision made into its side corresponding to the size of the cut end of small intestine. The cut end of the ileum was then implanted into the opening in the side of the sigmoid (Fig. 4) by simple continuous suture, and the abdomen closed.

The patient made a normal recovery, and since the operation the bowels have moved by the natural channel. She was dismissed from the hospital on September 27, with directions to return later for obliteration of the surface of mucous membrane, which was about four inches in breadth by six in length.

Third Operation.—This was performed on October 23, and consisted in dissecting off the mucous and submucous coats and burying the remaining raw surfaces with layer sutures of catgut. This procedure was carried out without anæsthesia, and gave but little pain. About three-fourths of the exposed mucous surface was removed. The remaining fourth yet remains, and will be removed in the same way at the first time convenient for the patient. It is interesting to note the peristaltic action of the portion of bowel exposed and the alternate wrinkling and smoothing of its mucous surface.

A CASE OF SUPPOSED PRIMARY TUBERCULOSIS OF THE PHARYNGEAL TONSIL.

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Mr. C. V., 29 years old, married, a native of this country, was sent to my office by Dr. John F. Russell, of this city, on the 14th of last January. He gave the following history:

His mother and father are both living. He has one sister, aged 24, who is in good health. There are no cases of tuberculosis in his family connection. He has always been well up to about two years ago. Since then he has suffered with cough. For a time last summer he had pain in his chest, fever and nightsweats. These same symptoms have troubled him from time to time ever since. For the last three or four months he has suffered from "a continuous bad cold in the head," with snuffling and a great deal of expectoration. About a month ago he raised some blood, and his attending physician found that his sputum contained tubercle bacilli. The doctor also said that there were signs of tuberculosis in his chest. He was advised to give up his position and go to the southwest. On January 13 he consulted Dr. Russell, who, being unable to find any signs of disease in his chest, and thinking that the trouble might be located somewhere in the upper air passages, referred him to me.

Examination of the nose revealed a deviation of the septum to the left side, with a spur formation upon it, not sufficient to obstruct the nostril completely. Posterior rhinoscopy revealed the presence of a large amount of adenoid tissue, very soft and friable, in the vault of the pharynx. The larnyx was entirely normal. I advised that the adenoids be removed at once. This was done under cocaine on January 20 with little difficulty. He had a slight febrile movement and an excessively sore throat for several days thereafter, which cleared up.

Dr. H. T. Brooks, of the Post-Graduate Hospital, reported on January 13 that the patient's sputum contained "innumerable tubercle bacilli and quite a large number of streptococci." On January 29, 1904, Dr. Brooks made a second examination of the sputum and reported, "The examination required long-continued search to find tubercle bacilli, and when found they were present either isolated or in small groups."

The patient's general condition was much improved as the result of his operation, his nasal obstruction and the mucous hypersecretion being relieved at once. He was returned to Dr. Russell for further treatment, and I have not seen him since. I am informed, however, that Dr. Russell discharged him from further observation on May 8. He was then weighing 137 pounds, which was more than he had ever weighed in his life, and a gain of eleven pounds since February 1. Dr. Brooks on May 6 reported his sputum as negative.

Dr. Brooks' report on the adenoid describes it as showing structure of lymphadenoid tissue, practically normal except in six or eight small rounded areas of epithelioid cells separated by a fine fibrillated reticulum. One nodule showed a caseous center, at the margin of which was a large oval giant cell with chiefly polar nuclei. Several isolated giant cells were observed also within the epithelioid cell nodules, but always single and eccentric. These giant cells had fibrillated prolongations continuous with the inter-cellular reticulum above mentioned, "the collective features corresponding to the classical description of the histological structure of a tubercle nodule before caseation has occurred."

It is the writer's opinion that this was a case of primary tuberculosis of the hypertrophied pharyngeal tonsil. The history of two years' cough, growing worse eight months ago and accompanied by pains in the chest and sweating, together with the large quantity of bacilli found, would ordinarily indicate a fairly extensive lung lesion, which did not appear. Further, the cough which the patient had when he came to the writer was, to an experienced observer, much more characteristic of throat trouble than of lung trouble. Thirdly, the immediate improvement of the symptoms, together with the immediate and almost complete disappearance of bacilli from the sputum, certainly goes far to show that the tuberculous adenoid was the main lesion, if not the primary one. The writer wishes to express his obligation to Dr. Brooks for the painstaking care with which he made the difficult demonstration of tuberculous tissue in the adenoid growth.

56 East Fifty-third Street.

LE DIABÈTE À DEUX.

By LEONARD WEBER, M.D.,
NEW YORK.

It is rarely observed, and yet, among the three score of diabetic cases which have been under my care as the years have gone by, it has occurred three times, that the husband became rather acutely affected with diabetes after the wife had been a suf-

ferer from it for ten years or so. There was neither consanguinity nor similarity of constitution, disposition, or temperament in these cases; indeed, the two partners were mentally and physically about as different as could be; their domestic life, however, their habits, and the kind of food consumed had been the same for many years. They had always slept together in the old-fashioned double bed.

In diabetes, as in most other constitutional diseases, we are equally uncertain as to the how and why of its origin, and are still obliged to content ourselves with the "because" when we have established the fact that glycosuria is present. It may be permissible to think of the possible influence which the "acetone" exhaled with the breath, and the sweat of the diabetic might possibly have upon the health of the life partner who has been in close contact with the sufferer for years. The acetone inhaled for years, more or less, may through the blood and nervous system affect the physiological functions of liver and pancreas with regard to dextrose, so that glycosuria may develop. Further, there is the influence of the nervous system, which must be reckoned with in the etiology of family-diabetes, inasmuch as it is admitted that prolonged worry and grief may induce glycosuria. The hopeless state of health of a beloved person might affect her or his sympathetic friend in that way.

In the first case of double diabetes observed some twenty years since, the husband developed the usual chronic form about eight years after his wife had shown signs of it, and he died about five years after the wife's death; in the second, the husband followed with an acute case of the disease, which terminated fatally in less than two years. The third, under observation at the present time, again concerns the husband, the wife having diabetes for ten years or more, but the presence of sugar in his case, determined about ten months ago, is intermittent as yet and amounts to less than 1 per cent.

While it would be both cruel and unpardonable to mention the word "infection" to the patient in a given case, because no such a thing could be proved, the increasing number of cases of diabète à deux reported in medical literature would indicate that it is not desirable that a diabetic and non-diabetic person should habitually share the same bed.

85 West Forty-sixth Street.

The Influence of Breast Feeding on the Infant's Development.—Henry Dwight Chapin declares that the milk of the healthy mother is the best food for the infant up to the normal time of weaning. The milks of lower animals contain the same food elements as breast milk, but in different proportions. It has been shown that the composition of milks of different species of animals is closely related to the rapidity with which the young grow. A milk containing much proteid is intended for a rapidly growing animal. Many experiments have been made with a view to changing the proportions of the constituents of milk, but it has been decided that it is beyond the power of man to alter the character or composition of cow's milk, except by disturbing the cow's nervous equilibrium or digestion, or by underfeeding. Aside from extremes, the milk of any species has a fairly fixed type of composition satisfactory for the requirements of the young of that species. In artificial feeding the great difficulty lies in the inability of the infant to digest as much proteid as is found in mother's milk. Often the amount of proteid is reduced; but when it is remembered that the working parts of the body are built up from proteid, the advantage of the breast-fed baby over the bottle-fed can be easily seen, for the latter may be assimilating not more than half as much vital tissue-building food (proteid) as the former. Poor nutrition paves the way for illness. Mother's milk is not only food, as we consider food for adults, it is a food that adapts itself to the infant's developing digestive tract. The form that the mother's milk may assume after reaching the stomach depends upon the state of development of the stomach. At first the secretion of the stomach is the rennet ferment, which changes the casein into a soft curd, which is not digestible by pepsin. When the stomach secretes hydrochloric acid it combines with the curd and forms chloride of paracasein, which is readily digested by pepsin. Then gastric digestion begins. As fast as the acid and pepsin increase the mother's milk is able to use it up. As the child grows and the stomach increases in size and becomes stronger, it takes longer for it to empty, and the feeding intervals must be made longer. At birth the stomach secretes little digestive juice and digests little food, but mother's milk does not change in composition as lactation advances, unless at the time for weaning, when it may be poorer in solids. The milk is thus always ready to fit the developing digestive apparatus. The differences in milks are not so much nutritive as physiological ones. From a physiological standpoint, an artificially fed baby is a premature child. Cow's milk is physiologically adapted to a calf's stomach; human milk to the infant's stomach.—*The Journal of the Michigan State Medical Society.*

A Bacteriological Study of the Throat in One Hundred Cases of Scarlet Fever.—Jay F. Schamberg and Nathaniel Gildersleeve review the results of various investigators, adding their own list of 100 cases. The cultures were made between the second and sixth day of the disease. The blood of 20 patients was examined, with uniformly negative results. Cultures from the throat were made in the 100 cases, with the following results: Streptococci was found in 88 cases; staphylococci in 73 cases; a diplococcus corresponding to that of Class in 15 cases. This last microorganism sometimes appeared in short chains. The streptococci were, as a rule, of the ordinary type. The virulence of the staphylococcus cultures varied to some extent. The writers declare that until the streptococcus found in scarlet fever is shown to possess properties which trenchantly distinguish it from other streptococci, and until this disease is experimentally produced by inoculation of a pure culture of such an organism, the belief in the casual relationship of the streptococcus to scarlet fever cannot be maintained. They conclude that streptococci and staphylococci are to be found in the throat in the vast majority of cases of scarlet fever, but the former are present in a very large percentage of apparently healthy throats. Both organisms are frequently concerned in the complications of scarlet fever, but they do not look upon either one as the specific agent. The diplococcus described by Class as the cause of the disease was found by them in but a comparatively small percentage of cases, and they do not regard this organism as bearing any etiological relationship to the disease. The finding by Mallory of protozoa-like bodies in the skin of scarlet fever patients will, the writers think, stimulate research, and they suggest that the failure in the past to discover the contagium vivum of the disease has been due to the fact that almost exclusive search for vegetable parasites has been made.—*Medicine.*

The Invention of Spectacles.—Father Delatre has communicated to the French Medical Society of Tunis the discovery in a tomb near the ruins of Carthage, and dating from at least the second century B. C., of a pair of glass lenses, flat on one side and slightly convex on the other. The convexity is too slight to make them of any use as magnifiers, but would serve admirably to correct a slight presbyopia. The unfortunate absence of anything in the shape of a mount or frame is the only reason for doubting that they were used as spectacles, which would make the invention of those instruments fifteen centuries earlier than is generally supposed.—*Gazette Médicale de Paris.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR.

PUBLISHERS

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New York, October 8, 1904.

SUCCESSFUL TREATMENTS OF INOPERABLE CANCER.

LAST year we had occasion to notice the remarkable results reported by Adamkiewicz, of Vienna, from use of his cancroin in cases of inoperable cancer, results which have since received confirmation at the hands of at least one other observer. It may be interesting to note briefly the following three cases treated with equally good results as regards recession of the growth and the removal of symptoms by three different methods, no one of which bears any obvious relation to that of Adamkiewicz. The first of this series is a case of cancer treated by the Roentgen rays; the second and third are cases of epithelioma, treated by hypodermic injections of soap and of Chian turpentine, respectively.

The first case is reported by Prof. E. Schiff, of Vienna, in the *Bulletin of the Johns Hopkins Hospital* for June last. After reviewing former attempts in this direction, he insists on this case on account of the favorable result and because he was able to study it histologically. The case is that of a married woman with the left thorax invaded by a very solid tumor with large base, extending from the sternal margin to the axilla, where it reached the glands. The surface was ulcerated with fetid discharge and bleeding slightly when touched. The back also showed five small nodules. In the axilla was a crateriform cavity the size of a pigeon-egg, with gangrenous edges and necrotic base, full of purulent matter. The supra- and infraclavicular glands were hard. After the third sitting of *x*-ray applications the pains decreased considerably, as also the purulent secretion. Almost daily an improvement could be noted. After four months' treatment a flat scar crossed by some enlarged capillary vessels and with some slight superficial excoriations had replaced the tumor. The cutaneous metastases had disappeared and the hard supra- and infraclavicular glands had become soft. The general condition was greatly improved. Histological examination showed the growth to be cancerous.

The second and third cases are reported by Col. T. Ligertwood and Mr. John A. Shaw-Mackenzie in the *Journal of the Royal Army Medical Corps.* The second case was one of cancer of the tongue of six months' duration in an old soldier of seventy-eight years. Under hypodermic injection of 5 minims of a 1 per cent. soap solution (as recommended by Webb on the theory of local injury or of defect of soap in the biliary secretion permitting the separation of cholesterine from the living cell), and increased by 5 minims every other day until the full dose of 60 minims was reached, marked cessation of all pain and of fetor ensued, with ability to open the mouth, protrude the tongue, and take minced meat, while the growth diminished from the size of a walnut to that of a half filbert. Indeed, toward the end of treatment no appreciable thickening existed. Throughout the treatment the patient also suffered from advanced cardiac and arterial degeneration, and finally developed œdema of the extremities, which passed into black gangrene of the left leg and foot, with rapid sinking and death. Post mortem the appearance of the tongue differed very little from normal, but microscopical examination of sections through a small patch of ulceration and through a gland under the ramus of the jaw demonstrated epithelioma.

The third case was one of epithelioma of the neck in an old soldier aged seventy-three years. There was a large, hard, fixed mass, ulcerating in places, over the middle of the right sternomastoid muscle, extending up toward the mastoid process, under the ramus of the jaw, and in front over the trachea. The head was tilted to the left, great pain was present, and swallowing was becoming difficult. The growth began as a pimple some months before, and was evidently increasing. Microscopical examination showed it to be epithelioma. January 25, 1904, 5 minims of a 20 per cent. solution of Chian turpentine in sterilized olive oil was injected subcutaneously, the dose being increased by 5 minims every other day until one of 20 minims was reached. The third injection (of 15 minims) was followed by a temperature of 102°, returning to normal the next morning, and the 20 minim dose produced a rise to 103.6°, necessitating a reduction to 5 and 10 minim doses, which caused a rise to about 100°. Almost from the first injection all pain ceased, the extensive redness of the surrounding skin, reaching from above the mastoid on to the chest, subsided rapidly, leaving a faint purple discoloration in the immediate neighborhood of the growth; the ulceration decreased and the discharge became purulent and free from odor. The head was no longer tilted and could be moved freely, the dysphagia disappeared, and at the end of a month the mass had diminished astonishingly in all directions. At the time of writing (May 30) the mass was about the size of a hen's egg, and was shrinking slightly from week to week. There was a purulent, but inoffensive, discharge from the ulcerated surface.

The practical moral would seem to be that cases so hopeless in their natural evolution should not be abandoned without a rational experimentation along some one of these lines.

CARBOLIC ACID TREATMENT OF INFECTED WOUNDS.

SO MARKED has been the trend of surgery towards asepsis and away from antisepsis in the old sense of the word,—in the sense which brings back memories redolent of iodoform and carbolic acid—that a prominent Russian surgeon, G. I. Turner, of St. Petersburg, has found necessary recently to write a fervid defense of the antiseptic treatment of infected wounds (*Russki Vratch*, June 26, 1904).

Turner believes that the adoption of the two seem-

ingly antonymous terms, asepsis and antisepsis, was a misfortune for surgery. As a matter of fact, the Russian author says, the terms asepsis and antisepsis are essentially identical in meaning. Of the two, he thinks that the latter is more accurate and more appropriate. As Lockwood has well said, antisepsis is a method whereby asepsis may be secured. There is no difference in what manner asepsis is produced, provided the body does not suffer thereby. Whether we sterilize the instruments or disinfect a wound, we are taking antiseptic precautions, just as in rendering choleraic stools harmless we are adopting "anticholeraic" measures, which no one would think of calling "acholeraic."

With this as a text, Turner goes on to describe the advantages of the method of antiseptic treatment of infected wounds advocated by the American surgeon, Phelps, viz., the use of pure carbolic acid, followed almost immediately by pure alcohol. The use of pure carbolic acid was first suggested by Godson (*British Medical Journal*, November 26, 1898) in compound fractures, ulcers, etc. In 1901, Fraser recommended it as an application to the affected area of skin in erysipelas (*British Medical Journal*, May 1, 1901). Phelps' article appeared in German in the *Münchener Medicinische Wochenschrift*, No. 38, 1900, and this surgeon reports having used carbolic acid in over seventy cases of tuberculous abscesses in connection with hip disease. He believed that he had saved twenty of these cases from resection of the hip joint by this method. His treatment was as follows: On opening the joint-cavity or the abscess, as the case may be, the interior is widely exposed, and if the end of the bone be diseased it is scraped with a sharp spoon, the joint is irrigated with a one to two-thousand solution of mercuric chloride, and is then filled with pure carbolic acid. The latter is allowed to remain exactly one minute, after which it is washed out thoroughly with pure alcohol. Finally the alcohol is removed completely with a two per cent. solution of carbolic acid. The wound is not sutured, but is dressed with a drainage tube of glass containing gauze which is passed to the bottom of the joint cavity. The object of this is to enable the surgeon to watch the progress of healing and to scrape again if need be, or to renew the treatment.

A number of surgeons since Phelps have reported good results with this method, notably Hansell, who was assistant to Bruns, and who related his experiences at the Surgical Congress held in Berlin in 1901 (*Centralblatt für Chirurgie*, Beilage zu No. 29, 1901). Turner himself reports a number of cases of simple abscesses, suppurating atheromas, tuberculous joints, etc., in which he used the Phelps treatment with marked success, employing, however, a sixty per cent. solution in pure alcohol instead of the pure acid. He was astonished at the aseptic and "reaction-free" manner in which the wounds healed, and in view of these results cannot see how any one can be fanatic enough to preach against the "antiseptic method."

Happily for us in America, we have passed long since through the period when asepsis was preached as against antisepsis. Clinical experience has shown that both are needed in their places, and so there cannot be any objections to Phelps' method on these grounds. Judging from the results obtained by Turner and his predecessors, the method is worth employing in selected cases of wound infection. The successive use of carbolic acid and alcohol over limited surfaces of infection is, indeed, one of the favorite methods in the hands of many surgeons to-day.

The Personnel of the Navy.

Medical Inspector Howard E. Ames, U. S. N., has written recently a paper, published in the "Proceedings of the United States Naval Institute," Vol. XXX, No. 1, entitled "A Plea for a Higher Physical, Moral, and Intellectual Standard of the Personnel for the Navy." According to the writer, there is a lack of a proper standard for the admission of cadets to the academy at Annapolis. "Physical soundness," as specified in the circulars sent out by the department, is a vague condition in some respects, and leaves open many questions that are of the greatest importance, such as weight for age, weight for height, height for age, chest measure for age. Dr. Ames thinks that the whole subject of physical requirements should be thoughtfully considered by a board carefully selected from the medical and line officers of the navy. This board should study the matter in all its bearings, and from its report a standard might be fixed which, after careful consideration by higher authority, would be adopted and made binding by legislative enactment. It would seem from a perusal of Dr. Ames's paper that the conditions ruling at Annapolis with regard to the physical qualifications of cadets are not nearly severe enough, and that reforms should be instituted whereby the officers of the United States Navy should be warranted as sound in wind and limb and in every respect fine physical specimens of the American "genus homo."

The writer has also much to say concerning the efficiency of the enlisted force. He is of the opinion that, as a rule, the officers composing the recruiting party are not suited for the work and do not realize the importance of the duty, quantity instead of quality seeming to be the incentive. In consequence of this carelessness, the men enlisted frequently present grave physical defects, and are in no way fitted to undergo the arduous duties which fall to the lot of a man-of-war's-man. As to the morals of the enlisted men of the navy, Dr. Ames states that many degenerates succeed in passing the medical examiner and get into the service, but, although this often happens, he can find no reason for their retention after they are discovered. It goes without saying that the moral condition of the personnel is a matter of supreme importance, and has a very strong bearing upon physical soundness.

The Lust for Operation.

This is the title of a paper which was read by Dr. Hatherley, of Wangamie, at the annual meeting of the New Zealand branch of the British Medical Association and published in the *New Zealand Medical Journal*, April 30, 1904. As may be gathered from the title, Dr. Hatherley is no believer in surgical operations except when they are absolutely necessary, and strongly holds the view that surgeons often use the knife when the circumstances of the case do not call for such a procedure. In fact, the writer feels confident that operations are frequently performed for the mere "love of the thing," and he also opines that this practice is on the increase. The "lust"—which word he uses advisedly—for operation becomes an obsession, which so holds those possessed of it in its grip that they will go to almost any lengths to satisfy their craving.

Dr. Hatherley instances the operation for appendicitis as a conspicuous example of this "lust for operation." He points out that the leading English textbooks on surgery state almost unanimously that a large proportion of cases go on to recovery without surgical interference, sometimes even when there is evidence of grave local mischief. This statement agrees with the results of his experience. The operation for the relief of floating kidney and the removal of the tonsils and of adenoid growths are also condemned by Dr. Hatherley as in a large proportion of cases unnecessary.

The speaker implied that there was a commercial as well as a professional aspect of the operating craze, as in a great many diseases it is infinitely more remunerative to operate than not to operate. He likewise took a tilt at the size of the fees charged for present day operations, especially for such comparatively simple operations as those for removing tonsils and postnasal growths. Dr. Hatherley concludes by advancing the argument that a good surgeon is not always an expert operator, and, conversely, a brilliant operator is not necessarily a sound surgeon, and thinks that the preservation of a limb demands a higher order of skill than the amputation thereof.

Not a few voices in other parts of the world than New Zealand have been raised in protest against the increasing resort to operative measures, and it has been often questioned whether the resource to the knife has not been carried to excess. At any rate, the fact is too evident to admit of any denial that this is the age of the operating surgeon. Perhaps ere long the wheel will turn and we shall revert to a more conservative treatment.

The British Public House Trust.

One of the features of the present crusade against drink in Great Britain is the public house trust which has recently been established there. There are now in England, Scotland and Wales 150 saloons controlled by this trust. The enterprise originated in 1877, when a clergyman in Warwickshire, who had become trustee of a village inn, conducted it on the "Gothenburg" system—the main principles adopted being that the liquor should be of good quality and that the manager should have no interest in increasing its sale.

In 1901 Earl Grey formed the Central Public House Trust Association, for the purpose of establishing a branch in every county, and at the present time local trusts have been established in all but five of the counties of England. Trusts have also been formed in Ulster and South Wales. In Scotland the movement has met with much success. The effect of the saloon as an enemy to the public health does not lie in the fact alone of the direct injury done by drink. Saloons, and especially those in the lower districts of a city, are centers whence disease germs are likely to be spread. Many of them are unsanitary, ill-ventilated, and in every respect provide conditions in which disease may easily be disseminated. The movement for the establishment of saloons properly controlled and managed is one in the right direction and in the interests of health and morality.

Consumptives in Factories.—At the factories of Messrs. J. S. Fry & Sons, Bristol, England, there are 2,000 girls and women under 54 superintendents. All persons found to be tuberculous are suspended from work, put on the sick fund, and sent to a sanatorium as soon as possible. These are not allowed to return, bt are assisted to find work elsewhere, or are pensioned.—*Public Health.*

News of the Week.

Mourning for Finsen.—The funeral of Prof. Niels Finsen, who died on September 24, was held in the Frederick Church, Copenhagen, on September 29. Few scientists have received such posthumous honors as he. According to the despatches, two kings, those of Denmark and Greece, were present, and almost every other European ruler was personally represented, while princes, ministers of state, and leading scientists came to pay a last tribute to the dead man. Wreaths carried by special representatives came from Emperor William, King Edward, Queen Alexandra, and Count von Bülow, the German Imperial Chancellor. The Crown Prince of Denmark and Princes Waldemar, Karl, and Hans were present in the church.

Beriberi in the Japanese Army.—One of the most serious problems confronting the Japanese army surgeons at the seat of war is the prevalence of Beriberi. It is stated that the losses from this disease exceed the total casualties in the fighting. Every transport bound for Japan takes hundreds of sufferers. One General has been invalided by the disease. The besiegers of Port Arthur are suffering the worst, and it is said that between this disease and casualties one division has been almost extinguished. The cause of the outbreak is unknown, though believers in the nitrogen-starvation theory of the disease find support for their views in the epidemic.

Impersonating Candidates at the Regents' Examination.—Two young men were recently arrested for impersonating candidates for certain offices at a Regents' examination, and it is alleged that such practices are not uncommon. A prosecution for a similar offense occurred two years ago, when a physician was caught acting as proxy for a candidate for a medical license. Both pleaded guilty after being indicted, but sentence was suspended. In that case the physician lost his own license and the other man lost all chance of ever getting one.

Suit to Recover a Large Fee.—A wealthy American has begun suit in Paris against a surgeon of that city to recover 100,000 francs, which sum he alleges was extorted from him by the surgeon, who was treating the complainant's wife. The plaintiff states that his wife was suffering from a cancer which had been declared inoperable by a number of competent surgeons in this country and Europe, and that she was induced to submit to treatment by injections of a serum prepared by the Paris surgeon, by the use of which she was persuaded to hope a cure might be effected. The treatment was begun, but without any agreement regarding the fee, although the plaintiff alleges that he asked for a statement of the surgeon's terms repeatedly. Finally, two weeks after the injections were begun, the "business agent" of the surgeon presented a bill for $100,000 francs ($20,000), and urged immediate payment on the ground that it was customary in France to pay in advance for surgical treatment. The plaintiff, fearing the effect upon his wife of a suspension of the treatment, was constrained by what he terms in his complaint "moral violence" to pay the fee demanded. The treatment did not stay the progress of the disease, and the patient died within a couple of months after beginning the injections. Mr. Crocker, the plaintiff, announces his intention, in case the surgeon is compelled to return the sum paid, or any part of it, to give the money to the Pasteur Institute. According to Paris correspondents of the daily press, it is a not unusual practice of certain surgeons of that city to make excessive charges in the case of a rich American who may fall into their hands,

and to secure payment by this sort of "moral violence." Another incident, and similar to the one above related, which has not yet reached the courts, occurred recently. A prominent citizen of Pittsburg entered the hospital of a leading specialist in order to be operated on. When the treatment had reached a critical stage the American was required to pay $4,000, which was done under protest. It is only fair to say, however, that such sharks are few in number, and that the reputable French practitioners, of course, condemn the practice. One of the foremost of these recently performed a major operation on a little Brooklyn girl, remaining by her bedside continuously for thirty-six hours. Thereafter, learning that the family had only moderate means, the physician declined to accept any remuneration.

More Trouble for the Sydenham Hospital.—A young woman who was a nurse in the Sydenham Hospital, in this city, has brought suit against the board of directors of the hospital for $2,000 damages for loss of time. She says she went there in August last year on the promise of a diploma when her course was finished, and didn't get one. Charges against the hospital were recently made by some physicians, formerly members of the attending staff, but were dismissed by the State Board of Charities, which decided it had no jurisdiction in the case.

Excitement in Bellevue Hospital.—The rooms occupied by members of the Bellevue house staff were formerly cared for by men, who not only made the beds and dusted, but acted as valets for the doctors. For some reason the hospital authorities have dismissed the men and taken on elderly maids in their places, and the young men now have to brush their own clothes, and are displeased by the change.

Illinois State Board of Health Circular on Consumption.—The State Board of Health, through its secretary, Dr. James A. Egan, recently issued a third revised edition of its circular on the "Cause and Prevention of Consumption." Illinois is commended as a proper place for the treatment of consumptives, and considerable attention is drawn to climatic conditions, elevation and soil, which is referred to as being equally as good as, and in some instances superior to, those found at the well-known sanatoria for the tuberculous of Massachusetts, New York, and Pennsylvania. It is said that $10,000 has been offered to the State Board for the purpose of constructing a consumptive hospital. Much information is given in the sections of the pamphlet on the care of the consumptive, prevention of consumption, and consumption in schools.

Food Inspection by the Board of Health.—The Department of Health of New York is preparing to make a more rigid inspection of food products sold in the city. Two extra chemists have been added to investigate the extent of adulteration, and the department this year will spend more money along this line than heretofore. The new chemists are now engaged in examining syrups for adulterants or deleterious combinations.

Opening Exercises of the Chicago Colleges.—On September 27 the opening exercises of the College of Physicians and Surgeons were held in the large amphitheatre. The principal address was delivered by Dr. C. C. O'Byrne. The opening exercises of the American College of Medicine and Surgery were also recently held, at which time addresses were made by Dr. Truman W. Brophy and Prof. Gammage. Fifty-one freshmen matriculated.

Illinois Medical College.—The commencement exercises of this college were held September 29 at Handel Hall, Chicago. Degrees were conferred upon 47 doctors and druggists by Dr. H. H. Brown. The principal address was delivered by Judge Holdom. A banquet was held in the evening at the Auditorium Hotel. Dr. S. S. Bishop acted as Toastmaster, and speeches were made by several members of the Faculty.

Typhoid Fever in New York State.—The State Board of Health is receiving reports which show the usual autumn increase in cases of typhoid fever in all sections of the State. This is easily traced in most instances to the contamination of country wells, the sufferers being in great part those who have passed their summer holiday on some farm where the well receives the seepage from neighboring privy vault.

New York and New England Association of Railway Surgeons.—The fourteenth annual meeting of the New York and New England Association of Railway Surgeons will be held at the Academy of Medicine, New York City, November 17 and 18, 1904, under the presidency of Dr. C. G. J. Finn, of Hempstead, Long Island. Railway officials and all surgeons interested in this work are cordially invited to attend. The secretary of the association is Dr. Geo. Chaffee, 338 Forty-seventh street, Brooklyn, N. Y.

Illegal Practitioners in California.—The State Board of Medical Examiners of California has announced that it will no longer take the initiative in the prosecution of those who practice medicine in violation of law, and it calls upon the county medical societies to assume that duty.

Dr. A. E. Macdonald retired from the superintendency of the Manhattan State Hospital East, Ward's Island, New York, on October 1. Dr. J. T. W. Rowe is at present acting superintendent of the hospital.

Effective Treatment.—A San Francisco physician recently certified to the Board of Fire Commissioners that one of the firemen "will be unable to perform any physical duty while he is taking my treatment." The Commissioners cruelly suggested that it would be well to discontinue the treatment at once.

The Pacific Association of Railway Surgeons held its first annual meeting in San Francisco on August 17 and 18, followed, *secundum artem*, with a banquet.

The Health Department of the City of Los Angeles should be commended for its persistent efforts to increase the salary of its bacteriologist to $1,800 a year, and none the less because the incumbent is a woman.

Dr. A. V. Phelps, of Cincinnati, has been appointed secretary of the Medical College of Ohio to fill the vacancy created by the death of Dr. James G. Hyndman. Dr. Phelps is a graduate of the Medical College of Ohio and has served as professor of histology and in recent years as professor and demonstrator of anatomy. Just after leaving college he served as interne and house surgeon to the Cincinnati Hospital.

Dr. George F. Butler, formerly of Alma, Michigan, has been appointed professor of therapeutics in the College of Physicians and Surgeons, and professor of medicine in the Dearborn Medical College, Chicago; he has also been appointed attending physician to the Samaritan Hospital.

The Cincinnati Academy of Medicine held its opening meeting on September 26. A committee was

appointed composed of Drs. Conner Reamy, Nichols, and Palmer to draft resolutions on the death of Dr. James G. Hyndman.

The Late Dr. Victor Steinberger.—The following resolutions have been adopted by the associates of the late Dr. Steinberger in the Board of Health.

Whereas, We feel that in the untimely demise of our esteemed co-worker, Dr. Victor Steinberger, we have lost a genial companion, an arduous worker, a progressive physician and an earnest and sincere colleague,

Therefore, Be it resolved that we medical inspectors and trained nurses of the Department of Health of the City of New York, Borough of Manhattan, at a special meeting held on July the twenty-third, nineteen hundred and four, extend to his widow and to his family our heartfelt sympathy in the hour of their bereavement.

May the remembrance of his affable personality, his conscientiousness in his duties, his devotion to his beloved ones, and his uprightness of character, serve to lighten their grief, to strengthen them in their affliction and be a blessed memory in the future.

And be it furthermore resolved, that these resolutions, suitably engrossed, be presented to his widow, and that a copy be published in the city medical journals.

Committee: Jacob Sobel, M.D.; Edward M. Thompson, M.D.; E. Helen Knight, M.D.; Otto A. Jahn, M.D.; L. Marcus, M.D.; Henry J. Blumensohn, M.D.; Thomas W. Neapsey, M.D.

Obituary Notes.—Dr. David D. Wickham died at his home in Port Jervis, N. Y., on October 1, of acute gastritis, at the age of seventy-four years. He was born in Wantage, Sussex county, and received his degree from the Syracuse University College of Medicine with the class of 1875.

Dr. John Purcell, a retired practitioner of this city, died at Larchmont, N. Y., on September 26, at the age of eighty-six years.

Dr. Phineas Jonathan Horwitz, of Philadelphia, formerly medical director of the United States Navy, died at Bar Harbor, Me., on September 28. Graduating from the medical department of the University of Maryland in 1845, he was two years later appointed assistant surgeon in the United States Navy. During the Mexican War he was in charge of the hospital at Tampico.

Dr. Silas Updegrove died at Philadelphia on October 1 at the age of seventy-five years. He was graduated from the Medical Department of the University of Pennsylvania in the Class of 1854. He served as a surgeon in the United States Army during the Civil War and he was at one time coroner's physician.

Dr. Isaac MacBride died at Philadelphia on October 2 at the age of seventy-three years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1854.

Dr. Merric Bemis died at his home in Worcester, Mass., on October 3, at the age of eighty-four years. He was a graduate of Castleton Medical College, Vermont, in the class of 1852. From 1857 to 1872 he was superintendent of the Worcester Insane Asylum, and was widely known as an expert on insanity. He was a member of many national, state, and local medical societies.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent)

SANITARY INSPECTORS—SIR THOS. BROWNE—A PENNY HOSPITAL FUND—HISTORY OF ST. BARTHOLOMEW'S—NEW DIRECTOR OF NAVAL MEDICAL SERVICE—OBITUARY.

London, September 16, 1904.

Sir James Crichton-Browne opened his address to the sanitary inspectors at Bournemouth by reference to the clean bill of health of the town, which he pronounced a shrine at which they might well come to worship. Then he went on to say that the days were nearly passed when the Bœotian intelligence thought that a tinker or tailor could smell out nuisances or a baker or barber be a good judge of meat. The inspectors were now well informed and upright, drawn from a superior class, and well fitted for their onerous duties. He hoped the time was not far off when a certificate of efficiency from some examining body would be required of all inspectors, and suggested that the University of London might grant such certificates after a liberal curriculum. Thus he would saddle us with another diploma. The faith in examinations seems spreading in all directions, and I suppose we shall go on multiplying diplomas until the distinction will be to have none. Sir James then referred in some detail to plague epidemics and confirmed, in contravention of Lord Curzon's recent remarks, that administrative energy in sanitation has greatly restricted its ravages and promises to control them in future; it is still a grizzly terror to mankind, but in this country, strong in our sanitary equipment, we may regard it with equanimity. All sanitary work has widespread effects, but has to undergo special adaptation. In the case of plague the peculiarity is rats, and without waiting for an epidemic a crusade against them should be undertaken. They are useless, altogether noisome, and probably promoters of other diseases besides plague. They should be exterminated, and he would enlist the sporting propensity to assist in the process. Rat-catching was as exciting and quite as elevating as pigeon shooting. The sporting papers should describe the battues, report the bags, and give portraits of the record-breakers, for great things might be expected when sport, fashion, and sanitation joined hands. In conclusion, Sir James said that never before had the public mind been so stirred by sanitary hopes and fears. The scales are falling from men's eyes. They are beginning to see that the future of the race and the happiness of the individual hinges on the microbe, so long skulking in the dark, but now dragged into the light. But the great battle of sanitation has yet to be fought, the skirmishes have taken place, and in the coming battle inspectors will be in the thick of it, but they will be supported by the engines of science and the good will of the people.

Dr. Conolly Norman protests with almost unmeasured anger against the proposal to erect a memorial to Sir Thomas Browne. He declares the author of *Religio Medici* to be a favorite author of his, but says medical men should be the last to subscribe to a memorial on account of his views on witchcraft. He instances the trial of the two witches condemned at Bury in 1664, when Sir Thomas gave evidence which makes Dr. Norman speak of his record as "stained with innocent blood" and other crimes, with a suggestion that his evidence must be read charitably "if we are not to add perjury to his other faults." So angry is Dr. Norman, who takes the story from Rev. Dr. Hutchinson's *Essay on Witchcraft*, that he talks of the "cowardice and muddle-headedness" of the judge, who was no other than Chief Baron Hale, generally held to be the most able judge who held that office and who afterwards became Lord Chief Justice. Of course replies are forthcoming, in which it is urged that Browne's views must be judged by the common beliefs of the 17th, not the 20th, century; that his reputation rests on his literary ability, not on his scientific foresight, or even his medical acquirements, and that few of us would care to be judged by the standards that may be set up two or three centuries hence.

We are threatened with another hospital fund. The editor of a weekly paper proposes "a penny fund." He estimates there are 30,000,000 people in Great Britain who never give a penny to hospitals, and say if each would contribute that small coin more than £130,000 would be realized. But how are these millions to be reached? I leave the problem to the editor, and I do not think he will be fortunate enough to solve it. Perhaps we have organizations enough already, and the penny fund is not destined to do much.

A different line is taken by the appeal committee for St. Bartholomew's Hospital. They are soliciting subscriptions

for a "complete history" of their charity, 1123-1905, which has been written by Dr. Norman Moore, and is to be sold for the benefit of the rebuilding fund. The work is illustrated by Mr. Howard Penton, and the price, one guinea, in cloth, or two guineas, in extra binding. Many Bart's men will doubtless be glad to have a full history of their venerable *alma mater*.

Inspector-General H. M. Ellis has been appointed Director-General of the Medical Department of the Navy, *vice* Sir H. F. Norbury, K.C.B., whose term of office has expired.

Surgeon-General Jameson, C.B., late Director-General of the Army Medical Service, died on Tuesday, aged 67. He entered the service in 1857 and went to Canada to join the 47th Regiment which he accompanied to the West Indies, where he was promoted for "his highly meritorious services during an epidemic of yellow fever." He had charge of an ambulance in the Franco-German War, and was employed at the siege of Paris and on the campaign on the Loire. By special grace the Emperor William I. conferred on him the commemoration medal. He rose through the various ranks up to surgeon-general. In May, 1896, he was made director-general, and retired with honors in June, 1901. He had the Canadian medal and clasp, was made C.B. in 1897, and also Honorary Surgeon to Queen Victoria and afterwards to King Edward. He was also given a good service pension and was a Knight of St. John of Jerusalem.

The death has also occurred of Inspector-General D. MacEwan, M.D., aged 78. He entered the navy in 1847 and served in China, India, Burma, the Russian war, and South America. He received a number of decorations, including the medals for Burma and the Baltic. For seventeen years he was in attendance on Queen Victoria when on the royal yacht. He was Honorary Physician to Her Majesty, and since then to King Edward.

Fleet Surgeon Joseph Wood, R.N. (retired), dined on the 5th inst., aged 62.

Surgeon-Major John Campbell, C.B., M.D. (retired), died on the 2d inst., aged 87. He served in the Afghan War, 1841; in Scinde, 1843, and in the Mutiny, 1857, and was decorated for his services at Lucknow.

Dr. Wm. Lee Dickinson died suddenly on the 6th inst., aged 40. He graduated at Cambridge, M.B., 1890; M.D., 1893, and was elected F.R.C.P., 1894, the earliest date possible, as he was a member of 1889. He was physician to St. George's Hospital, where his father, Dr. Howship Dickinson, was so long physician and passed on to the consultant staff on his retirement. Dr. Lee Dickinson contributed to the Royal Society's "Proceedings," the *Journal of Physiology*, Allbutt's "System of Medicine," and American and British medical periodicals.

Dr. Dudgeon died on the 8th inst, in his 85th year. He graduated at Edinburgh in 1841. He soon after took up homœpathy and edited a journal devoted to that school for about 40 years. He will be better remembered by his work on the sphygmograph.

OUR BERLIN LETTER.

(From Our pecial Correspon lent.)

CELEBRATION OF KOCH'S BIRTHDAY—NEW HYGIENIC INSTITUTE —THE RUDOLPH-VIRCHOW HOSPITAL—DEATH OF KÖBNER AND LANDERER.

BERLIN, September 14, 1904.

THE following is the report, somewhat delayed, of a celebration, worthy of notice by the public. In the last semester, a number of the most distinguished physicians united to celebrate the sixtieth birthday of Robert Koch. But as at that time Koch was far from Berlin the formal celebration took place after his return, August 23. After addresses by Waldeyer, Kirschner, and Gaffky, Koch's bust was presented to him, and his remarkable answer is worthy of being placed on record. "It is an unusual honor," he said, "for you to celebrate my sixtieth birthday, as it is only customary so to recognize the seventieth. I confess that I was much surprised when I first heard of your project. On the other hand, I am glad you have chosen this time, and for the reason that, as you know, all is not honey for the investigators in our specialty. The good old times when one could count all the bacteriologists on his fingers, and could explore, undisturbed, a great part of our scientific realm, have long since passed. Now there is but little free field, and there are unnumbered competitors in its cultivation, each wanting his share. Even among the most modest and considerate workers one frequently jostles his neighbor or treads on his toes, so that, even before it could have been expected, one is surrounded on all sides by adversaries. That is disagreeable and takes much of the peace and joy from the work. I have my own grievances to complain of in this line. Regardless of what I say or write, I meet with violent opposition, and that from those who understand little or nothing of the matter, and, therefore, are not fit to judge. Already the idea of giving up the game has often come to me. But when I see by this day's celebration that I have so many friends who take part in my work, and on whose understanding and assistance I can rely in case of need, all ill humor and hard feeling pass from me. I shall indeed give up the constantly increasing burden of the administration of my institution for infectious diseases. But this step does not mean that I shall become faithless to our science. On the contrary, I now promise to work with and for you as long as I have the ability."

The place of Koch's former activity, the Hygienic Institute, in Kloster street, which he established in 1895, is now to be entirely abandoned. The buildings, even then very old and furnished by Koch with a very simple equipment, are now considered useless. Rubner, Koch's successor, is, during the next semester, to remove to the new Institution in Hessian street, near the other medical buildings.

I may use the vacation time of the surgical societies to give a brief survey of the Rudolph-Virchow Hospital, the new Berlin hospital, with accommodation for two thousand patients. Although it will not be opened till the spring of 1906, it should claim the attention of our American colleagues who visit Berlin, for it is to be our largest and most beautiful hospital, and the one with the most modern equipment. Already one can see that this hospital will seem restful and pleasant to the patients, a fact in itself of great help to the physician. It is to be surrounded with a wall of wrought iron, with here and there openings giving a view of the street and its life. In front and in the center are the large and imposing administration buildings, with a wing extending to the street. At the sides are buildings with light walls and red roofs, to be used as officers' houses, and also for the lying-in hospital, and for genito-urinary diseases.

A beautiful view greets the visitor as he passes out of the main building by its middle door. A long road lies before him, bordered by lawns and flower beds, and shaded by two avenues of chestnut trees. On the left are the buildings belonging to the surgical department, and on the right those belonging to the medical department. These buildings look like country houses surrounded by lawns and hedges. The walls are covered with green vines, and there are to be flowers in the windows. At the rear is situated the anatomical building, and in connection with this, but not visible from the patients' quarters, is the morgue, with a door opening on the street. To the left of the central building, and entirely isolated, is the department of infectious diseases; on the right, the building for lighting, washing, and cooking, and the great water tower with its reservoir. These last-named buildings face an open street leading directly to the main front, and are invisible from the patients' side. These buildings are the best work of the architect, L. Hoffman. The former factory-building style has given place to a beautiful form of architecture, which will become classical for similar structures. But it is necessary to see this magnificent work to appreciate it.

The Berlin medical world has lost two excellent pioneers, Heinrich Köbner and Albert Landerer. In the history of medical universities Köbner's name will never be forgotten, inasmuch as he was the first to hold a professorial chair of dermatology in Germany. His studies in this specialty were carried on in Paris and Vienna, and afterwards in Breslau he founded the first clinic for skin diseases. In 1869 he qualified as university lecturer, and was made professor in 1872, in spite of the opposition of the medical faculty. In 1876 he was appointed director of the newly established clinic for skin diseases. Leaving Breslau because of ill health, he became later distinguished in Berlin as a skin specialist. His studies in sycosis, syphilis, leprosy, psoriasis, carcinomatosis, and pemphigus have lasting value.

Albert Landerer was professor of surgery in Leipsic, and, since 1884, chief of the surgical department in the Karl Olga Hospital in Stuttgart. In 1902 he moved to Berlin, having been elected surgeon-in-chief of the new hospital, Berlin-Schömberg, yet in course of construction. He died on a pleasure trip in Switzerland, and could not see his plans perfected. He was the author of many monographs in general and special surgery, and also of several manuals. He was known chiefly by his use of cinnamic acid in the therapy of tuberculosis. Although his method has recently been extensively tried, no final judgment as to its value can yet be given.

OUR CANADA LETTER.

(From Our Special Correspondent.)

MEDICAL PROTECTIVE ASSOCIATION—VITAL STATISTICS OF MONTREAL—SENATE ELECTION TORONTO UNIVERSITY—DR. WILLIAM OSLER'S APPOINTMENT—ONTARIO LIBRARY ASSOCIATION—CRUSADE AGAINST QUACKERY—ONTARIO HEALTH REPORT—DOMINION REGISTRATION.

September 25, 1904.

The Canadian Medical Protective Association held its annual meeting in Vancouver recently. Dr. R. W. Powell, of Ottawa, was elected president, and Dr. James A. Grant, Jr., of Ottawa, secretary and treasurer. The association is doing good work, and affords medical men a protection that is now more appreciated than ever. The annual fee of $2.50 is not by any means excessive, but it is found sufficient. Since its organization the association has done excellent defense work and has defended several cases against its members to a successful termination. It is managed without expense, being conducted entirely by medical men, who give their time gratuitously on behalf of the profession.

The last report of the vital statistician for Montreal shows in that city an increase in the birth, marriage, and death rates. The death rate increased from 22.58 per 1,000 in 1902 to 24.29. The birth rate increased from 35.65 to 36.08 per 1,000, while the marriage rate increased from 9.22 to 10.16 per 1,000. The increase in the two latter rates may be due to the fact that sermons were preached in the Roman Catholic and other churches about two years ago against the falling off in the birth rates.

Considerable interest is manifested just now in the pending election of medical representatives to the Senate of Toronto University. The success of the union of Trinity with Toronto University will probably be seen in the result of the election. Each medical graduate can vote for four representatives on the senate. The ballots have been distributed and are returnable before October 10.

The medical men of Canada are much rejoiced in the honor which has come to a Canadian physician, who is well known in every part of this country, in the appointment of Prof. William Osler, of Johns Hopkins University, Baltimore, as Regius Professor of Medicine in the University of Oxford. The universal feeling is that His Majesty, King Edward, could not have approved of a more suitable selection for the vacant chair. Dr. Osler commenced his medical studies in Toronto in 1868 and graduated at McGill University, Montreal, in 1872. For many years he was a highly esteemed teacher on the medical faculty at McGill, and when in 1884 he accepted the position of professor of clinical medicine in the University of Philadelphia, his departure from Canada was greatly regretted. He has, however, always taken a lively interest in everything pertaining to the welfare of the profession in this country, and was frequently a guest at medical gatherings in different Canadian centers. His address at the opening of the new buildings for the medical department of Toronto University, last year, was one of the best contributions ever given to Canadian literature. Canada proudly claims William Osler as a gifted son.

The Ontario Medical Library Association is likely to have very shortly a home that will provide what has long been desired in the city of Toronto. A very desirable property has been purchased in the Queen's Park, and is being remodelled and fitted up in a suitable manner. It will not only be well adapted for a library, but will have ample accommodation for society meetings and become a popular resort for medical men. Toronto has long felt the need of a medical club, and the very desirable property which has been secured will without doubt prove a popular investment. There are now over 10,000 volumes in the library and large additions are expected very shortly. The medical men who have the matter in hand are receiving not only the cordial support of the profession in Toronto, but, as that city is regarded as the medical center of Ontario, they have assurances of support from all parts of the Province.

Hon. Dr. Sullivan, of Kingston, who is a member of the Canadian Senate, has been moving in Parliament for stringent regulations in regard to the sale of patent medicines in Canada. He made a vigorous attack on the patent medicine business as a whole, and contended that all makers should be compelled to give the exact compositions of the compound placed on the market; also that all guarantees of cures should be strictly prohibited. He was particularly effective in pointing out the fraudulent character of many of the testimonials published. Senator Sullivan is well supported in his efforts to place restrictions on the patent medicine business. Sir William Mulock, Postmaster General of Canada, introduced a bill declaring that it shall not be lawful to transmit by mail in Canada any books, magazines, periodicals, circulars, newspapers, or other publications which contain advertisements representing marvelous, extravagant, or grossly improbable cures. During the discussion on his amendment, Sir William Mulock said: "It was necessary to put a stop to the methods of scoundrels who advertise marvelous cures and make fortunes out of the unfortunate sufferers." Stringent enactments are likely to soon be enforced in Canada against what has long been regarded as a scandalous misuse, not only of the mails, but also of the public press, for the advertisement and encouragement of quackery.

The Provincial Board of Health for Ontario have just issued a report dealing with tuberculosis and demonstrating the extent to which consumption has prevailed in Ontario and the beneficial results that in later years have resulted from an increased knowledge of the nature of the disease. The death rates from smallpox and typhoid are insignificant compared with it. Tabulated returns for thirty-three years show that the number of deaths from tuberculosis have exceeded those from all other contagious diseases put together by nearly ten thousand. The figures are: Consumption, 75,918 deaths; all other contagious diseases, 66,240. The returns for the other diseases are as follows: Typhoid, 14,558; scarlet fever, 10,372; diphtheria, 31,486; whooping cough, 5,513; measles, 3,213; smallpox, 1,044; typhus, only 14. Typhus occurred in three years, 1869, 1882, and 1883. The variableness of the ravages of tuberculosis is illustrated by the returns of later years, which are interesting. In 1894 the number of deaths from consumption were 3,240; in 1895, 2,427; in 1900, 3,484; in 1902, 2,694. The variableness was probably caused by the climatic conditions, and in later years to some extent the decrease is attributed to the realization by the public that it is a contagious disease, and that to the fight made by sanitary precautions against "the white plague." The figures, however, show what an immense work remains to be done. To accomplish this there is certainly considerable progress being made, and the public press is rendering valuable assistance in the good work. Local boards of health in all parts of Ontario are also taking more active measures in that direction.

The dentists of Canada are in advance of the medical men in their efforts to secure Dominion registration, so that dentists legally qualified in one Province can secure registration that will qualify them to practise dentistry in any of the other Provinces. Faithful efforts have been made for several years to secure a Dominion Medical Act that will secure what has so long been desired by the large majority of the medical men in Canada. At present each Province has a separate and distinct medical registration board and a practitioner in one Province cannot practise his profession except within the limits of his own Province. All the Canadian Provinces, except Quebec, have signified their willingness to have a registration board for the whole Dominion. That one Province should have the power to prevent the act being passed seems to many most unjust. Dr. Roddick, M.P., of Montreal, who has in Parliament taken a very active part in endeavoring to secure the enactment of a law in favor of Dominion registration, has, to the regret of the whole medical profession in Canada, signified his intention of retiring from Parliament. He has proved a most useful parliamentarian, and it is to be regretted that he has not succeeded in having his bill made law. It must succeed at no distant date.

BIOLOGY OF THE TUBERCLE BACILLUS.

To the Editor of the Medical Record,

Sir: I read in your valuable journal of August 20, page 296, an item in which R. W. Philip was quoted to the effect that the good effect wrought by suitable treatment of the tuberculous patient at home by climatic factors in too many instances is undone at night by sleeping in stuffy and overcrowded rooms. He might have added that this same fault occurs at tuberculous sanatoria, where the patient, in too many instances, is allowed to lower his tent sides to exclude the morning air, which the bacillus, like the patient, does not like. The good effects, too, of climatic treatment in summer time are undone when winter comes by too close housing of our patients. When the tent sides are down at night I find patients have a run of fever the next morning; but when they are exposed through the night to the motion of the winds, there is less often fever the following morning. Evidently the bacillus is more quiescent when exposed to the wind. There is also better returns, that is, more improvement, from exposure in winter than in summer. Cold morning air is not liked by the bacillus of consumption. This was my experience with two patients here last winter. And it is also the experience of Devon Sanatorium, in the south of England, and Sanatoria in Norway and elsewhere.

Albert S. Ashmead, M.D.
Greentown, Pike Co., Pa.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Sept. 29, 1904

Disease of the Myocardium.—Henry Jackson states that myocardial disease may arise from various pathological processes: The disturbance may be within the heart itself. Sclerosis of the coronary arteries is in many cases the direct cause of myocardial disease, for with the narrowing of the vessels the nutrition of the heart muscles suffers, and a gradual fibrous degeneration develops. Precordial pain and distress seem to be more common in cases of sclerosis of the coronary arteries than in other forms of myocardial disease. The most common cause of myocardial disease is general arteriosclerosis. The younger the individual attacked, the greater the probability that the heart will be involved. The third cause mentioned is renal disease, especially when the type of the disease is essentially that of a chronic interstitial nephritis. Many cases are seen in which no pathological factor can be found. In another class of cases is noted the excessive abuse of alcohol, but no gross pathological lesions are found. The heart may be enormous in size. Again, there are a few cases without any known etiology. Tumor of the myocardium, in a few rare cases, gives rise to symptoms suggestive of "heart disease." The writer has noticed this condition only in syphilitic myocarditis. These observations are sufficient to show that "heart disease" does not always mean valvular disease of the heart. The writer believes, in fact, from his study of various records and statistics, that valvular disease of the heart is found in only about half of the cases of "heart disease."

Blood Pressure in Fevers, Before, During, and After the Administration of Strychnine.—Richard C. Cabot, in these investigations, has studied febrile cases only, among them being cases of typhoid fever and pneumonia. In 32 cases, the strychnine was given by mouth, and in 18 subcutaneously. The total daily dose was usually ⅛ grain. The records were continued for days, and occasionally for weeks before and after the drug was given, in order that the regular range of variation in the blood pressure might be ascertained. The measures were taken with Stanton's modification of the Riva-Rocci instrument. Measurements were taken at various intervals of time succeeding the administration of the drug, from a few minutes to several hours. The observations extended over about 8 months and included over 5,000 measurements. The writer declares the total result to be negative. A striking feature in these observations was the fact that while whiskey and strychnine seemed to have no influence upon the blood pressure, the sight of food or the prospect of getting up produced a decided though transient rise in the pressure. The only permanent gains in pressure occurred when the patient reached the crisis in pneumonia, or when convalescence enabled him to get up and walk. The writer does not wish to be construed as saying that this drug has no value, but he believes that in the dosage employed, strychnine does not raise or in any way affect the maximum or minimum blood pressure so far as can be determined by the instrument employed.

Earache, or Cases of Early Involvement of the Middle Ear, Usually Neglected.—Francis P. Emerson believes that abnormal conditions in the nasopharynx as a cause of earache are usually neglected until serious damage has resulted to the middle ear. He cites several cases in point. These children all suffered from attacks of earache, and in each case examination of the nasopharynx revealed the presence of adenoids. After the removal of this tissue, the earache disappeared. Catarrhal ears may occur often in children living under the best surroundings. These children may be well nourished and show no evidence of catarrh, nor even be mouth breathers. If the trouble be due to adenoid tissue, this may be found only around the Eustachian tubes and so offer no mechanical obstruction to breathing. This glandular tissue often persists to adult life, especially if it once becomes infected, and it usually exerts a baneful influence upon the hearing. In the case of infection with such active organism as the influenza bacillus, the patient is liable to a rapid involvement of the middle ear and the mastoid.

New York Medical Journal, October 1, 1904.

Mitral Regurgitation.—A general description is given by O. L. McKillip of this variety of valvular affection, following conventional lines. He notes in closing that patients are frequently treated for chronic gastritis when the latter is really a sequel of a heart lesion. The same holds true of pericarditis, but when a murmur is present in the latter disease it is usually a to-and-fro murmur and is not transmitted. There is a murmur heard at the apex due to anæmia. This can be distinguished by the history of the case, the unintensified pulmonic second sound, and the absence of cardiac enlargement. The impulse of the heart against the edge of the lung between the heart and chest wall sometimes produces a cardiorespiratory murmur, but it is heard only at the end of a full inspiration and is not transmitted. So that if we have a murmur at the apex, systolic in time, transmitted to the axilla, an accentuated pulmonic second sound, enlargement of the heart, and evidences of blood stasis, we may safely diagnosticate mitral insufficiency.

Professional Responsibility in Accident Cases Involving Litigation.—J. B. Roberts would divide cases requiring medicolegal investigation into the three following classes: (1) Those in which there is obvious physical lesion of a serious character. Here the surgeon's responsibility mainly concerns prognosis. (2) Those in which a physical lesion is obvious, but manifestly of little importance. Here the question mainly concerns diagnosis, and the surgeon must detect by careful and repeated examinations, evidences of obscure danger to the nervous system or other deep-seated structures. (3) Those of mental shock without obvious physical lesion in which there is a possibility of development at a later period of the so-called functional disturbances to which the term traumatic neurosis has been applied. Here the prime responsibility of the surgeon should be to prevent by judicious treatment the development of the nervous derangement. Many of the nervous wrecks seen in the courts, demanding, and often receiving from juries, large sums of money for accidents, are the creation of injudicious, thoughtless, or dishonest doctors. The author would emphasize two points. First, that an ignorant, careless, or injudicious physician may possibly be the real cause of many cases of traumatic hysteria and neurasthenia; and, second, that prompt settlement of damage suits is an invaluable aid in the cure of accidental injuries associated with litigation.

Headache in Relation to Diseases of the Nose and Nasopharynx.—O. Wilkinson presents a somewhat elaborate summary of the various nasal and nasopharyngeal conditions which may cause headache, and his paper is an elaboration along the lines thus indicated. His list of causes is grouped under the following five heads: Affections of the mucosa, of the osteo-cartilaginous framework of the nose, sinusitis, growths, and foreign bodies. Under the first heading he makes a distinction between hyperæsthetic rhinitis and hay fever, the special diagnostic point being the test with the applicator.

The Fly as a Carrier of Tuberculous Infection.—E. H. Hayward has made observations on flies which were allowed free access to tuberculous sputum. They were then supplied with clean cover slips, which they speedily soiled. Sixteen of the covers, ten of which contained tubercle bacilli, were stained and examined. The next two batches of flies were fed on tuberculous sputum in which the bacilli had previously been demonstrated. The sputum was placed on watch glasses and covered with a fine wire screen. On this screen the fly could walk without getting its feet or wings in the sputum and could feed through the meshes. The flies were also fed on milk, but they seemed to prefer the sputum. Six hours after feeding, clean cover glasses were introduced and left from three to four hours, during which time considerable fæces were deposited on them. They were then withdrawn and stained, and all showed tubercle bacilli. The flies apparently suffered from diarrhœa after feeding on the sputum, as they defecated more after the infectious material was ingested than before. Culture plates, made of the fæces on glycerin agar and incubated two weeks, showed a growth of tubercle bacilli, thus proving that the vitality of the tubercle bacillus is not impaired by passage through the intestinal canal of the fly. Post mortems were made from each batch and smears from the stomach and intestines showed large numbers of tubercle bacilli. The fæces were also rubbed up with sterile water and injected into the peritoneal cavity of guinea pigs which developed tuberculosis. The author believes that these experiments show that the tubercle bacillus may be conveyed from the lung of one person to the alimentary tract of another in the course of a few hours, and this may be a common mode of infection.

Medical News, October 1, 1904.

The Need of Efficient Public Health Work in the Suburbs.—George A. Soper points out some of the difficulties in the way of protecting health. He first emphasizes the want of knowledge which everywhere exists on the subject of hygiene. Even in the better residence suburbs public sanitary questions are often neglected. Private and domestic hygiene are practically unknown in the squalid outskirts of the city. Hygiene is acknowledged to be a neglected factor in education. Not even doctors are always qualified to act as expert advisers with respect to public health measures. A second difficulty is that of enforcing sanitary laws. Then, finally, there is a want of concerted action among different departments of the local government. Energy is needed to discover and correct the sanitary

conditions in the suburbs. There should in most cases be more assistants in this work than are generally provided. Appropriations for this purpose should be adequate. Laboratories for testing water and milk should be established. The dairies and the watershed should be inspected. The suburb should be made healthful, and the public should have the reasons for knowing it to be so. If preventable diseases are prevalent, the facts concerning them should be stated in the monthly report. The garbage question should be solved in a sane and sanitary manner. It would be well for every citizen to collect a library on sanitary topics. Not the least reward of all this care will be the business advantage that will come from the prosecution of a strict and skilful public health campaign. Intelligent people will come to the suburb. With efficient work on the part of the Health Board, life and health will be more secure.

Report of a Case of Obstinate Phosphatic Diathesis Cured by Systematic Dilatations of the Posterior Urethra.—George Theodore Mundorff reports the case of a man aged 38 years. He had had a gonorrhœa some years ago, and was cured in about 4 months. About 5 years ago his business responsibilities were very much increased, and soon afterwards he noticed that he had become very irritable and nervous, and he was passing a large quantity of urine, which he soon observed was of a milky character. He was treated according to the usual methods, and although the general condition improved, the urine was still loaded with phosphates. The prostrate was slightly enlarged. The writer, having observed a few instances of "phosphaturia" in cases of retention of urine due to temporary or permanent paralysis of the bladder, as in hemiplegia and paraplegia, as well as in cases of prostatic hypertrophy, and having observed the effects of the following treatment, gave posterior dilatations of the urethra and with it dilatations of the internal sphincter ani a trial. Dilatations were made once every week, and irrigations of the bladder with a mild boric acid or silver nitrate solutions were made a few days after each dilatation. After a few treatments there was great improvement. The patient recovered his spirits and the urine gradually cleared. Dilatations were kept up for 12 weeks, at the end of which time the patient was discharged cured. There has never been a return of the complaint. A hyperæmic or chronically inflamed condition of the prostatic urethra often causes marked neurasthenic symptoms. The nerve supply of this region is very rich. Any irritation of this region is sufficient to excite functional disturbances of distant organs. The writer asks if it is not possible that the phosphatic condition of the urine is due to some reflex secretive anomaly of the kidney. He thinks that it is fair to conclude that this patient was suffering from some inflammatory condition of the posterior urethra. Local treatment relieved congestion, and restored the muscular tone of the adjacent organs.

American Medicine, Oct. 1, 1904.

Rheumatism in New Mexico.—W. C. Klutz declares that the cases of rheumatism in New Mexico make up a larger proportion of physicians' work than they do in very much damper localities. In the eastern half of the country the average rainfall is less than 10 inches, while the elevation is about 4,300 feet. The writer mentions two factors as being responsible for the frequency of rheumatism: The natural excess of meat eating, because of the scarcity of fresh vegetables, and the marked difference between the day and night temperatures. Tonsillitis is very common in this region, which is interesting in relation to the existence of rheumatism. The writer thinks that the throat affection is due to the wind and dust of the region. In regard to the factor of meat eating, the writer cites a case of a man of 30 years who, although he has been a strict vegetarian for the past two years, has had an attack of rheumatism during the last summer. The majority of patients who come to New Mexico with rheumatism improve at first, but are liable to fresh attacks after some months. Some cases develop the primary attack in New Mexico. The writer believes that the variation between the day and night temperatures, which is 25° or more at all seasons, must be the chief reason for the relative frequency of this disease in such an arid region.

Dust Infection.—Robert Hessler includes under Dust Disease the vague and illy-defined symptom-complexes that are variously referred to or misdiagnosed as "colds," "biliousness," "sick headache," and so on, or as atypical cases of influenza, rheumatism, gastritis, neurasthenia, and the like. Cases of dust disease are to be especially looked for under and separated from recognized diseases in which "rheumatic and gouty diatheses" are concerned, as well as in cases of neurasthenia and hysteria, and in cases in which there are frequent alimentary or respiratory tract disturbances. This affection is most common in crowded cities. It is not found among Arctic explorers and weather observers on high mountains. When these men return home, however, they are attacked again. The cases may be divided into groups, depending upon the part of the body or the organ chiefly affected. If the existence of this affection is kept in mind, many cases with obscure symptoms will be cleared up. There are no marked or recognizable pathological lesions in dust disease. Mucin may play an important part. The causative factor is infective dust. The cause of their discomfort should be pointed out to the afflicted. In some cases no medication will avail, the only relief coming from the change to a better atmosphere. The writer emphasizes the importance of recognizing the influence of a dust-contaminated atmosphere in the production of ill-health and disease in general.

The Present Status of the Etiology of Malignant Growths.—Raymond Wallace says that exceedingly few cases have been recorded of malignancy in the newborn and in childhood, which militates against any theory of direct heredity; a multiplex and varying etiology must seem the most plausible. Intrinsic irritation of the cell-proliferating mechanism in the nucleus may, with the advance of cell chemistry, yield certain autogenous factors; but as extrinsic factors may be summarized, various physical, chemical, and physiological irritations, and the irritations caused by parasitic life, any of which cause an evident disturbance in cell-proliferation, as it were, a loss of equilibrium, which leads to insane proliferation and the consequent formation of neoplastic growths. The degree of malignancy would then depend upon the rate and type of proliferation, and the loss of function and consequent reversion of type in the proliferating cells. The foregoing argument, based upon both clinical observation and pathological data, is offered as a slightly different phase of a much discussed and ever important subject.

Journal of the American Medical Association, Oct. 1, 1904.

Blood Pressure and Pulse Rate as Influenced by Different Positions of the Body.—O. Z. Stephens' experiments have led him to the following conclusions: (1) The blood pressure increases in the brachials from the standing to the head-down positions, inclusively, in the following order: Standing, sitting, left lateral, right lateral, supine, and head-down. (2) The greater the hydrostatic resistance in the upper portions of the circulatory system the greater the increase in pressure when the nervous and respiratory systems are kept normal. (3) An increase of resistance is accompanied by an increase in heart strength; the strength of the heart, therefore, will increase in the different positions in the following order: Standing, sitting, left lateral, right lateral, supine, and head-down. (4) The pulse rate decreases in the same order that the blood pressure increases. (5) The decrease in the pulse rate is a conservative act on the part of nature to protect the heart itself and the central nervous system.

Fatal Poisoning Due to Skin Absorption of Liquid Shoe Blacking (Nitrobenzol).—A case is reported by W. J. Stone. His patient was a young man of twenty-two years, of previous excellent health, who was suddenly seized with faintness, from which he at first recovered, but following which he passed into a state of coma. When first seen by a physician he was found in a state of collapse, from which he could not be rallied. No peculiar odor was noted on his breath. Death ensued between four and five hours after the fainting attack. Subsequent investigation revealed the fact that he had worn shoes to which a liquid blacking had been applied, and it was evident from the appearance of the skin that some of the preparation had rubbed off on the latter. This preparation was proven to contain nitrobenzol. The shoes were put on before the blacking was dry, and it is believed that enough of the poison was absorbed to produce the fatal result. This was attributed to paralysis of the circulating centers, since the heart stopped beating about five minutes before the respiration ceased. [While we have no opinion to offer in this case, we are not convinced that the absorption of so small an amount of the liquid blacking as is mentioned in this case was the cause of death.]

The Etiology of Hay Fever.—D. Braden Kyle discusses in this paper the relation of the chemistry of the saliva and the nasal secretions to diseases of the mucous membrane of the mouth and upper respiratory tract. He notes that the reactions of saliva and nasal mucus, as given by the ordinary litmus test, are misleading, owing to changes occurring after they had been poured out on the surface of the mucosa. Other tests, notably the polariscopic, are more reliable. Kyle has studied the secretions from patients whose fluids presented respectively neutral, hypoacid, and hyperacid conditions. The excessively alkaline condition is observed more commonly in hay fever, although in this disease any one of the three conditions may prevail. To these the author adds a fourth or irregular variety. In a hay fever case with alkaline reaction, remedies are to be given which will bring about an acid or

neutral reaction, or vice versa. Acting on this theory, he has been able to relieve cases resisting all the usual forms of treatment. On this theory the altered secretions are the exciting irritants of hay fever attacks, and not the various pollens, etc., from without. Such a disturbing cause acting on a neurotic patient, with perhaps intranasal lesions, can produce an outbreak of hay fever just as well as pollen, etc., can under the same conditions. In such cases the serum therapy would be unavailing. Kyle's experience with remedies acting on the secretions in the manner described leads him to believe that over eighty per cent. of cases can be relieved and cured.

The Lancet, September 24, 1904.

The Channels of Infection in Tuberculosis of Childhood.—The views of L. Kingsford are based on post-mortem records of 339 cases in children up to 14 years of age. Considering middle ear cases as infected by inhalation, tonsil cases as alimentary canal infection, and remaining pharyngeal cases as doubtful, inhalation accounts for 216 cases, or 63.7 per cent., ingestion for 65 cases, or 19.1 per cent., with a remaining 17 per cent. as of doubtful origin. From these figures the danger from inhalation would seem much greater than that from ingestion of tuberculous material. With regard to the importance of tuberculous milk, however great the potential danger may be, the real danger is in many quarters greatly exaggerated, probably owing to the children not drinking the tuberculous milk of the virulence and in the quantity usually affirmed. Still, whether the danger has been exaggerated or not, the fact that nearly 20 per cent. of the cases of tubercle amongst children in the large towns in England are primarily alimentary makes out a good *primâ facie* case against tuberculous milk, and the author believes it will be shown that one of the chief differences between the conditions of life amongst children at home and abroad which could have any effect in predisposing to primary abdominal tubercle exists in the greater frequency of tuberculous milk in that country. Statistical tables are given showing (1) the ages at death of all the 339 patients and the number at each infected through the different channels, (2) the frequency for each group of cases with which tuberculous lesions were found in the lungs and intestines and the corresponding lymphatic glands and serous membranes, and (3) the foods upon which the children had been nourished.

Some Points in the Prevention of Epidemic Diarrhœa.—T. T. Nash believes that the usual weather of the summer favors contamination of food, especially milk, first and chiefly by flies, and, second, by dust. He believes, further, that the common house-fly is the principal agent in carrying diarrhœa-causing bacteria to food. He therefore regards the following as essentials for lessening the infant death rate in summer: (1) Clean milk supplies; (2) clean towns, with well organized systems of sewage removal, dust collection and disposal, and street watering; (3) clean homes, where sufficient domestic hygiene prevails to understand the importance of clean utensils for food, the covering over of food to protect from dust and flies, and personal habits of cleanliness, and (4) inhibition of fly life.

A Case of Nephritis Simulating Diabetes Insipidus.—J. B. Blaikie's patient was a girl of eleven years, complaining of thirst and of passing an excessive quantity of urine, the average being 90 ounces, with gravity of 1,003 to 1,006, neutral or faint acid reaction, a faint trace of albumin, no casts and no sugar. Ten days later the quantity and the output of urea (previously about 200 grains per day) diminished, and the patient passed into a nervous condition, ending in unconsciousness, wide but unequal dilatation of the pupils, weak pulse, sub-normal temperature, and Cheyne-Stokes breathing. Autopsy revealed the following condition in the kidneys: The left weighed two ounces and the right three ounces. Both were extremely small; the capsule of each was adherent; the surface was somewhat irregular and showed extreme waxy pallor. On section the cortex was enormously diminished, especially in the left kidney, so as to constitute a mere line at places, with pyramidal cortex also diminished, but to a less degree. The whole kidney surface was of somewhat translucent yellowish-white color, with only a few points and streaks of congestion at places. There were numerous small cysts present both in the cortex and in the medulla; these were more numerous in the left than in the right kidney. The Malpighian bodies appeared enlarged in places. The condition was chronic nephritis with extreme contraction and atrophy, probably following acute and subacute changes. The extreme anæmia of the kidneys was very striking. No waxy change was present.

British Medical Journal, September 24, 1904.

The Protective Value of Proteids and their Decomposition Products in Trypsin.—H. M. Vernon, in discussing the protective value of veinous substances upon trypsin, states that as a rule the protective value depends almost entirely upon the power the substance possesses of neutralizing the alkali and so rendering it incapable of reacting upon the ferment. Most proteids have practically the same protective value, about 45 per cent. of the trypsin of an extract being destroyed each hour in the presence of 0.4 per cent. of proteid, 27 per cent. in the presence of 1 per cent., 12 per cent. in the presence of 2 per cent., and 7 per cent. in the presence of 4 per cent. of proteid. When no proteid was present 56 per cent. of the ferment was destroyed. Hydrated proteids have a slightly greater protective value than native proteids, and the decomposition products of proteid hydrolysis a slightly greater one still. In certain cases there is a combination between ferment molecule and proteid. For example, egg albumen has a very marked antipyretic action, the digestive power of the ferment being reduced to 29 per cent. and 2.9 per cent. of its normal value in the presence of 0.05 per cent. and 1 per cent. of the proteid respectively.

Some Points in the Metabolism of Diabetes.—A. P. Beddard and E. I. Spriggs report some observations concerning this subject. The bad effects such as nausea, vomiting, weakness, loss of weight, with the odor of acetone in the breath, which follow a too rapid withdrawal of carbohydrate from the food of a severe diabetic, are associated with exactly the same metabolic changes and symptoms of acid poisoning as in coma itself. The most striking result in the urine is a rapid rise in the proportion of ammonia. The alkalinity of the blood falls, and the amount of carbon-dioxide in it is diminished. The injurious material does not seem then to be derived from carbohydrate. The spontaneous recovery which usually occurs is accompanied by a diuresis, but not by a fall in the proportion of ammonia. The administration of alkali produces the opposite effects to a diabetic diet as regards the ammonia, and causes a general improvement in the patient's condition and a disappearance of the odor of acetone. Although an increase in the quantity of urine follows, there is no marked rise in the excretion of sugar after the first day or two. It seems advisable to use this drug when a patient is being changed from an ordinary diet to one which is poor in carbohydrate, and especially to a rigid diabetic diet. The object of the alkali is attained when the urine becomes neutral. Its administration must be watched, as disturbances of digestion, diarrhœa, and œdema may be produced. Opium was followed by a diminution in the amount of urine and of its constituents, but not in the proportion of ammonia. Codeine did not appear to produce any effect on the metabolism. The odor of acetone is greatest on a diabetic diet, and is diminished by alkali. This sign and the patient's weight seem to be better guides to the condition of severe cases than is the amount of sugar in the urine.

The Reservoir Action of the Liver.—R. N. Salaman divides the nutmeg liver into three types: The liver of acute congestion with no structural changes, the liver of chronic equable back pressure as seen in tricuspid stenosis, and the cirrhotic cardiac liver where central fibrosis is well developed. The writer has diagrams pointing out the amount of expansion of which the normal as well as these three types of liver are capable under pressure of 1 ft. and 2 ft. 3 in., respectively. These diagrams demonstrate that whereas under 2 ft. 3 in. the normal liver doubles itself, the congested and chronic nutmeg livers expand to only about one and a half times their volume or less; while the cardiac cirrhotic liver is capable of but little expansion. It is shown that the conditions of œdema and ascites in heart disease depend directly upon the histological condition of the liver. So the liver can be looked on as a safety-valve to the right heart which by continued use loses its value and shortens greatly the field of cardiac response.

Rigor Mortis in Stillborn Children.—C. H. W. Parkinson concludes that (1) Rigor mortis may occur *in utero* and (*a*) may pass off before labor terminates, or (*b*) may occur during, and so hinder labor and continue after delivery. (2) In death during the later stage of labor, when the child is expelled soon after death, rigor mortis may set in afterwards. (3) In all cases of stillbirth the character of the rigidity is the same, and whereas in children that have been born alive the rigidity is that of ordinary rigor mortis, and the limbs stiffen in the position in which they may be then lying, in children stillborn the rigidity always takes the same form, and the limbs, although lying loose and limp, are drawn up more or less into the position they took in the uterus; and even if the rigor mortis had passed off *in utero* before delivery, there would be evidence by pressure-marks, or the natural tendency of the body and limbs to adopt the intra-uterine position, that this has occurred. (4) Rigor mortis does not accompany stillbirth always, but when it is not present there is no difficulty in deciding the fact from the signs of decomposition present. The mode of death probably influences the rigidity in stillbirths as it does the rigor mortis of adults, and the only

suggestion the writer can make is that possibly the rupture of membranes and discharge of liquor amnii may be a factor. The important point is that in a case of suspected infanticide, or when there is a question of live birth, any evidence that the limbs and body have been drawn up while in a state of cadaveric rigidity into the shape in which the body is moulded *in utero* is a strong evidence of stillbirth.

Berliner klinische Wochenschrift, September 5, 1904.

Examination of the Gastric Contents in the Aged.—H. Saidelin has made a series of investigations for the purpose of determining whether achlorhydia was normally present in elderly persons. Gastric cancer is most frequently found at this time, and in making a diagnosis of this condition, a great deal of importance has been attached to achlorhydia as a symptom. It is possible, however, that in the aged this cannot be taken into account. The author made analyses of the gastric contents in a large number of patients over 50, who were suffering from some disease not connected with the stomach. He found that even in advanced age the secretion retains its usual characteristics and is very slightly weakened. In a comparatively large number of cases an achlorhydia exists and there seems to be some connection between this and arteriosclerosis, but this cannot as yet be explained. The practical conclusion is, that in elderly persons care must be taken in ascribing any diagnostic significance to achlorhydia as a symptom.

Treatment of Chronic Joint Disease by Bier's Method.—A. Laqueur reports on an extensive series of cases of rheumatic and gonorrhœal joint disease in which the artificial production of a venous hyperæmia was employed. The results in all cases were excellent, when the method was used alone or in connection with other physical procedures. The author believes that the method deserves more universal recognition in this class of cases, as it has been proved to be of value and, moreover, is simple and cheap. The anodyne effect is very well marked.

Ptosis of the Abdominal Aorta.—Stiffler calls attention to the part which the abdominal aorta takes in the presence of ptoses of other organs in the cavity. These cases are usually severe ones, and the recognition of this condition is important in the treatment. The changes ordinarily take place in the space between the diaphragm and the transverse mesocolon, and of these the author describes two forms. The aorta may be uniformly dilated up to twice its normal size, and may be palpated from the navel upwards along the course of the gastrocolic ligament. The other is the contractile form, in which the vessel becomes reduced in size and elongated, giving it a tortuous course. It may be felt on either side of the median line as a sharply pulsating vessel. Ptosis of the aorta is usually a complicated ptosis, and when there is no reason for assuming that a congenital or an atonic disposition exists, it must be attributed, according to most writers, to traumatic and mechanical influences. The contractile form is brought about by the irritant effect of inflammatory scars and proliferations starting from the mesogastrium (gastritis, gastric ulcer), the mesœcum (appendicitis), or a para- or perimetritis. The conditions which particularly favor the development of this ptosis are relaxations resulting from gynecological or surgical procedures, various 'cures' (anti-fat, water, massage, etc., carried to extremes), paralysis agitans, hysteroepilepsy, and improper modes of correcting movable kidneys by unsuitable apparatus. The disturbances attending ptosis of the aorta are largely functional in character, such as interference with nutrition, central and vasomotor trophic neuroses, hypersensitive reflexes, and the syndrome of symptoms designated as the neurosis of the cœliac plexus, which are described by the writer in detail. A number of typical cases are reported by the author, who states that in about half the cases of general ptosis coming under his observation a ptosis of the aorta was present.

Münchener medizinische Wochenschrift, September 6, 1904.

Paroxysmal Hæmoglobinuria.—Donath and Landsteiner present an elaborate account of the status of this subject, and as the result of their studies, supplemented by experiment, they have arrived at the following conclusions. In paroysmal hæmoglobinuria, hæmolysis is due to the absorption of a toxic substance contained in the serum of the patient. The blood cells absorb this substance and become dissolved in the serum not only of the hæmoglobinuric patient, but also in other human serum. This solubility is aided by the complements of the serum (alexin, cytase, etc.).

Icterus and Diabetes of Nervous Origin.—Rheinboldt states that, although there is an acknowledged connection between the nervous system and these conditions, a clear picture of such relations has not yet been presented on account of the difficulty of the subject. A case in which there was a combination of icterus and glycosuria is reported by the writer as occurring in a woman of fifty who was of a nervous temperament. She was subjected to sudden attacks of irritability which were accompanied by typical transitory jaundice, and during one of these a glycosuria was also detected. The attacks came on within a few hours after one of her nervous spells began, and disappeared as quickly. Diet had no effect on the glycosuria. The author discusses the etiology of such a condition as presented by various writers, and believes that the association of the two points to a nervous influence exerted on the liver.

Deutsche medizinische Wochenschrift, September 8, 1904.

Treatment of Chronic Empyema of the Antrum of Highmore.—P. L. Friedrich discusses the severer types of empyema of the antrum and presents the results of his methods of treatment in this class of cases. As the excessive foul secretion furnishes the main indication for treatment, means of getting rid of it have necessitated laying open freely the cavity from which it is derived. Friedrich claims that this can only be done by resecting the anterior wall and, in addition, it is essential that sufficient communication be established into the nasal cavity on a level with the floor of the antrum. A flap is made which includes the ala nasi close to its base, the incision about two cm. long being carried down to the bone. From the middle of this another short incision is carried downward and outward. The flaps are reflected and the intervening soft parts down to the crista are displaced, until this bone is thoroughly exposed. The crista and 1 square centimeter of the anterior wall close to the floor of the antrum are removed, together with a part of the inferior turbinate bone if this is in the way. This freely exposes the antrum, which may be readily explored and cleaned out. A tampon is then introduced which leads out through the nose and the external wound is closed. Healing takes place promptly within a comparatively short space of time. Seven successful cases are reported.

Infection by Ankylostonum Larvæ Through the Skin.—F. Schaudinn has made animal experiments for the purpose of deciding whether this can occur as claimed by certain writers, but never definitely proved. A number of monkeys were inoculated with the larvæ of the ankylostomum and after death the worms could be demonstrated not only in the small intestine, but also in the thorax and various vessels. This seems to confirm the statement made by Looss, that invasion of the body may take place in this fashion.

Amyotrophic Lateral Scelerosis After Trauma.—O. Giese comments on the rarity o fthis condition and says this accounts for the little we know about its etiology. Among others, trauma has been described as a causative factor, and an instance of this is reported by the author. A man of 39 was subjected to a severe fright in a machine accident, after which he was unconscious for several hours. It was later noticed that the man grew morose, and although apparently well, became unable to work and complained of being constantly tired. Some time later he had another accident and hurt his arm, after which he noticed an inability to use the limb. Examination of the patient resulted in a diagnosis of multiple neurosis. The man grew worse and finally presented the picture of an amyotrophic lateral sclerosis. The writer thinks that the trauma can only be considered a causative factor in so far as it brought about the development of latent possibilities. In this case they were probably a congenital or hereditary weakness of the motor nervous system, which was aggravated by the shock attending the injuries.

French and Italian Journals.

Retroperitoneal Abscess of Appendicular Origin.—J. Vanverts gives a history of this case. The patient was a woman of 25 years. Four years before this attack, and again two years later, she had been ill with appendicitis which had been treated medically. This present attack appeared to develop like the preceding ones. The patient sat up for the first time fourteen days after the beginning of the crisis, and the pain and other symptoms—vomiting, fever, rapid pulse—reappeared, as did also the swelling in the region of the appendix. These symptoms had almost disappeared under medical treatment. The swelling was not, properly speaking, in the right iliac fossa. It was rather high up, reaching nearly to the costal border, and extending backward into the lumbar region. The diagnosis of periappendicular abscess was made, and the abscess was opened by the extraperitoneal route. There was an abundant outflow of pus without any special odor. After this, general improvement was rapid. Five days later the pus had the odor of urine. This odor became stronger, and soon the urine escaped from the wound, the quantity of pus being insignificant. Twenty-four days later, catheterization of the ureter showed the canal to be free. The catheter, which was left in the ureter, drained the kidney perfectly for twenty-four hours, although the lumbar drain remained

in place. Then the catheter became obstructed and the flow of urine reappeared at the lumbar fistula. The ureteral catheter was removed, and the lumbar drain was shortened, and on the next day was removed. The urine, at first purulent, cleared up rapidly. The recovery is perfect, it now being eighteen months since the attack. After carefully studying the case, the writer believes that the abscess was of appendicular origin. The abscess was not, properly speaking, periappendicular, but the condition was rather one of para-appendicitis. This para-appendicitis was primary and not consecutive to a periappendicitis. The development of the urinary fistula was secondary to the surgical opening of the abscess.—*Journal de Chirurgie et Annales de la Société Belge de Chirurgie,* May, 1904.

Physiological or Ligamentary Hysteropexy.—J. A. Doléris deduces the following conclusions from his study of this subject: The immediate or direct fixations of the uterus are antiphysiological operations, based on pathological principles,—adhesions, deviations, torsions, and forced and abnormal flexions of the uterus, etc. The indirect or ligamentary fixations conform to physiological exigencies. From the point of view of various possible complications, and of results, the first method is bad or at least uncertain. The results of the second are decidedly superior. From the point of view of parturition, reports and statistics agree in condemning the direct fixations. The indirect fixations, the Alquié-Alexander operation, and the intraperitoneal shortening of the round ligaments, have shown only one case of dystocia, in 177 accouchements which have been reported. This double technique —the inguinal and abdominal route—is satisfactory in all cases of retrodeviation, whether simple and reducible, or adherent and complicated. It is not sufficient to replace the retrodeviated uterus and to fix it in a position of normal anteversion; it is necessary, according to the exigencies of the case, to supplement this by plastic operations on the cervix and vvagina, and by restoration of the pelvic and perineal floors.—*La Gynécologie,* August, 1904.

Chlorosis and Tuberculosis.—Marcel Labbé gives an interesting résumé of his observations in the care of such cases. He believes that the teachings of Landouzy, that chlorosis is not a morbid entity, are correct, and that, if it sometimes appears to develop spontaneously, it is simply due to the fact that the cause has escaped the observer who has used imperfect methods of investigation. Of all of the causes which may give rise to an anæmia presenting the clinical symptoms of chlorosis, none is more important nor more frequent than tuberculosiis. The author declares that the following factors—the observation of patients, the persistent search for etiological factors, the history of tuberculous patients from the period of puberty, the history of chlorotic cases, and the employment in these cases of the modern methods used for the diagnosis of tuberculosis, have led him to determine the close relation existing between chlorosis and tuberculosis, and to believe that a very large number of cases of chlorosis are only a form of incipient tuberculosis. He then gives the history of several cases of this nature which show without question the relation between these two affections.—*La Presse Médicale,* August 31, 1904.

Contribution to the Pathological Anatomy of the Pancreas.—Giovanni Ghedini has examined the pancreas in 200 cases of disease of this organ in the laboratory of the University of Turin; the lesions were degenerations, inflammations, circulatory changes, and new formations. Fatty degeneration was frequent in tuberculosis, cirrhosis, cardiac diseases, and pulmonary affections. In these cases the connective tissue had become transformed into a loose reticular tissue, the spaces being filled with large drops of fat; the glandular elements were separated and infiltrated with fat. Atrophy was found in only four cases of diabetes; the organ was much reduced in size, the elements being infiltrated with fat globules, without nuclei, and some of them in a state of necrosis. The author regards this condition as due to poisoning combined with nerve conditions, determining a loss of function of the organ and an absence of glycoinhibitory secretion in the pancreas. Parenchymatous degeneration was frequent in nephritis, in infective diseases, and in pyæmia and septicæmia. In such cases there were fine granules or fat drops in the cytoplasm of the gland cells. Interstitial inflammation, diffuse and chronic, was observed. The increase of connective tissue was localized about the lobules, the islands of Langerhans, and the excretory canals and vessels. This increase is a result of a slow, reactive change following toxic and chronic inflammations. Tuberculous degeneration of the pancreas was observed in 30 cases. Of circulatory disturbances the writer noted hyperæmia, thrombosis, and small hemorrhages. Of new formations there were one small primary adenoma and several secondary sarcomata. The author also made experiments to prove the origin of the fat in the pancreas, and concluded that it is absorbed by the lymphatics, circulates in solution, enters the cells and transforms them. He also experimented by producing a toxic glycosuria in animals by injections of drugs. He found that the pancreas alone was affected. The glycolytic or glycoinhibiting secretion of the pancreas was diminished or abolished, and glycosuria resulted.—*La Riforma Medica,* August 23, 1904.

Pathological Histology of Chronic Oöphoritis.—Carlo Pinto has made histological examinations of 23 ovaries, in 12 cases of chronic oöphoritis operated on in the hospital at Dresden, of which he gives the details. The alterations of the stroma vary; in some there is a simple hyperplasia of the connective-tissue elements, while in others the alteration is so complete that the substance looks like a mass of connective tissue. In other cases the cortical zone shows all the follicles atrophied and changed to connective tissue. The blood-vessels show a hyaline degeneration of the intima and media, and a small celled infiltration around them. There is a vascular hyperæmia, especially about the follicles, and hemorrhagic foci in the stroma are numerous. In the parenchyma the germinative epithelium is often lacking; in some cases the epithelium dips down into the substance so as to form small cysts lined with epithelium. Of the primordial follicles the number is much diminished. The Graafian follicles in process of development are also few in number. The development of the follicles is interrupted by the inflammation, and atresia ensues. There are often perifollicular hemorrhage and alteration in form of the follicle. The cells of the membrana granulosa are the subjects of granular degeneration, and contain vacuoles. The germinal vesicle has disappeared in many cases entirely. The author ends by classifying chronic oöphoritis as follows: 1. Chronic diffuse oöphoritis, in which the pathogenic agent enters by the vessels of the hylum, in which the whole substance, stroma as well as follicles, is involved. 2. Chronic cortical oöphoritis, in which the pathogenic agent enters by the external surface of the ovary, involving the cortical portion, follicles, and stroma. 3. Microcystic degeneration is to be considered as a chronic inflammation of the ovary, giving a third form. 4. No matter how great the cystic alterations of the ovary, some part is preserved so as to carry out its function normally.—*Archivio di Ostetricia e Ginecologia,* June and July, 1904.

Rectal Electric Cataphoresis.—Tommaso Grossi has conducted experiments on dogs as to the effect of the electric current on the absorption of drugs from the rectum. He injected into the rectum solutions of three drugs, applying within the rectum the positive pole or the negative pole of the battery, so as to ascertain which pole had the greater effect. From his experiments he concludes that drugs are more promptly absorbed in presence of the electric current than without it; that the action of the negative pole is greater than that of the positive pole; and that the drug is absorbed in greater quantity and remains longer in the organism. He considers this as a fair example of the effect of electric cataphoresis on the mucous membranes of the body.—*Giornale di Elettricità Medica,* September and October, 1904.

American Journal of the Medical Sciences, September, 1904.

Aphasia and the Cerebral Zone of Speech.—Charles K. Mills defines the cerebral zone of speech as including an extensive cortical region, probably not less than one-third of the cortical expanse of the lateral aspect of the left hemicerebrum. Both the cortex and subcortex of the entire region enter into its formation. The auditory center for speech is situated at the junction of the first and second temporal gyri about opposite the point where the horizontal branch of the Sylvian fissure turns upward posteriorly; the dynamic or motor speech centre occupies the hinder part of the subfrontal or third frontal convolution, and according to the views of the writer, the insula or at least its anterior half; the visual centres immediately concerned with speech are located in the angular gyre; the site of the graphic or writing centre is in the caudal half or third of the second frontal convolution, and the naming centre is probably situated in the third temporal convolution. Connecting these centres with each other, and also with other parts of the brain, are subcortical tracts. Surrounding the language zone on all sides are centres and areas which have important relations to the function of speech. The writer presents a series of personal observations demonstrating the existence of the centres of the language zone. He believes that Broca's convolution and the insula (perhaps only its anterior part) constitute conjointly the same speech centre, a large cortical area being requisite for that part of the speech mechanism which is represented by this region. He believes that neither of these areas has projection fibers. Here language is organized for the use of the facial, lingual, and laryngeal centres situated anterior to the foot of the central fissure. The writer has long believed in the existence of a separate graphic or writing centre situated in the second

frontal convolution. The two classes of cases which prove the existence of such a centre are those in which a lesion absolutely circumscribed to Broca's convolution, or the insula, or both, causes aphasia without agraphia, and those in which a lesion circumscribed to the alleged position of the graphic centre in the second frontal convolution causes agraphia without aphasia. He has seen two such cases. Short association fibers connect the speech centre with the true motor centres for articulation and enunciation. As to the auditory centre for speech, or the word-hearing centre, it is, as mentioned before, at about the junction of the first and second temporal convolutions. The writer believes that in the cerebral cortex are situated primary auditory and visual centres, and indeed primary centres for all of the forms of sensibility, special and more general, as for cutaneous sensibility, smell, and taste. Each centre has around it its sphere of influence, as it were, which in the case of the auditory centre is a large area concerned with all forms of what might be termed object-hearing. The correlation of the cerebral zone of speech with the sensory and motor regions of the brain is illustrated by those cases of mixed sensory and motor aphasia which are often seen.

Borated Food as a Cause of Lesions of the Kidneys.—Charles Harrington states that borax and boracic acid are the two most commonly used chemical preservatives of food. They are added to milk, butter, oleomargarine, and some forms of cheese; they are nearly always present in opened clams and oysters; they are applied externally to fresh meats to prevent sliminess, and to fresh and salted fish; they are in the brine in which meats are pickled and corned; their solutions are injected into hams and other pork products; they are in almost every known make of sausages. As much as .87 per cent. of boric acid has been found in canned sausage, and even 2.8 per cent. in canned crab meat. American corned beef has been known to contain 3.87 per cent. Once established in the tissues, it cannot be soaked out or even boiled out. Certain individuals cannot undergo borax or boric acid medication any better than others can take quinine or morphine. The most striking effects of borax come not from metabolism experiments but from its therapeutic use. The medicinal use of borax is not unattended with risk of producing or aggravating lesions of the kidneys. The writer, in experiments on cats, showed that in all but one, fed on borax, there were produced lesions of the kidneys. The lesions were analogous to those found in subacute and chronic nephritis in man. The writer shows how by taking ordinary food, a person might swallow upward of 7 grams of borax and boric acid in one meal.

A Case of Suture of the Heart, With Recovery.—Francis T. Stewart reports this case. The patient was a colored man, twenty years of age. He was stabbed, the knife having wounded the heart. The writer, after exposing the wound, closed it with a continuous silk suture. Afterwards, the pericardial wound was sutured, a small opening being left for a gauze drain. On the thirty-fifth day, the patient was allowed out of bed. The writer appends a table of reported cases. The dangers of the drain are the same in these cases as elsewhere—infection and adhesions. Of the twenty-two cases in which the pericardium was drained, two died within a few hours, and of the remaining twenty, ten (50 per cent.) recovered. Of the fifteen in which the pericardium was closed without drainage, one died in fifteen minutes, and of the remaining fourteen, seven recovered. The question may still be regarded as an open one. Of the twenty-three cases that recovered after operation, eleven are known to have been complicated with some form of infection. In only one case is uncomplicated recovery stated.

Symptoms and Diagnosis of Pericarditis.—David Riesman declares that pericarditis is, as a rule, more damaging to the heart than endocarditis. The principal features of this affection are, first, the friction sound. This is most marked in acute fibrinous pericarditis, the commonest form. Its site of maximum intensity is to the left of the sternum in the third and fourth interspaces, and sometimes in the second. It is usually of a churning character, superficial, and markedly intensified by pressure with the stethoscope. When the friction sound is loud it is often difficult to distinguish endocardial murmurs. Pain and tenderness are often present. The pain is sometimes intense. As to the apex beat, in the fibrinous form, the apex impulse is diffuse, indistinct, and sometimes undulatory. In effusions of any size it is commonly absent. When it can be located, it is found above the lower level of dulness. Few conditions are more often overlooked than effusion into the pericardial sac. Pericardial effusion sometimes simulates mediastinal tumor. Pericarditis with effusion sometimes simulates pneumonia. Morbid conditions in the chest may cause pain to be referred to the abdomen. Fever, as a rule, is present in acute pericarditis. Mental disturbance is not rarely observed. Adherent pericardium probably more often than any other important condition, comes to the autopsy table undiagnosed.

Two Cases of Paracentesis of the Pericardium.—John B. Roberts cites these cases. The first patient was a colored woman suffering from pericarditis and bronchopneumonia. She was tapped in the fourth left interspace over the apex beat. Three ounces of a very bloody serum were drawn off. The wound was sealed with collodion and cotton. The woman breathed more easily and had a better pulse. Three days later, another puncture was made, and 4½ fluidounces of dark, bloody fluid were obtained. The patient died the next day. The second patient was a colored man aged thirty-one years. He was sitting up to breathe. The writer tapped in the fourth right interspace close to the sternum. Three fluidrachms of slightly reddish fluid were obtained. The next day the patient seemed better. In two days he died. Autopsy showed no pleural effusion, no fluid in the pericardium, but a marked amount of lymph in the pericadium. The heart was greatly hypertrophied.

Varieties of Splenic Anæmia.—Alfred Stengel reports five cases as a contribution to the knowledge of the condition generally designated as splenic anæmia. He declares that analysis of the clinical descriptions and pathological features of many of the cases classified as splenic anæmia discloses the fact that these cases properly belonged to progressive pernicious anæmia or intense secondary anæmia. Strümpell's oft-cited case belongs to this group. It was probably a case of pernicious anæmia in which there was simple congestion of the spleen with great dilatation of the splenic sinuses. In the conditions now classified as splenic anæmia impoverishment of the blood is rarely a predominating feature, except after repeated hemorrhages. It was once thought that pseudoleukæmia was generally a splenic variety of Hodgkin's disease. It has been shown that splenic pseudoleukæmia may be clinically nearly if not quite identical with that now called splenic anæmia. Such cases are, however, exceptional. Some writers regarded splenic anæmia as an aleukæmic variety of splenic leukæmia. There is an occasional subsidence of leucocytosis in leukæmia. Some degree of splenic enlargement is habitual in cirrhosis of the liver. The cirrhotic process may be demonstrably secondary to the splenic disease. Then the condition is rather one of splenomegaly with cirrhosis. Some of the cases of familiar splenic anæmia in particular may perhaps be more properly classified as hypertrophic cirrhosis of the liver. Great confusion exists in the case of chronic splenitis, or splenic enlargement in children. This enlargement is common in rickets and congenital syphilis. How far malaria may prove to be a factor in the etiology of splenic anæmia remains unsettled. At present it would be hopeless to attempt a classification of all reported cases. More careful study must be given to these cases. And it must be recognized that the long continuance of the disease may cause very different lesions at different stages. The writer mentions the following varieties, which may be recognized provisionally: simple splenomegaly, simple splenomegaly terminating in cirrhosis of the liver, splenomegaly with marked constitutional disturbances, and primitive splenomegaly. It is perhaps not possible to distinguish this last variety clinically, but there is a sharp distinction in the pathological features. The essential characteristic of this condition is the presence of irregular oval spaces surrounded with fibrous tissue and more or less filled with large endothelial cells containing one or more nuclei.

Ascarides in the Bile-Ducts Simulating Gallstone Seizures.—A. M. Pond states that able investigators have observed that when the flow of bile along the ducts is for any reason arrested, microorganisms usually invade the gall-bladder. Charcot and Gombault first demonstrated this fact by ligating the common duct in dogs. Mayo-Robson gives three possible sources for the bacteria: They may reach the gall-bladder through the bile-ducts, from the blood, or directly through the wall of the gall-bladder. It is only in diseased conditions that these microroganisms are present in the bile. It seems that the biliary apparatus will tolerate a moderate degree of inflammatory involvement, providing the flow of bile is not interfered with, but cannot withstand the closure of the chief duct and resist the invasion of the bacteria. The writer reports an interesting case in which the patient was deeply jaundiced and suffered from attacks of severe colic, lasting a few hours, leaving a sense of soreness in the epigastrium. The diagnosis was that of probable impacted gallstone in the common duct. Within a few days a live ascaris lumbricoides 28 cm. long was found in the stools. Santonin with calomel was ordered, followed by castor oil. In a few days the pain subsided, the liver area of dulness became normal, the jaundice gradually faded, and the patient was discharged.

Book Reviews.

Estudio del Pie Plano. Por el Dr. D. Saturnino G. Hurtado. Profesor de Ortopedia y Enfermedades de los Huesos y Articulaciones del Instituto Rubio. Madrid: Enrique Teodoro, 1904.

This monograph contains the results of a profound study of the mechanical causes of flat foot and an exposition of the author's mode of treatment, based upon his conceptions of the causal conditions.

Contributions from the William Pepper Laboratory of Clinical Medicine. University of Pennsylvania. (Reprints.) No. IV. Philadelphia.

This pamphlet gives evidence of the excellent work being conducted by a laboratory in close touch with clinical cases. Histories, necropsies, chemical analyses, etc., which would serve to clear up mooted questions are here described by those specially competent and make interesting and instructive reading.

Arquitectura del Aparato de Sustentación en los Vertebrados. Por el Dr. D. Saturnino Garcia Hurtado. Madrid: Idamor Moreno, 1904.

This is a well-reasoned essay on the vertebrate skeleton and the mechanical forces effective in the bony architecture, together with the actions of those forces in the normal human skeleton, and the application to orthopedic surgery of the facts here developed. The author has made a deep study of his subject and his conclusions are interesting and most practical.

The Medical Epitome Series: Surgery. By M. D. Magee, A.M., M.D., and Wallace Johnson, Ph.D. Philadelphia and New York: Lea Brothers & Company, 1904.

This little book is an endeavor to present in compact form the essentials of modern surgery, mainly for the use of medical students. The text is written in a concise style and there are many familiar illustrations. In previous series of this kind, questions were interspersed through the text, but in the present edition they follow each chapter, thus permitting continuous reading without interruption. The book forms a handy quiz compend in preparing for college or State Board examinations.

The Student's Handbook of Surgical Operations. By Sir Fred'k Treves. New Edition, revised by the author and Jonathan Hutchinson, Jr. Chicago: W. T. Keener & Company, 1904.

This book is intended for students preparing for final examinations or as an aid in carrying out operations on the cadaver. It is abridged from the same author's large "Manual of Surgery," and concerns itself with the most essential and commonly performed operations. General principles and critical considerations of the value of the various methods have been omitted. A description of the anatomy of the region, instruments, the subjects of mortality and results, have all been left out, as have the operations of minor surgery. The prominence of the author in the field of surgery will insure to the book a favorable reception.

A Course in Qualitative Inorganic Chemistry. By A. L. Green, Ph.C., M.D., Ph.D., and C. E. Vanderkleed, Ph.C., B.S., A.C. Fourth Edidtion. Lafayette, Ind.: Arthur L. Green, 1904.

This work is the outcome of the authors' personal experiences in teaching inorganic chemistry and this edition is the first to be prepared for use outside of their own class room. The book is written in schematic form and is intended for a laboratory guide. The experiments are arranged in such a manner that the student is prevented from following the text in a mechanical way. The authors believe that chemistry affords a good training in logical thinking and have therefore arranged a goodly portion of the text in syllogistic form. A thumb-index gives ready access to various parts of the little book and in an appendix are contained directions for teachers based on the methods adopted at Purdue University by the authors.

Physician versus Bacteriologist. By Prof. Dr. O. Rosenbach, of Berlin. Authorized Translation from the German, by Dr. Achilles Rose. New York and London: Funk & Wagnalls Company, 1904.

Although but few American readers will agree with the sentiments expressed in this volume, still they cannot fail to learn much and to admire the courage of the author in thus attacking theories which are accepted by the majority to-day. There is no doubt that bacteriology needs some checking when it crowds out clinical experience from having a balancing influence. The author points out many of the fallacies and weaknesses of accepted doctrines and it would be well if the bacteriologists should read his arguments, if for no other reason than to explain and refute. The book really consists of the articles written during the last decade and immediately before and is arranged chronologically, showing that many of his earlier warnings, when bacteria were beginning to be considered the only cause of disease, have at last been heeded in part. Much, however, to which the author objects seems at this time firmly established, especially the universal acceptance of serum therapy in certain diseases.

Tratado de Ginecología. Por Miguel A. Fargas, Catedratico de Obstetricia y Ginecologia de la Facultad de Medicina de Barcelona, etc. Tomo I, Fasciculos I y II, Barcelona: Salvat y Ca, 1904.

This work, the first volume of which includes general considerations and diseases of the vulva and vagina, is an exhaustive treatise on gynecology, in general scope and appearance suggesting Kelly's well-known book. The author is one of the foremost representatives of modern gynecology in Spain, and is thoroughly up to date and cosmopolitan in his views, a careful and studious reader, a keen observer, and an experienced clinician. He presents his subject with thoroughness and a talent for detail without unnecessary diffuseness, in a clear, systematic manner, making the book in the best sense a textbook. Credit is given wherever due to American observers, which is more than can be said of some foreign books. As regards indications for operations the author is very precise and moderately conservative, representing in his position the latest views of gynecology as practised in the great clinics of Europe and America. He strongly opposes indiscriminate operating, as indulged in by those who have been blinded by the comparative immunity from danger resulting within the last decades from improved technic, but he is apparently heart and soul in operative work, when needed. In description of technics he shows especially a mastery of the subject which places the book in the front rank of treatises on modern gynecology. The book is well got up, profusely illustrated, and will appear in two volumes.

Chirurgie Orthopédique. Par le Professeur Paul Berger et le Docteur S. Banzet, Chef du Laboratoire de Médecine opératoire á la Faculté de Médecine de Paris. Paris: G. Steinheil, 1904.

This is a volume of 624 pages, illustrated by 483 figures, most of which are borrowed from other sources. It is divided into three sections, in which are considered deformities of the trunk, of the upper, and of the lower extremities. In this work, orthopedic surgery is regarded as limited to the treatment of actual deformity. For example, it is stated in the introduction that the treatment of the distortions caused by diseases of the bones and joints is considered in detail, but that the treatment of the diseases themselves will be found in another volume, as yet not published.

This antiquated classification by which effects are separated from causes renders the book quite inadequate as an independent text-book. Within its limits, although it contains nothing particularly original, it is fairly complete. The descriptions of various operative procedures, particularly those of plastic surgery, are well illustrated and are perhaps the most satisfactory parts of the book.

As one of the 12 volumes of the "Traité de Médecine et de Thérapeutique Chirurgical" it will doubtless fulfill its purpose, especially as it is prepared for a class of readers who apparently still hold the traditional view of orthopedic surgery.

The Surgery of the Heart and Lungs. A History and Résumé of Surgical Conditions Found Therein, and Experimental and Clinical Research in Man and Lower Animals, with Reference to Pneumonotomy, Pneumonectomy and Bronchotomy, and Cardiotomy and Cardiorrhaphy. By Benjamin Merrill Ricketts, Ph.B., M.D., Member of the American Medical Association, etc. New York: The Grafton Press, 1904.

Unlike many of the publications of the day the work before us represents something new and fresh in medical literature. The author, knowing that material concerning heart and lung surgery was scattered and poorly described, if not ignored, in the usual textbook, has set himself the task of collecting and sifting the published articles in many languages, and to this he has added his own personal experience in human surgery and an extensive series of experiments. These latter are especially valuable and praiseworthy, since they settle many points in technique which can be utilized when the need arises and will save much clinical experimentation. The first part of the volume treats of the heart, giving its anatomy, abnormalities, description of various injuries, inflammations, aneurysms, tumors, parasites, and deals quite extensively with the histories of peculiar conditions and, where surgery had dared to interfere, with the procedures employed and the results obtained. The author concludes the first part with his experiments on forty-five dogs, in which the heart, pericardium, and diaphragm were injured, and gives his deductions therefrom. The second part deals with pul-

monary conditions, foreign bodies, abscess, rupture, wounds, atelectasis, tumors, parasites, etc. All these are treated thoroughly where the histories allow and the writer succeeds in showing what brilliant results modern surgery has accomplished, notwithstanding the objections of Reclus and other conservative surgeons.

The bibliography is extremely rich; so rich, in fact, that the author disclaims reading it all, contenting himself with a thorough verification of his own text and citations and with a knowledge of the important contributions. Over eighty-seven plates add to the value of the work, which is one of which American literature may well be proud.

Normal Histology. By Edward K. Dunham, Ph.B., M.D., Professor of General Pathology, Bacteriology, and Hygiene in the University and Bellevue Hospital Medical College, New York. Third Edition (Revised and Enlarged). New York and Philadelphia: Lea Brothers & Company, 1904.

The writer has had large experience in teaching normal histology to medical students under conditions which require economy of time. He presents early in the course certain generalizations concerning the cell, and the mutual dependence of function and structure. He elaborates these ideas by dividing the activities of the body cells into four theoretical groups, as follows: The reproductive activities, leading to the production of new cells; the formative activities, through which the structural modifications resulting in the formation of different varieties of tissue were brought about; the nutritive activities, maintaining the integrity of the issues already formed; and the functional activities, through which the tissues serve the whole organism of which they are constituent parts. A valuable addition to the present volume is a section on histological technique, in which this subject is clearly treated. Complicated methods are not discussed. The book is well adapted to the use of both students and practitioners.

De la Escoliosis. Por el Doctor Saturnino García y Hurtado, Profesor de Ortopedia y Enfermedades de los Huesos, Musculos y Articulaciones del Instituto Rubio y de la Beneficiencia de Madrid. Madrid: Idamor Moreno, 1904.

This little 16mo volume, of about 100 pages, contains a well-written and altogether sensible monograph on lateral curvature of the spine by an orthopedist of large experience. A careful study of the mechanics of the normal spine is followed by chapters on the etiology of the deformity, its symptoms, and its treatment. The author is rather optimistic in his views regarding the benefit of treatment, for he holds that the deformity, if taken early, can be prevented, and that cases of moderate intensity may also be relieved by a persistent course of treatment extending to a period of from six to twelve months; even most advanced cases can be greatly benefited by well directed measures of correction. There are forty-eight half-tone illustrations showing the deformity in its various stages, various forms of apparatus and exercises designed to overcome the deflection of the spine, and the results of treatment. The little book contains a conscientious study of a difficult subject by a man of experience and judgment, and it is a valuable contribution to the literature of scoliosis.

The Purin Bodies of Foodstuffs, and the Rôle of Uric Acid in Health and Disease. By I. Walker Hall, M.D., Assistant Lecturer and Demonstrator of Pathology, the Owens College, etc. Second Edition (Revised). Philadelphia: P. Blakiston's Son & Company, 1904.

In the second edition of this work the results of recent researches have been included, the literature brought up to date, a new chapter on the action of drugs on purin excretion added, etc. The book is devoted to an account of the author's researches on the metabolism of those bodies, constructed on the nucleus C_5N_4 which E. Fischer styled the "purin bodies,"—including uric acid, xanthin, etc. The book is a most important contribution to the literature of the subject, but it is a pity that it was not written with reference to the needs of the reader unacquainted with this theme. Such readers should study the introductory chapter and then pass on to Chapters VII and VIII, on the Fate of the Purin Bodies of the Food, and the Rôle of Purin Bodies in Disease, respectively. They may then read the rest of the book with profit. Clinicians and laboratory workers will be especially interested in the description in the author's apparatus styled the "purinometer," for estimating the amount of purins in urine. We regret to note that the make-up of the book shows haste, and that there are a number of avoidable misprints.

A Treatise on Applied Anatomy. By Edw. H. Taylor, M.D. London: Charles Griffin & Company; Philadelphia: J. B. Lippincott Company, 1904.

It is almost universally admitted that in some respects there is a wide gap which separates the dissecting room from the surgical operating theater, and that if these two branches were brought into closer relation from the pedagogic standpoint, the subject of anatomy would possess greater attraction for the student and thus serve a more useful purpose. At present it is largely taught as an abstract science, and the bare facts without the leaven of application are difficult to remember. The recognition of these factors has resulted in the establishment of courses in applied anatomy in a number of medical schools and their value has been duly proved. It may be that in the course of time the accepted textbooks of anatomy will be relegated to the shelf as works of reference, and the student's guide, after he has assimilated the general principles of the subject, will be a book of the character here reviewed. The author frankly confesses that his book is mainly surgical and that its scope might be more correctly expressed by giving it the title: "Surgery from the Anatomical Standpoint." In the text the anatomy of each region is introduced by a concise account of its topography, developmental details being supplied where necessary, and subsequently the more important lessons, medical, surgical, and pathological, which are derived from it, are presented for consideration. The book is written in good, concise English, and includes the anatomy of the entire body in a sufficiently complete form for all the needs of student or practitioner. The illustrations are numerous and excellent, and largely taken from special dissections. As there is an urgent need for works of this type, the book will undoubtedly meet with a favorable reception.

A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis. By Robert W. Taylor, A.M., M.D., Clinical Professor of Genito-urinary Diseases in the College of Physicians and Surgeons, New York. Third Edition (Revised and Enlarged). Philadelphia and New York: Lea Brothers & Company, 1904.

This new edition of Dr. Taylor's well-known work offers no novelty of style or arrangement, the plan of the previous edition being adhered to in all essential particulars. The changes which have been made consist in revision of the text and additions of new sections and illustrations in order to bring the book abreast of the times. This appears to be a resting period in genito-urinary work, real progress in that division of medical activity being for the moment in abeyance. Old theories are being proved and some new remedies are being tried, but of actual discovery or of any real advance there is practically none. One may, therefore, possess himself of this new edition, which is thoroughly up to the present date, with the confident assurance that it will be a long time before he will have to discard it for something more modern—unless the G.-U. men throughout the world "get busy." At present if it were not for the prostate (and that has been pretty well milked), genito-urinary societies would have to adjourn for want of material and men, as the national association actually did last summer in St. Louis.

The Theory and Practice of Infant Feeding. With Notes on Development. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital; Attending Physician to the Post-Graduate, Willard Parker, and Riverside Hospitals; Consulting Physician to the Randall's Island Hospital. Second Edition (Revised). With Numerous Illustrations. New York: William Wood & Company, 1904.

The second edition of this admirable book, appearing in less than two years after the first edition was issued, is only additional proof of the well-known excellence of the work. The text is divided into four parts: Underlying Principles of Nutrition; Raw Food Materials; Practical Feeding; Growth and Development of Infants. As the author tells us in the preface, when the first edition of this book was printed, many authorities thought that the correct basis of scientific artificial infant feeding was an adjustment of the quantitative differences of cow's milk and breast milk, as well as the change of the acid reaction of cow's milk to alkaline reaction by the addition of sodium bicarbonate or lime water. The basis, in other words, was supposed to be purely chemical. But the author never agreed with the view that the suitability of infants' food depends alone upon its chemical composition. In the last two years great advance has been made in the knowledge of the chemical composition of breast and cow's milk, and many of their supposed differences have been found not to exist—for example, that of reaction. New discoveries have made much clearer both the physiology of milk and the true principles of artificial feeding. The author emphasizes the fact that the milk of each type of animal must be studied from the standpoint of its special adaptability to the particular digestive tract for which nature intended it. He also treats at some length the fundamental question of how to get clean, fresh cow's milk.

Society Reports.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Annual Meeting, Held in St. Louis, September 13, 14, and 15, 1904.

(Continued from page 555.)

Gunshot Wound of the Abdomen.—Dr. JOHN S. DAVIS, of Birmingham, Ala., reported a case of gunshot wound of the abdomen, with eighteen perforations, in which he resorted to intestinal resection of five feet, seven inches, with use of metal button, followed by recovery of the patient. The ball in traversing the abdomen made eighteen perforations of the gut, and two cuts in the intestine that went to the mucous membrane. Sixteen of the perforations and the two seromuscular wounds were in the small intestine, and two perforations in the transverse colon. The bullets cut two mesenteric arteries, which caused a large amount of blood to collect in the abdomen. The patient, a woman twenty-three years old, was shot at four-thirty o'clock in the afternoon, Feb. 2, 1904, and was brought a distance of eighty miles on a freight train to Birmingham, by her physician, Dr. W. O. Watson, and carried to Hillman Hospital. At nine o'clock the writer saw the patient and had her prepared for operation. The temperature at this time was 102°, and pulse 130. She probably had fever at the time she was shot. A seven-inch incision was made in the median line, a large quantity of blood turned out, and the bleeding vessels controlled by hemostatic forceps. The two perforations in the transverse colon were so near the mesenteric border that he stripped up the mesenteric serosa and turned the mesenteric border in as though the two openings, one on each side, had been one large opening, including mesenteric border, and closed with interrupted silk sutures. He then brought the mesenteric folds back and sutured over the wound. Four perforations and two seromuscular cuts in the small intestine were turned in and closed with small loop silk sutures. Two perforations were situated so close together that they had to be closed by flexing, pouching, or looping the mesenteric border, the bowel being bent on its convexity so the two wounds could be closed as one large wound by interrupted longitudinal loop sutures,—in the avis of the bowel. There were two other perforations that could have been closed by suture, but the openings were between two mesenteric perforations on one side, and eight on the other, and he thought it better to lose one more foot of intestine than to do two resections. He resected that part of the intestine containing the ten mesenteric perforations (sixty-seven inches), including the two large perforations in the convexity of the ileum and closed with the third sized metal button. The resected bowel and its mesentery were removed, the vessels ligated, and the gap in the mesentery closed with interrupted silk sutures. The abdomen was flushed with hot decinormal salt solution; plain gauze drainage was used, and the abdomen closed with through and through silkworm gut sutures. The operation lasted one hour and a half. Drainage was removed on the second day. Patient passed the button on the twenty-first day, and left the hospital March 1, 1904. A week later she was doing housework, and was now perfectly well. Dr. Davis exhibited the metal button, which was made in four sizes, like the Murphy button, with the exception that it had no spring. In his opinion, the spring served no good purpose, was an additional expense, and made the button more difficult to apply. He also showed a metal horseshoe button which he had made to take the place of his catgut horseshoe plates, which he had been in the habit of using to close large wounds on the convexity of the bowel without destroying the mesenteric border by resection.

Some Clinical Reasons for Advising Early Operations in Cases of Fibroid Tumor of the Uterus.—Dr. RUFUS B. HALL, of Cincinnati, O., discussed this subject under three heads: (1) In which cases should we advise no operation? (2) In which cases should we advise late operation? (3) In which cases should we advise early operation?

1. If a patient between 35 and 38 years of age, suffering from a fibroid tumor of the uterus, the tumor and uterus combined making a mass not larger than a cocoanut, had no symptoms other than profuse metrorrhagia, the whole period not extending over five or six days, and she was free from pain except at her menstrual periods, it would be wise and judicious not to interfere surgically. But this patient, during her entire menstrual life, should be considered an invalid by her physician and should report to him at once if her symptoms became aggravated.

2. If she suffered pain in one or both iliac regions at other times than at her menstrual periods, the cause of the pain should be discovered at once and corrected. On the contrary, if her menstrual period was prolonged to ten or twelve days, the loss of blood amounting almost to a hemorrhage, and this hemorrhage could not be controlled or mitigated by the usual internal medication, and rest during the period, the advisability of an operation should be considered.

3. Prolonged and severe uterine hemorrhage had not been considered a sufficient reason for advising an operation. A patient suffering from a tumor as large or larger than a cocoanut, who had profuse bleeding at each menstrual period, the period being prolonged for eight, ten, or fifteen days, as it frequently was, was in considerable danger. It was the author's experience that a large majority of those patients in whom the hemorrhage could not be controlled by medicinal remedies in two weeks came to operation sooner or later. They could frequently stand off the operation two or three weeks, or in some instances longer, but the anæmia was profound, and if some complication arose in the tumor, ovaries, or tubes, making an immediate operation necessary, they were in the worst possible condition for it. The chances for a successful operation were greatly diminished. Therefore, when the hemorrhage could not be controlled within a few months, these patients should be advised to have the operation done before the anæmia was pronounced. These symptoms, however, were not of so much importance as others, but if permitted to continue for many months they caused a profound anæmia and lowered vitality, and a high mortality followed the operation.

He regarded hæmatoma complicating these tumors as the gravest complication the surgeon had to deal with in the management of the late cases. His records showed that only one patient in seven operated upon for fibroid tumors, when pus tubes were present, developed peritonitis after the operation; while five in every six of those operated upon in which hæmatoma of the ovary existed suffered from peritonitis following the operation for the removal of the tumor.

Shall We Remove all Fibromata of the Uterus on Diagnosis?—Dr. THOMAS B. EASTMAN, of Indianapolis, Ind., read a paper with this title. After quoting freely numerous writers on the subject of the removal of the fibroid tumors, the author stated that in the 117 cases upon which he had operated for fibroid tumor of the uterus, complications which bade fair to result eventually in death were encountered in 43 cases. Hydrosalpinx, either unilateral or bilateral, five times; suppurating dermoid cyst, three times; sarcoma, once; parovarian cyst, once; necrosis of tumor, eight times; cystic degeneration of ovaries, three times; ovarian cyst, four times; intraligamentous development of fibroid, three times; pyosalpinx or salpingitis, seven times; hæmatosalpinx, once; cystic degeneration of the tumor, once; myxomatous degeneration, three times; adenocarcinoma of body of uterus, twice. Among the more prominent complications, appendicitis was encountered once. In addition to the complications inherent in the uterus and its adnexa proper, there were those arising from the pressure of the

mass upon the bladder, rectum, and ureters, and the persistent anæmia resulting from prolonged hemorrhages.

In the speaker's 43 complicated cases, as well as in those of the other writers on this subject, it was a significant fact that those complications which were inherent in the tumor and which presaged the most certainly fatal results, were those of such character as to preclude a positive knowledge or ofttimes even a suspicion of their existence prior to operation or, indeed, to microscopical examination. This, then, was the arraignment of the uterine fibromyoma, and in the mind of the author justified its removal in all cases, except in so few as scarcely to merit attention. The results obtained by various operators warranted one in classing the removal of a fibroma among the safe operations, the mortality being in the hands of skilled men scarcely more than five per cent., a mortality certainly much less than would result from the policy of procrastination, which advocated delay until the forces of death plus those of the operation outweighed those of surgical interference. There was nothing so innocent as an innocent fibroid, and nothing so treacherous.

Removal of the Skeleton of an Ectopic Foetus, Ulcerating Into the Bladder, by Vaginal Cystotomy.—Dr. William D. Haggard, of Nashville, reported the case of a white woman, aged 31, the mother of two children, who presumed herself to be normally pregnant and expected to be confined August 30, 1900. There was a continuous flow from the uterus for the first three months, and she had pain in the bladder and straining on micturition from the beginning of conception; but there was no history of rupture of the ectopic gestation. One June 20, at six and a half months, while lying down, she felt motion for the last time. Previously it had been unusually vigorous, more so than with her two other children. She was confined to her bed for three or four weeks with pain. She had more or less pain for about a year and she was a semi-invalid from weakness, pain, and tenderness in the lower abdomen. The enlargement of the abdomen had gradually, but appreciably, diminished. At the end of a year pus first made its appearance in the urine, and the first day after getting up, a bone, which was a fetal vertebra, made its exit through the urethra. During the second year she had been able to attend to all household duties, but occasionally would have several days of unusual bladder irritation, and pass a bone through the urethra. In the last four months she had passed all the long bones. Sometimes one would catch in the urethra. She would get hold of the free end and gradually pull it out. Commonly several days of comparative comfort would elapse before another one would set up irritation, and finally escape. In this way she passed eighty-five bones. Six weeks before admission to the infirmary she felt the discomfort of another bone, and had not been free from it since, nor had any bone passed. She had been in bed two weeks with pain in the lower abdomen, which was very intense on motion. Upon examination the bladder was exquisitely tender, crepitated upon pressure. The bones were covered with phosphatic deposit. She described a small lump to the right of the median line and low down, the remains of the once six and a half months' enlargement, but this could not be made out on account of tenderness. The urine was loaded with pus and phosphates, and exceedingly offensive. Curiously enough, the woman did not void it oftener than every six or eight hours. Micturition was very painful and after the urine was voided free pus was often expressed. Under ether, October 31, 1902, the index finger was made to enter the urethra without much effort, and detected numerous bones, and, communicating with the bladder, an opening into a lesser chamber on its right upper surface. There was a mass on the right to be made out bimanually about as big as a small orange, and communicated with the bladder much as a bow window with partially drawn curtains did with a room. The uterus was retroverted and not much enlarged. The bones were much too large to be removed through the urethra, and an incision was made into the vesicovaginal septum. The finger in the bladder through the uretha located the bone, and it was withdrawn with a forceps introduced through the incision. In this way fifty-two bones were removed. Some were embedded in granulation tissue in the remains of the ectopic sac, and were with difficulty removed. The sac and bladder were freely irrigated, and an artificial vesicovaginal fistula established for drainage, after Emmet's method of sewing the vaginal mucosa to that of the bladder by silver wire sutures. The operation, while tedious, was not attended with shock. The bladder was irrigated twice daily afterwards with boric acid solution, and the urine soon became normal. At the end of six weeks the artificial vesicovaginal fistula was closed successfully by silver wire sutures. A cystoscopic examination with the Bransford Lewis ureter-cystoscope revealed a healthy mucosa, and at the site of the former communication only a slight reddish depression was seen. The ureteral catheter failed to disclose any depth to this aperture, and the patient was discharged eight weeks after the operation, and had remained well since.

President's Address.—Dr. Walter B. Dorsett, of St. Louis, Mo., President of the Association, stated that in casting about for a subject upon which to address the Fellows, he had selected for consideration the various operations for the relief of retrodeviation of the uterus. He spoke of the excellent operative work which had been accomplished within the past few years, so that what he had to say was more of a résumé of what had been done surgically. He discussed the methods of operation, saying that the different plans of accomplishing the reposition of the uterus might be classified according to the route selected by the advocates of each. They might be divided into extraperitoneal, vaginal and intraabdominal. After considering and discussing exhaustively the different methods in vogue and indulging in some criticism of them, he stated that some of the methods did not merit the prominence they had obtained in the estimation of the profession at large, and for the reason that no one could arrive at a proper conclusion as to the best method of relieving the suffering woman without a careful study of the different methods. If one operation was in accord with the accepted idea of proper surgical technique, the other certainly was not. When one considered the great diversity of opinion as to which was right and which was not, without a proper appreciation of them all, one was certainly at a loss as to the choice of operations. In his opinion, one should not consider any operation that did not contemplate the possibility of a thorough inspection of the adnexa from above the pubic bone. He would discard the entire class of operations that contemplated vaginal incision, either anteriorly or posteriorly, on account of the greater liability of sepsis, as well as from the impossibility of anchorage to firm structures. While ventrosuspensions and ventrofixations had been condemned as unjustifiable, he took it that it was because only the fixation or suspension that was accomplished by anteverting the uterus and stitching the fundus, or, perchance, the posterior uterine wall, to the abdominal wall had been considered. It was reasonable to assume that this unnatural suspension or fixation was a causative factor in the production of lengthened adhesion bands for the entanglement of bowel as well as a barrier to the proper development of the pregnant uterus. If, however, a lower segment of the anterior uterine wall was attached lower down on the abdominal wall, and omentum was allowed to drop to or behind the uterine fundus, the bugbears of necessary cesarean sections in labor cases and entangled bowel would be less feared. His own work in obstetrics and with this operation justified him in this statement.

Gunshot Wound of the Hip Joint.—Dr. L. H. Laidley, of St. Louis, Mo., reported a case of gunshot wound of the hip-joint. The patient, aged eighteen, a visitor and looker-on, of remarkably vigorous constitution and unexceptionable

health, was shot in a brawl on "The Pike" at the Exposition on the 18th of June. He was admitted to the Emergency Hospital, and within one hour an abdominal section was made. Upon examination it was found that the ball had passed through the abdominal wall near McBurney's point, passing inward and slightly downward. On examining the viscera it was found that the ball had penetrated the cæcum, making two openings, one in front and behind, and passed down into the soft parts in the pelvis. These were closed up by Lembert sutures, the abdomen cleansed of large quantities of blood and escaping contents of the bowel, and the abdomen closed with through and through sutures. The patient left the table within an hour under very favorable circumstances, the pulse being 72, temperature normal. The next morning he complained of great pain in the hip joint and was unable to move that limb. For ten days his condition was favorable, when he gave evidence of disturbance, especially about the joint. Chills and fever and increased pain suggested an examination with the *x*-ray, which would have been used earlier were it not for the fact that they had not been provided with such an appliance up to that time. On July 11, after the bullet was removed, an incision was made over the joint, disclosing the presence of pus outside of the joint, which was opened, showing that all of the head of the bone within the capsule was entirely destroyed and fractured; likewise the acetabulum was fractured and necrosed. Following up the course of the cavity made by the bullet, the missile was removed, which was lodged in the upper and outer margin of the cavity of the socket. The necrosed portions of this bone were chiseled out, and with a sharp curette were entirely cleansed, likewise the dead portion of the head of the femur was removed, the cavity packed with gauze and thoroughly drained. He afterwards showed evidences of sepsis, which prompted the author on July 22 to reopen the wound, washing out the cavity and introducing further drains. These were continually used up to the present time. About three weeks ago the patient manifested evidence of acute nephritis. Upon examination it was found that he had a large quantity of albumin, with casts, which was evidently due to toxæmia, as found in scarlet fever. Since that time, by repeated cleansing of the cavity and thorough drainage, these evidences were disappearing, leaving the patient in a fair condition for recovery. The subsequent treatment would be to free the cavity and its surrounding structures of all suppuration, and by this means the author hoped to restore his patient to his normal health, probably leaving him with a shortening of the limb, and perchance a degree of ankylosis. The patient was exhibited.

Strangulated Umbilical Hernia.—Dr. John Young Brown, of St. Louis, Mo., reported an interesting case of complicated strangulated umbilical hernia, and presented the patient.

Sterility Due to Retrodeviation of the Uterus and Its Treatment.—Dr. Herman E. Hayd, of Buffalo, N. Y., read a paper on this subject, in which he reported twelve pregnancies following the simple Alexander operation. Among other things, he stated that posterior displacements of the uterus were a very frequent cause of sterility. Pregnancy had frequently followed when such a uterus was placed in position, either by pessary or operative measures. He made an eloquent plea for the simple Alexander operation for a large class of suffering women who had simple, uncomplicated retroposed uteri. In reporting the twelve cases in which pregnancy followed the simple Alexander operation it was pointed out that the ligaments had stood the test of pregnancy and parturition. The author urged that the simple Alexander operation should be always employed for this special class of sufferers, in whom a pessary was not worn with comfort or willingly tolerated.

Circumscribed Infection of the Placenta and Excessive Vomiting.—Dr. Albert Goldspohn, of Chicago, reported this case. There was a first pregnancy of three or four months, with severe nausea, and much vomiting almost from the beginning, with the gradual additional development of fever, and finally also severe chills and a scanty, foul discharge. There was no alteration in the shape and consistency of the cervix or of the body of the pregnant uterus. The patient had a rapid pulse, and irregular, high temperature and chills. The uterus was emptied. The membranes and ovum were intact. The edge of the placenta bore a circumscribed area of broken-down gelatinous tissue, with a very offensive odor.

Conservation of the Natural Resistanee of the Patient in Surgical Work.—Dr. Robert T. Morris, of New York, in discussing this subject, said that the late Lawson Tait was the first great exponent for conservation of the natural resisting force of the patient. Tait operated very quickly. He did as little as possible. He avoided handling viscera; he avoided disturbing the patient's mind with details of what he was about to do. He treated the most difficult cases lightly, and patients looked at it in the same light. The repair of surgical injury depended primarily, secondarily, and finally upon a proper hyperleucocytosis. The author used this term in a generic way to avoid elaboration of detail in statement. This was a manufacturing process carried on under the control and guidance of the sympathetic ganglia. The more the surgeon shocked a patient the more he lessened the production of the leucocytes. The common ways for lessening the natural resistance of the patient were prolonged anæsthesia, unnecessary amount of anæsthetic. All surgeons had seen patients who had been literally drenched with ether; they had seen patients carried to the danger line with chloroform. On the other hand, surgeons had watched the beautiful work of men who were expert in giving anæsthetics, who began with nitrous oxide and a little oxygen, then changing to ether, who did it skilfully, quickly, nicely, and avoided shock, which took away one element of resistance from the patient. Quick work was a point in which Tait excelled. Expeditious work conserved the natural resistance of the patient. Undoubtedly the resistance of patients was lessened in abdominal surgery by gauze packing. He said that if ten healthy policemen were taken from the street and a yard of gauze was introduced into the peritoneal cavity, these policemen the next day would not be in good condition. This being so, how could one expect a patient with septic appendicitis to be in good condition if a yard of gauze was packed into his abdomen. If one drained quickly, got out of the abdomen quickly, disturbed the bowels as little as possible, made short incisions—in other words, leaving the patient alone as nearly as possible, he would make such a wonderful recovery that one might be accused of taking out a normal appendix. The tendency was to do too much. If a surgeon pricked his finger in operating on a septic case, the surgeon died, while the patient recovered. Why was this? The patient was loaded with bacteria and toxins. The patient had called out all his resistance factors; his hyperleucocytosis was under way ready to meet infection and bacteria. The surgeon had not called out his resistance factors, hence the bacteria proliferated rapidly and gained ascendancy. Was it necessary for the surgeon to get all of the septic culture media out of the patient's abdomen? No. All he needed to do was to turn the scale; there was a conflict between the bacteria and the leucocytes in that patient's case; the bacteria were winning; the leucocytes were losing. What did the surgeon do? By taking out most of the toxins and bacteria quickly he turned the scale, turned the balance in favor of the leucocytes, and they went on and won. He took unfair advantage of them, but if he had labored conscientiously, in accordance with textbooks and the best authorities, he would have put the patient out of commission.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. H. W. Longyear, of Detroit, Mich.; *Vice-Presidents*, Dr. D. Tod Gilliam, of Columbus, O., and Dr. John Young Brown, of St. Louis, Mo.; *Secre-*

tary, Dr. William Warren Potter, of Buffalo, N. Y., re-elected; *Treasurer,* Dr. X. O. Werder, of Pittsburg, Pa., re-elected; *Councilors,* Dr. James F. W. Ross, of Toronto, Ont., and Dr. Walter B. Dorsett, of St. Louis, Mo.

After the introduction and adoption of resolutions of thanks the Association adjourned, to meet in New York city in 1905, the time to be fixed by the Executive Council.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held September 26, 1904.

WENDELL C. PHILLIPS, M.D., PRESIDENT.

Nominations.—Nominations of officers and censors for the ensuing year and of one hundred and seventy-five delegates to the Medical Society of the State of New York, to serve three years, were made.

The Work of the Summer Corps of the Department of Health.—Dr. JOHN J. CRONIN, Assistant Chief Medical Inspector, reviewed the work of this department since its incipiency, in 1876, when fifty Sanitary Inspectors were appointed. At the end of five weeks their services were dispensed with. Soon after this work was taken up, and has been a regular feature of the Department ever since. In 1893 Dr. Hermann M. Biggs conceived the idea that more good would be attained by visitations to parents of children and instructing them in regard to any vicious habits of feeding, etc. Pamphlets were printed in several languages for distribution for mother's instruction, giving words of caution regarding gastrointestinal diseases. Soon house to house visitation was taken up and advice given, especially regarding the care of babies when symptoms of summer complaint appeared. Where the sickness was severe enough to warrant it, a trained nurse was sent. If the sick child had been fed on store milk, that store was visited, and if found to be unfit for use, it was ordered to be dumped at once. If it was not too bad, the keeper was simply warned. Out of 900 stores visited, there were found 550 cases of violation; in two cases the temperature of the milk was found to be 84° F. Each year has shown improvement over previous years. To-day, when the Inspector visits the baby, he continues to see it; treatment is at once established, and, if necessary, a nurse is at once sent. The two factors which give the high mortality were (1) hot weather and (2) ignorance in caring for the children. The first factor cannot be changed, but the second factor can be gotten rid of to a great extent by education of mothers and distribution of circulars of information. They contend with the foreign population, because the mode of living here is opposite to the open-air life on the continent. Orders are given that all milk shall at once be stopped when summer illness of babies appear; but the Hebrews and Italians will not stop the milk giving. Bathing and sponging are taught the mothers, and has proven of great service. On hot and humid days they are told to bathe the babies with salt water. The deleterious effects of heat are best combatted by ocean trips, by visiting the piers and parks. The paved streets throw out heat during the night, making it difficult for the child to sleep; this could be obviated to a certain extent by flushing the streets after sundown. It was noted that one-third of the deaths occurred among children under two years old, who were fed on condensed milk and prepared cereals during the month of August. He felt justified in stating the heat *per se* was an important factor in causing the high mortality among children during the summer months. The report of the Inspectors during the past summer show 215,997 families visited, and history cards numbered 35,187, all of children under one year of age.

Precautions Used by the New York City Department of Health to Prevent the Spread of Contagious Diseases in the Schools of the City.—Dr. THOMAS DARLINGTON, Commissioner of Health of New York City, stated that the medical supervision of schools was undertaken in 1897. At that time it was found that children attended schools when the subject of mild attacks of measles, of scarlet fever, and sometimes even when they were desquamating, and not under medical care. In many the Klebs-Löeffler bacilli were found in throats. As a result of such findings money was appropriated and 150 Inspectors appointed for Manhattan and the Bronx in March, 1897. When a child was found to be suffering from measles or scarlet fever, he was at once sent home and the District Inspector notified; the latter would then exclude all children from the school until the termination of the case and the disinfection of the property. The detection of these diseases then depended largely upon the school teachers; once a week each child was examined. During the school year 1901-02 260,182 children attended, and there were 9,703 exclusions. In September, 1902, the routine inspection of schools was begun by classes; the children passed by the Inspector, pulled down their own eyelips, etc., the Inspector never touching a child. The Inspectors' reports are duplicated, one being sent to the Health Department, and the other kept on file at the school. The Inspectors found that many contagious diseases were not reported; during six months they found 561 cases of measles, 107 cases of German measles, 70 cases of scarlet fever, etc., that were not reported. A very large number of cases of pediculosis capitis were turned from school. Writing and drawing utensils were properly cared for. The public libraries received daily lists of homes where contagious diseases existed. Recently eight trained nurses were assigned to the care of children suffering from skin and contagious eye diseases. Tables for 1903 showed that there had been cared for 156,186 cases of pediculosis, 106,257 cases of eye diseases, 3,307 cases of eczema, 3,498 cases of ringworm, and 335 cases of scabies; the number of treatments numbered 235,793, and over 24,282 pupils had been visited. When five oculists were appointed it was found that 17 per cent. of the children were affected with trachoma. Later the Inspectors were sent for instruction in eye diseases at the New York Eye and Ear Infirmary, and they assumed the care of these sufferers. The number of trachoma cases was very great; 4,337 cases were operated upon; those not operated upon numbered 11,599; these cases were the hospital ones.

Disinfection, as Practised by the Department of Health of New York City.—Dr. ROBERT J. WILSON, Assistant Bacteriologist Department of Health, said there were two paths to actual disinfection, the Medical Inspector, who described what was to be done, and the Disinfector, who carries out the orders. It is the duty of the Inspector to go to the house, look over the rooms carefully, note how many cubic feet of air space there is, takes note of the number of doors and windows, and gains all the information necessary for the Disinfector to do his work. A card is given the Disinfector containing the desired information. The rooms are made as gas-tight as possible. During the past two or three years attempts have been made at bacteriological control by placing in the room to be disinfected living bacilli pyocyani on threads. On the day following this was sent in for growth; if the cultures were positive, then the disinfection was well done. For proper disinfection there were three essentials, as follows: (1) One must know the size of the room; (2) one must know how much gas it takes to fill the space to the extent of killing the germs; (3) one must know how long a time is necessary to destroy the organisms. Sulphur dioxide and formaldehyde were the only two disinfectants allowed the Board of Health. In different parts of Greater New York were disinfectant stations; the home disinfection gave only superficial destruction, and, at these stations, germs were destroyed which occupied the deeper parts of the fabrics. At these stations heat was employed at 225° F. for one or two hours.

Dr. WILLIAM HALLOCK PARK referred to the advance that had taken place since he entered the Department of Health, ten years ago.

Dr. CHARLES S. BENEDICT said that in the olden times sulphate of iron in paper bags, just enough for one day's disinfection, was given in each case of scarlet fever, and they were told to saturate thoroughly all the linen used.

He referred to the practical results of proper disinfection, and stated that in the epidemic of smallpox six or eight years ago, when there were cases in 72 different tenement houses, in only four instances were there secondary cases.

Dr. Frank Van Fleet commended the work that the Board of Health was doing.

Dr. John J. Cronin said that the Health Board had two oculists who did nothing but examine eyes of children. They did much good in noting any errors of refraction, as well as diagnosing trachoma, etc.

Dr. Thomas Darlington referred to the cordial relationship that existed between the Health Board and physicians. At railway stations they had condemned about twelve tons daily of fruits, etc., and in one day they had condemned forty carloads of soft stuff, such as fruits and vegetables. Even more work could be accomplished by the Health Board if they had more money and more Inspectors.

The Specific Treatment of Typhoid Fever.—Dr. J. M. Hackett, of Champlain, N. Y., read this paper (which will be published later).

Dr. Egbert Le Fevre said that he had had some experience with the purely mercurial treatment of typhoid fever, and he had seen a number of cases in which this was the routine treatment in certain parts of New York State. The mercurials had been administered until the constitutional effects had been obtained, and opiates were also given to control the cathartic effects of the mercurial. As a result, he had noted that the temperatures were reduced, but the mortality was higher than under the present plan of treatment. He believed that any plan of treatment would offer results, which varied, according to the epidemics; in the late epidemics the disease ran a shorter course as a rule. He had endeavored to find if he could make the intestinal canal antiseptic, and he failed absolutely. He doubted if there was any agent which would place the blood in a condition to destroy the Eberth bacillus. In the light of his own experience he said he was unwilling to adopt the method advocated exclusively as specific treatment for typhoid fever.

Chicago Medical Society

At a regular meeting, held June 1, Dr. Daniel H. Williams reported and exhibited three cases of penetrating wounds of the thorax, perforating the diaphragm and involving the abdominal viscera.

Dr. Julius Grinker read a paper on "Tuberculosis of the Nervous System," in which he said that tuberculosis of the nervous system was almost always secondary to tuberculous disease in some other organ. Of all tumors of the brain, tuberculous tumors constituted the great majority, and occurred with greatest frequency in childhood. Their place of predilection was the posterior fossa. The symptoms were the same as those of other brain tumors. As differential points might be given the tendency of tuberculous tumors to locate in the posterior fossa, to remain latent for long periods of time, to appear multiple, to have remissions in the symptoms. A localized meningitis could not be differentiated from a small tumor. Tuberculous leptomeningitis affected principally children from two to twelve years of age. The pathological changes took place mostly at the base of the brain, and symptoms of cranial nerve involvement stood out prominently. There were general symptoms due to brain pressure and focal symptoms due to localized implication of nerve tissue. Among the general symptoms were headache, vertigo, vomiting, slow pulse, disturbance of the respiratory rhythm, jactitation, convulsions, hyperæsthesia, delirium, coma, involuntary sphincter action, and possibly spasticity of the muscles, trismus, grinding of the teeth, retraction of the neck. These symptoms might be due to increased pressure in the brain. The focal symptoms might be caused by the accumulation of tubercles in certain cortical areas, or by direct involvement of the cranial nerves. Among these symptoms might be mentioned cranial nerve paralysis, especially of the third (strabismus, pupillary difference, myosis, or mydriasis), hemiplegia, aphasia. Typical cases were easily diagnosed. Atypical forms were most puzzling at times. The cerebrospinal fluid obtained by lumbar puncture must be examined chemically, microscopically, and bacteriologically. The technique was simple and could be found in any textbook. A blood examination would clear up many a doubtful case.

Tuberculous spinal meningitis without cerebral meningitis was extremely rare. The symptoms did not differ from other forms of spinal meningitis. Multiple neuritis and myositis of a most aggravated type occasionally occurred among the tuberculous.

Normally, the state of feeling was a correct index of the state of one's physical condition. In tuberculous patients this was often reversed. Their disease might be well advanced, and yet they laid plans for the future and showed a general hopefulness quite in contrast with their physique. Various neuroses and psychoses were met with in tuberculosis, and they seemed to stand in some close relation to that disease. The prognosis was unqualifiedly bad, and treatment was of no avail. Something might be expected from prophylaxis.

Dr. Aria Louis Derdiger read a paper on "Nervous Diseases and Eye-Strain." After comparisons of the family history and physical conditions in several hundred cases of neuroses, nearly all of whom had previously been under treatment, the writer formulated the following propositions, which were chiefly in accord with the teachings of Dr. Stevens and other investigators in this line of work: "(1) Hereditary neuroses, such as chorea, migraine, neurasthenia, epilepsy, and insanity, are not transmitted from parent to child directly. (2) Such neuroses are the manifestations of transmitted physical peculiarities, which make certain functions difficult to perform. (3) The hereditary physical defects which aid to develop neurosis, anomalous conditions of the eyes are among the most frequent etiologic factors, and prolific sources of nervous disturbances playing an important part in constituting a neuropathic tendency. (4) In all of the writer's cases no medication or other treatment had been used, aside from the atropin, prisms, correcting glasses and gymnastic exercises of the eye muscles. (5) By carefully correcting errors of refraction and existing muscular anomalies by prescribing the wearing of prisms and regulated muscular exercises, these exercises being continued for months, the writer has been able by persistent application of the wax taper and prism method to develop the weak muscles, overcome the eye strain, and practically relieve the functional nervous diseases, as well as the asthenopia, without operation."

Orleans Parish Medical Society.

At the regular semi-monthly meeting, held July 23, 1904, Dr. Samuel C. Landauer read a paper, entitled "Report of Cases of Malaria."

Dr. Joseph D. Weis read a paper, entitled "The Blood in Uncinariasis; Report of a Case." The examination of a blood smear for malaria revealed a eosinophilia of 70 per cent., by which attention was called to intestinal parasites. The blood showed: Hæmoglobin, 35 per cent.; reds, 4,800,000; whites, 20,000; polymorphonuclear neutrophiles, 20 per cent.; eosinophiles, 70 per cent. The last examination of the blood, three weeks after the last uncinaria were found in the fæces, showed: Hæmoglobin, 80 per cent.; reds, 5,800,000; whites, 8,000; polymorphonuclear neutrophiles, 68 per cent.; eosinophiles, 14 per cent. Ova of uncinaria were found upon examination of the fæces and 12 uncinaria in the first stool, after thymol had been given. From a study of statistics, the following practical points, the speaker said, could be drawn from an examination of the blood: Acute uncinariasis (six months to one year in duration) causes a leucocytosis, which leucocytosis is for the most part made up of eosinophile cells. The earlier the disease the higher the eosinophile count and the lecocytosis, and the later the disease the lower the leucocytosis and eosinophile count. Uncinariasis causes an anæmia varying in intensity with the number of parasites and with the duration of the disease. The greater the number of parasites and the longer

the duration of the disease the greater the anæmia, and vice versa. The anæmia does not simulate a pernicious anæmia, but rather a grave secondary anæmia, as evinced by the predominence of normoblasts, if, indeed, any nucleated red cells at all be present, microcytes, with slight poikilocytosis. Treatment of uncinariasis causes immediate gain in the number of red blood cells and an increase of hæmoglobin with a fall in the leucocytosis and percentage of eosinophile cells. The return of eosinophile cells to absolute normal occurs only after three or four months of cure. When a case of long duration shows, after specific treatment no reactionary rise in the eosinophile cells, nor increase in hæmoglobin and red cells, the prognosis is grave; it is in contradistinction good when such rise does appear. In cases of short duration the fall in the percentage of the eosinophile cells, with a rise in the red cells and the hæmoglobin, is of good prognostic import, and the absence of such a fall in the percentage of eosinophiles is grave. An excess of bloodplates was a constant feature of this case. The practical point is that a chloroanæmia, with or without elevation of temperature, associated with a constant eosinophilia of 6 per cent., and above, is enough to justify the giving of thymol when examination of the fæces is impractical or even negative.

Dr. Joseph Hume read a paper, entitled "Principles Underlying the Therapeutic Treatment of General Pyogenic Infections, with Especial Reference to Intravenous Injections of Nitrate of Silver Solution," in which cases were cited to show that such injections were of decided value, even in desperate cases. About 500 c.c. of a 1-10000 solution, repeated, if necessary, had been found to cause a temporary destruction of leucocytes, followed by a marked leucocytosis, with great improvement in all septic symptoms.

At the regular semi-monthly meeting of the Orleans Parish Medical Society, August 27, 1904, Dr. L. G. LeBeuf read "A Clinical Report on Eclampsia, with Treatment." The histories of five cases were given. The treatment preferred had been directed towards increasing elimination from bowels, kidneys, and skin, and at breaking the cycle of convulsive seizures by heroic doses of narcotics. Saline infusions, and enemata, pylocarpine, digitalin, nitroglycerin, morphine and chloroform were the medicinal agents found especially useful. Cardiac stimulants as indicated. The absolute individuality of each case was insisted upon.

Dr. D. L. Watson read a paper on "Acute Parenchymatous Nephritis in Pregnancy; Puerperal Convulsions; Report of Cases." The writer considered all puerperal eclampsia to be dependent upon diminished renal elimination. He believed also that prodromes could generally be noticed 36 to 48 hours before convulsions began. Headache, blindness, and epigastiric pain in a puerperal woman should always be taken as indications for beginning treatment. Large doses of morphine and pilocarpine, repeated once after five or six hours, if necessary, had proven most satisfactory in his hands. One-third to one-half grain of morphine, and one-twelfth to one-sixth grain of pilocarpine had been the doses used.

Dr. H. B. Gessner read a paper entitled "Nerve-Blocking to Prevent Amputation Shock; Illustrative Report of Thigh Amputation." The reader began by referring to a paper published on this subject by Dr. Howard Cushing in the *Annals of Surgery* for September, 1902, and quoting from that paper the principles in which nerve-blocking in amputations is based. He then reported two cases of thigh amputation in which absence of immediate shock was noticeable. In the second case an increased pulse rate (110 to 136) was observed after 24 hours, but stimulation was followed by improvement and recovery. The conclusion was drawn that the method, which required less than five minutes for its application, was well worth more extended trial.

Treatment of Appendicitis.—Pel does not share the opinion of Dieulafoy, who advises postponing the operation until the appendicitis has run its course. He attributes the large mortality of acute appendicitis in France (30 per cent.) to the frequent early operations. According to Pel, the operation should be delayed until the abscess is encapsulated, a period which is not always easily determined—usually in the second or third week of illness. All symptoms of infection, hectic fever, small pulse, leucocytosis, tumor in the iliac fossa, are evidences of abscess formation. This is the time for the incision, which, if possible, is to be conjoined with the removal of the appendix. If a general peritonitis develops as the result of perforation or extension of the inflammation, Pel advises postponing the incision until the peritonitis is localized in Douglas's sac or the liver.—*Weekblad van het Nederlandsch Tijdschrift voor Geneeskunde.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 1, 1904:

	Cases.	Deaths.
Measles	51	5
Diphtheria and Croup	221	31
Scarlet Fever	88	1
Small Pox	.....	.....
Chicken Pox	16	.....
Tuberculosis	356	147
Typhoid Fever	136	18
Cerebro-Spinal Meningitis	.....	13
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	868	215

Campaign Against Tuberculosis in Germany.—The campaign against tuberculosis in Germany has hitherto consisted chiefly in the establishment of sanatoriums. A committee has recently been formed at Berlin for the purpose of devising measures for fighting consumption in towns and dwellings. It is proposed to enlist the active support of all medical practitioners in Berlin and its suburbs with a view to the formation of an organization for the notification of the disease and the care of patients suffering from it.—*British Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended September 30, 1904:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Louisiana, New Orleans	Sept.	17–24	5	(Imported.)
Massachusetts, Lawrence	Sept.	17–24	1	..
Lowell	Sept.	10–24	2	..
North Adams	Sept.	20–27	4	..
Michigan, 42 localities	Sept.	10–17		(Present.
Minnesota, Morrison County	Sept.	12–19	1	.
Washington County	Sept.	12–19	1	.
Missouri, St. Louis	Sept.	17–24	6	1
New York, New York	Sept.	17–24	4	..
Pennsylvania, Titusville	Sept.	17–24	1	..
South Carolina, Camden	Sept.	17–24	1	..
Tennessee, Memphis	Sept.	17–24	1	..
Nashville	Sept.	17–24	2	..
Wisconsin, Milwaukee	Sept.	17–24	2	..

SMALLPOX—FOREIGN.

Austria, Prague	Sept.	3–10	1	..
Brazil, Rio de Janeiro	Aug.	7–28	917	408
China, Shanghai	Aug.	6–20	..	4
Great Britain, Bristol	Sept.	3–17	2	..
London	Sept.	3–17	3	..
Nottingham	Sept.	3–10	1	..
India, Bombay	Aug.	23–30	..	3
Calcutta	Aug.	20–27	..	1
Italy, Palermo	Sept.	3–10	8	5
Mexico, City of Mexico	Aug.	28–Sept. 4	1	..
Russia, Moscow	Aug.	27–Sept. 3	5	2
St Petersburg	Sept.	3–10	2	..
Turkey, Alexandretta	Aug.	27–Sept. 3	..	1
Beirut	Sept.	3–10		(Present.)
Constantinople	Sept.	4–11	..	0

YELLOW FEVER.

Brazil, Rio de Janeiro	Aug.	14–28	2	1
Ecuador, Guayaquil	Aug.	24–Sept. 7	..	5
Mexico, Coatzacoalcos	Sept.	11–18	8	2
Merida	Sept.	11–17	1	..
Tehuantepec	Sept.	11–17	2	1
Vera Cruz	Sept.	10–17	1	..

CHOLERA.

India, Bombay	Aug.	23–30	..	30
Calcutta	Aug.	20–27	..	4
Turkey, Bagdad	Aug.	22	127	105
Basra	Aug.	22	3	3
Bazian	Aug.	22	53	41
Hitt	Aug.	22	61	28
Mendelli	Aug.	22	27	10
Nasrie	Aug.	22	17	13

PLAGUE—INSULAR.

Philippine Islands, Manila	July	23–30	6	6

PLAGUE—FOREIGN.

Africa, Cape Colony	Aug.	13–20	1	1
Australia, Perth	July	29	1	..
Sydney	July	31–Aug. 6	1	1
Brazil, Bahia	Aug.	13–27	..	10
Rio de Janeiro	Aug.	7–28	21	8
China, Fuchau	Aug.	8		(Epidemic.)
Egypt, Achmun (district)	Aug.	20–27	2	..
Alexandria	Aug.	20–27	3	..
India, Bombay	Aug.	23–30	..	50
Calcutta	Aug.	20–27	..	5
Karachi	Aug.	21–28	3	3
Japan, Formosa	Aug.	13–20	12	8

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Original Articles.

PROLAPSE OF THE OVARY. AN OPERATION FOR ITS CURE, WITH REPORT OF TWELVE CASES.

By CHARLES CLIFFORD BARROWS, M.D.,
NEW YORK.

When one takes into consideration the number of women suffering from the effects of prolapse of one or both ovaries, who present themselves to the gynecologist and seek relief from the distressing symptoms dependent upon this condition, one can but feel that too little attention has been given by writers on gynecology to measures calculated to bring about a cure of so serious an ailment. This statement may be easily demonstrated by reference to any of the text-books on this subject at the hands of the students of to-day. Some do not refer to the condition at all, except when complicating some other lesion, while few of them give more than passing notice, and with no definite plan of treatment, looking to a cure,—or with suggestions for operation which, in my experience at least, have proved wholly inadequate and unsatisfactory.

That prolapse of the ovary, to such a degree as to give rise to well-marked symptoms, is a common condition as proven conclusively to me by the observation of more than one hundred cases in two thousand operative gynecological cases coming into my hands during the past ten years. In speaking of prolapse of the ovary, I refer to that condition in which the ovary sinks backward, downward and inward, usually ultimately resting in Douglas's pouch. In this consideration of the subject it is not intended to deal with purulent deposits within the ovaries or Fallopian tubes. The object of the paper is to offer for your consideration and criticism an operation for the relief of conditions resulting from ovaries which have become prolapsed from causes which have not brought about suppurative processes in these organs, and particularly for ovaries prolapsed and non-adherent; though this does not preclude the consideration of adherent or enlarged or cystic prolapsed ovaries.

It has been commonly taught that the left ovary is more frequently prolapsed than the right, and various reasons have been offered in explanation of this belief: such as the absence of a valve in the ovarian vein on the left side, and the consequent hyperæmia of the ovary and predisposition to disease for this reason, or the dragging of the ovary downward by the passage of masses of fæces along the rectum.

In my experience, based upon the study of more than a hundred cases, the right ovary is more commonly prolapsed than its fellow. In about seventy per cent. of my cases the right ovary was lower than the left. It is not difficult to understand why this should be so. The right side of the pelvic cavity is practically vacant, with abundant opportunity for descent of the ovary, provided conditions in the gland, or its supports, favor this displacement, while the left pelvis is filled by the rectum, more or less distended with fæcal matter, and there is, consequently, less opportunity for displacement of the ovary downward and backward.

So far as the treatment goes, the question as to whether the right or left ovary, or both, be prolapsed, is of no consequence. The same procedure, looking to the relief of the condition, is applicable in all these cases. The simple increase in weight of the gland may be sufficient cause for prolapse of the ovary, and we quite commonly find this condition associated with enlarged cystic ovaries, where no other pathological condition is present. It may be displaced by pathological growths, or drawn down by posterior displacements of the uterus, or by adhesions resulting from pelvic inflammations. Any condition which increases the weight of the organ, by hyperæmia or inflammatory disturbances, or relaxes its supports, may give rise to prolapse of the ovary.

While this condition is quite commonly associated with retro-displacements of the uterus, it is also frequently found present in acquired anteflexion of the uterus, these conditions, in all probability, both being not uncommonly dependent upon the loss of tone of the tissues in subinvolution of these organs after pregnancy. And again, we find one or both ovaries prolapsed, in various degrees, where the uterus occupies an entirely normal position in the pelvis, and where no diseased condition of that organ or the ovary, other than its malposition, exists.

The one condition which is, in a vast majority of cases, responsible for the descent of the organ is relaxation of the supports of the uterus and ovaries, and when we consider with this those pathological changes which increase the weight of the ovary, we have practically comprised the etiology of the condition under discussion.

Relaxation of the supports of the uterus and ovaries is very commonly found in women who have borne children, and in whom involution has been unsatisfactory, the broad and round ligaments and vaginal roof being so relaxed as to permit the uterus and ovaries to sag toward the floor of the pelvis; but the condition is, by no means, infrequent in anæmic women, who are of poor fibre or physically depressed from other general causes.

Of the many causes which may increase the weight of the ovary, cystic degeneration is the one most frequently found where this organ is prolapsed.

Normal menstrual congestion, or any condition producing passive or inflammatory hyperæmia, acute or chronic interstitial inflammation, or puerperal subinvolution, or possibly early ovarian pregnancy, may add to the weight of the organ, and thus prove a potent factor in the causation of its descent in the pelvis. The question as to whether the enlargement of the ovary be the cause or the result of its displacement at once suggests itself.

Fig. 1.

It is a fact, based upon actual observation of very many cases, that it rarely occurs that a prolapsed ovary is found of a normal size; but whether the enlargement be primary or secondary has no bearing upon the point at issue in this paper, in which is offered you an operation for the relief of the condition as it exists, without regard to its causation.

In a large proportion of the cases of retrodisplacement of the uterus, there is prolapse of one or both ovaries, and at times it happens that the restoration of the uterus to its normal position by shortening the round ligaments, within or without the pelvis, will lift the ovaries within the pelvis and partially restore them to an improved, if not a normal, position. But I have found by actual experiment that this improvement of position of a prolapsed ovary but seldom follows the restoration to its normal position of a retrodisplaced uterus. And the reason is a very simple one. Practically, in every case of prolapsed ovary coming under my observation the ovarian ligament itself, and the mesovarian or ligament which suspends the ovary to the broad ligament, the suspensory ligament of the ovary, are relaxed and elongated, and the descent of the gland into Douglas's pouch is possible, even though the supports of the uterus be absolutely intact. A careful study of this condition has shown that the two folds of peritoneum which, with the enclosed vessels, form the mesovarium, is so elongated and relaxed that even when the other supports of the uterus are drawn up into an exaggerated position, the ovary drops at times well into Douglas's pouch. So that, as I have said, the prolapse of the organ depends practically on relaxation and elongation of the mesovarium. (See Fig. 1.) This will be more clearly brought out in the description of the operation which I offer for consideration in this paper.

Let me, in a brief way, present some of the more important symptoms and signs which lead us to the diagnosis of prolapse of the ovary. The symptoms are local and general, and their severity and importance depend, in a measure, on the amount of prolapse and the questions as to whether the ovary is acutely or chronically inflamed. There are certain symptoms which are almost sure to be brought to our consideration by every woman suffering from pelvic disorder of any kind, such as backache, dragging sensations in the groins and thighs, bearing down and weight in the pelvis, sacralgia and neuralgic pains in the hips and thighs. These symptoms almost always exist in women suffering from prolapsed ovaries, but they are not pathognomonic. But when we add to them difficult and painful defecation, numb, sickening pain on coition, greatly increased pain on walking and sitting and, at times, nauseating pain, when a sudden false step is made, or an unusual jar is given to the body, such pain as might be analagous to that brought about by a blow or pressure on the testicle, we may suspect the condition which we have under discussion. This sickening, nauseating pain may be easily produced in a healthy patient, whose ovaries are palpable by bimanual pressure on these organs. The degree of these symptoms depends, in a measure, on the position of the uterus. When the uterus is well forward in the pelvis, the symptoms are much less marked than when it is posteriorly displaced. (Fig. 2.) The constant pressure of a retroverted uterus on a prolapsed ovary lying in Douglas's pouch, unless relieved, requires but a short time to render the patient a helpless invalid. (Fig. 3.) This condition of affairs is, as we know, one of the commonest causes of early abortion, as I shall show in some of the cases that I report. Women suffering from an exaggeration of this condition walk and sit down or rise from a chair with such

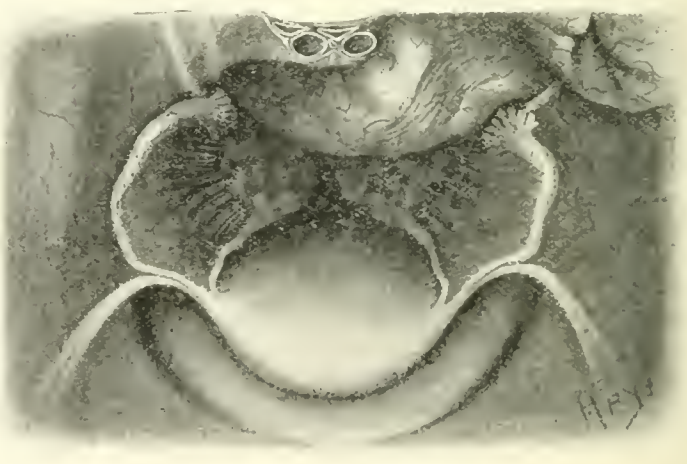

Fig. 2.

caution that I have at times been almost tempted to make a diagnosis without asking them a single question. The general symptoms are quite characteristic. The patient is usually thin, poorly nourished, anæmic, "run down," as she will express it, extremely nervous and irritable, possibly at times hysterical, especially as the menstrual period approaches. She suffers from frequent, sometimes almost constant, nausea, loss of appetite, impairment of the digestive functions, and constipation.

These conditions may become so exaggerated by long continued suffering as to unsettle the patient mentally, or bring about a condition of invalidism pitiable in the extreme. Perhaps it may be well to consider whether these symptoms may not be due to the condition, and not the position, of the ovary; whether, for instance, the cystic degeneration of the ovary may not give rise to all the distressing symptoms which we have just mentioned, without reference to where in the pelvis that ovary may be located. That the position of the ovary surely is of by far the greater importance in such cases seems clear, when we consider that we find ovaries normally situated which have undergone marked cystic degeneration without symptoms of any kind, and then again, we find prolapsed ovaries devoid of this pathological condition in patients presenting the whole train of symptoms which we have described above.

Digital examination reveals without difficulty the presence of the ovary in Douglas's pouch, the organ being at times so exquisitely sensitive as to make a satisfactory examination impossible without an anæsthetic.

So distressing are the conditions which are brought about by prolapse of the ovaries, so un-

Fig. 3.

satisfactory have I found all forms of palliative treatment in a large majority of cases, and so wholly inadequate have been the measures of relief in the hands of the surgeon, up to the present time, that I do not hesitate to offer for consideration the operation which I have devised, and taught to the students in the classes at Cornell, and which has proved so satisfactory in my own hands in the cases, the reports of which will follow.

Various measures have been suggested for the surgical relief of this condition, such as the shortening of the round ligaments within or without the pelvis, or this measure combined with the shortening of the infundibulo-pelvic ligament, or one or both of these procedures, together with the "stitching" of the ovary to the round ligament, or the suturing of the ovary to the face of the broad ligament. The more rational operation seems to me to be that suggested by Hirst, *i.e.* suspension of the infundibulo-pelvic ligament to the parietal peritoneum over the iliopsoas muscle above the pelvic brim and in front of the iliac vessels. I have had no experience with this operation, and it would seem to meet the indications where the prolapse of the ovary depended on the relaxation of the infundibulo-pelvic ligament without relaxation or elongation of the mesovarium. Such cases, in my experience, are, however, rare. Then, too, the sagging of an artificially suspended ovary in an abnormal position, we can readily understand, might easily give rise to distressing symptoms. Indeed, it requires but small practical experience to prove to any one how absolutely futile, in a majority of cases, these procedures are, since, as I have shown you in prolapse of the ovary the mesovarium or, as I may call it, the suspensory ligament of the ovary itself, is relaxed and elongated, and it matters not how much one shortens either the round ligament or the infundibulo-pelvic ligament, or both, if nothing further be done, the ovary will be scarcely changed in its position in Douglas's pouch. As to stitching the ovary to the round ligament, that is absolutely so unsurgical, since it must necessarily interfere seriously with the Fallopian tube—that organ lying between the two structures that are to be brought together—that it does not even deserve serious consideration.

Realizing the inadequacy of these procedures, and feeling quite sure that in the hands of many gynecological surgeons, these prolapsed ovaries, especially when they were inflamed or cystic, were sooner or later sacrificed, I have during the last few years attempted several plans of operation with the hope of maintaining these organs in a position where their functions would not be interfered with, and where they would not give rise to the distressing symptoms which we have considered.

I shall not recount in detail the various attempts at suturing the ovary to the broad ligament or the several other efforts which about two years ago led me up to the operation which I now propose. This work has been done along the same lines as those drawn by me in a paper read before the New York Obstetrical Society in 1893, on "Conservative Surgery of the Uterine Appendages," and has for its motive and purpose the preservation to the patient of those organs whose healthy functional activity have so much to do with the health and happiness of every woman. The cases which I shall report are, I believe, sufficient to show quite satisfactorily that prolapsed ovaries may be placed in such a position in the pelvis as not only to permanently relieve the patient of the distressing train of symptoms from which she has been suffering, but to permit these organs to carry on their functions relating to both ovulation and menstruation in a perfectly normal and healthy manner.

The abdominal cavity is opened under the usual aseptic precautions, the patient being then preferably placed in the Trendelenburg posture. It is not necessary to make an extensive incision,—two inches, at most, being ordinarily sufficient. The intestines are held back from the field of operation by three aseptic bolsters, such as are shown in the illustration, one being placed in the median line and one in each lateral fossa. (Fig. 4.) In work of this kind, I have found these bolsters in every way superior to gauze pads or rolls of gauze, as may be easily understood. When properly introduced, the pelvic cavity is completely shut off, the intestines being held back behind the wall formed by their adjustment. All adhesions about the tubes and ovaries are broken up and any cysts that may exist in the ovaries are punctured, the wall being removed if

the cyst have a definite cyst-wall. In this connection it is, perhaps, wise to say that it may be necessary to remove considerable portions of the ovary which have been destroyed by chronic cystic degeneration, the incision in the ovary being closed by interrupted sutures of fine catgut or silk. The round ligaments are then caught up and shortened, after the manner suggested by Wylie, two fine silk sutures being sufficient to accomplish this result.

Fig. 4

(Fig. 4.) In case the uterus is markedly anteflexed and the round ligaments not relaxed, this part of the procedure may be omitted. In this connection I will say, however, that in all the cases operated on by me I have found this step necessary. The next step of the operation consists in shortening the infundibulo-pelvic ligament after the same manner as that followed in shortening the round ligaments. The infundibulo-pelvic ligament is caught up by forceps and a reef of say one or two inches taken in it and secured by two or three sutures of fine silk. (Fig. 5.) Thus far, it will be seen that the operative procedure does not differ materially from that recommended by the text-books generally. And if we stop at this point to examine the anatomical conditions brought about by the operation, we will find that the state of the patient is worse than before the operation was begun. The ovary has not been lifted from Douglas's pouch because of the elongation and relaxation of its own ligaments, and in addition to this, by the shortening of the round ligament and the infundibulo-pelvic ligament, the layers of peritoneum between these two structures have been stretched tent-like above it, and the ovary is buried in Douglas's *cul de sac* and hidden from view by this roof which has been thus drawn over it. If we examine carefully this triangular fold of double peritoneum, we find that, surgically considered, it practically contains no other tissues except the two peritoneal membranes. It is thin and almost transparent, and contains no blood vessels of any consequence. In this double peritoneal fold, which is thus stretched between the round ligament and the top of the broad ligament, a small linear incision is made, say half an inch long, and the ovary, which lies beneath it, is brought through the opening and permitted to lie on the shelf thus provided for it. This, as you will readily see from the drawing, interferes in no way with the relations of the Fallopian tube to the ovary or of the blood supply to and from the ovary. In order to secure the ovary in its new situation, a suture is taken at either extremity of the gland, thus limiting the incision and securing the organ permanently in its new position. This procedure permits the ovary to rest comfortably on this top shelf of the pelvis, secure from any possible impact of the uterus, one of the causes of the intense suffering in prolapse of the ovary, and it does not in any way interfere with its functional activity or with its important relations to the Fallopian tube. The simplicity of the procedure, and the ease with which it may be carried out by any abdominal surgeon, should recommend it as a possible cure for a most distressing condition, which I do not hesitate to reiterate has, until now, usually resulted in the sacrifice of one or both ovaries.

In a paper read before the Society of the Alumni of Bellevue Hospital I have used the term "shelving the ovary" to describe this operation. This, however, is not an entirely satisfactory title in that it may convey the idea that the organ is put out of commission by being put on the shelf, whereas the operation was devised for the purpose of putting the organ in a position where it could do its work well, with ease and comfort to its owner.

In illustration I offer the following cases:*

Case I.—K. M., 22, married, by profession a ballet dancer, consulted me May 1, 1902. The patient was pale, apparently very anæmic, thin and poorly nourished, extremely nervous, and emotional. According to her statement she began to menstruate when she was thirteen years of age, and her menstruation had always been normal as to quantity and regularity, except when interfered with by pregnancy. She has been a dancer since childhood, and from the time she began to menstruate she has suffered from severe backache, pains in the pelvic region shooting down the thighs; these being greatly increased on exercise, and on more than one occasion she has fainted on the stage from sudden, intense, agonizing pain in the pelvis. Chronic constipation and painful and difficult defecation have been present, and dyspareunia has existed to a

Fig. 5.

*The cases operated on by me in Bellevue Hospital were in Prof. Polk's service, and it is through his courtesy I am permitted to report them.

marked degree. The patient has been three times pregnant, each time aborting about the third month.

On examination I found the uterus normal in size and position, with both ovaries enlarged and tender, prolapsed and resting in the bottom of Douglas's pouch. The abdomen having been opened, the condition as diagnosed was verified. Both ovaries being the site of extensive cystic degeneration, about one half of each organ was removed, the incision being closed with fine catgut sutures. The round ligaments were shortened just sufficiently to avoid any undue traction on the uterus, that organ being in its normal position. The reef in the ligament was secured by two sutures of fine silk, the infundibulo-pelvic ligaments being shortened in the same manner. In thus shortening the round ligaments within the pelvis, care was taken to insert the sutures from before backward, thus bringing the knot in front and well away from the tube, so that that structure might escape any danger that could arise from the proximity of this foreign body. The same caution was exercised in shortening the infundibulo-pelvic ligament, the loop being taken well away from the fimbriated extremity of the tube, nearer the pelvic wall.

The patient made a rapid and satisfactory convalescence, and in six weeks was back at her work, which she pursued without pain or interruption of any kind for five months, when she was obliged to retire because of a rapidly advancing pregnancy. She has since passed through a normal confinement, and is again at her work, well and strong. This patient declares that she is in better health than she has been since her menstrual life began, indeed, that she regards herself as being perfectly well and free from pain.

Case II.—Two months later I operated on the mother of this patient for double prolapsed cystic ovaries, without adhesions, with an equally satisfactory result. She, too, is a public dancer, and in spite of the arduous duties of these two women, they are absolutely free from pelvic trouble, and by careful bimanual examination I am unable to feel the ovaries of either one of them.

Case III.—K. C., married, 28. Came under my care Aug. 11, 1903. Family and previous history unimportant. The patient's menstrual history, beginning at her thirteenth year, has been regular and free from much pain. She has had no vaginal discharge. She has had no children and one miscarriage at the fourth month, which occurred in May, 1901. The patient is pale, thin, poorly nourished, extremely nervous and irritable. One year ago she began to suffer from pain in the back and lower part of the abdomen, particularly on the left side. This pain has grown more severe until at the present time it is almost unbearable, accompanied by nausea and faintness. The patient suffers from constipation and painful defecation, and coition has become almost impossible because of a sudden, sharp, sickening pain in the pelvis at that time, so severe as to almost produce fainting. Digital examination reveals an exquisitely tender, enlarged left ovary prolapsed into Douglas's *cul de sac*.

On opening the abdomen, this diagnosis was verified, the ovary was freely incised, a number of small cysts removed, and the wound in the gland closed with fine catgut sutures. The ovary was then lifted from the pelvis and held in its new position by means of the operative procedure which I have described.

The patient made an uneventful recovery, and now—nearly nine months since the operation—is entirely well, having gained in flesh and strength, and being entirely relieved of the severe pain, constipation and painful defecation which were making her life a burden to her prior to the operation. Her menstruation is normal and her marital relations are entirely satisfactory and free from pain. The ovary can no longer be felt on digital examination.

Case IV.—M. B., aged 25, married, was admitted to the Annex to Ward 23, Bellevue Hospital, Aug. 13, 1903. Her previous and family history are without bearing on her present condition. Her menstrual history began when she was sixteen years of age and has been free from irregularities except when interrupted by pregnancy. She has never had any children, but has miscarried twice about the third month of pregnancy, in May, 1901, and June, 1903. The patient has for two years suffered from pain in the pelvic region and lower part of the abdomen, most marked on the left side. She has suffered from almost constant nausea, and this with the pain has had a marked effect on her general health. She is the subject of chronic constipation, and the pain is greatly increased on defecation and coition. Her suffering has become so constant and severe, and her general health so much impaired, that she is unable to pursue her ordinary household duties longer. Examination reveals prolapse of both ovaries, which are enlarged and very tender.

Operation, Aug. 28, 1903. Several small cysts removed from each ovary and both ovaries restored to proper position in the pelvis by method described above. Patient made a satisfactory convalescence and is now apparently entirely well, is free from pain, her constipation and painful defecation and dyspareunia have disappeared, and her general health has been restored. On palpation no abnormal conditions can be found in the pelvis.

Case V.—C. J., 24 years old, married five years, was admitted to Ward 23, Bellevue Hospital, Sept. 3, 1903, with the following history: Has had two children, the first four years ago, and the last two years ago. Patient was well up to birth of her last child, two years ago, since which time she has suffered from pelvic pain and discomfort, the pain being more marked on the left side. Pain is not constant, but is present part of every day, provoked, apparently, by exercise or exertion of any kind, by defecation or coition. There has been almost constant nausea, with loss of flesh and strength, ten days of the last month having been spent in bed. Digital examination reveals retroversion of the uterus, with prolapse of both ovaries into Douglas's pouch. Uterus and ovaries restored to position in manner described, a cyst as large as walnut having been enucleated from left ovary. Patient made an excellent recovery, and declared herself as being free from pain during her convalescence.

At the present time the patient seems to be entirely well, her symptoms and physical signs pointing to no pelvic difficulty of any kind.

Case VI.—E. C., aged 23, married five years, was admitted to Ward 23, Bellevue Hospital, Oct. 5, 1903. Family and previous history negative. Patient says that she has never been pregnant, and that her menstruation has always been regular, there being present considerable pain for twenty-four hours prior to establishment of flow. Since October, 1901, she has had pains in the pelvis and lower part of the abdomen. The pain is intermittent in character, and at times very severe; seems to be provoked and increased by exertion of any kind, by defecation and coition, the latter being so painful as to practically prevent the proper establishment of the marital relations. Examination reveals a well-marked anteflexion, with prolapse of both ovaries in Douglas's *cul de sac*. (Fig. 2.)

Uterine canal dilated and curetted and packed with aseptic gauze, and the ovaries placed upon the pelvic "top shelf," as described. Patient has made an excellent recovery, and her general health, as well as her local condition, is greatly improved.

Case VII.—R. S., 23, unmarried, was admitted to Ward 23, Bellevue Hospital, Nov. 1, 1903. Patient has never been pregnant, and has suffered more or less at the time of her menstrual periods, the pain usually being for twenty-four hours before the flow is established, and less during the flow. She dates her illness from an attack of abdominal pain three years ago, which was most marked in the left hypochondriac region. Since that time she has suffered from severe cutting, nauseating pains in the pelvis, with severe pain on defecation, and marked constipation. Her general health has been poor; she is weak, nervous and irritable to a degree. She has been in three hospitals for treatment, but without relief. While in Bellevue, in August, 1903, for two weeks, she suffered so from painful defecation that it was impossible to get her to have her bowels moved, the patient lying to the nurses about the matter in order to avoid going to stool. Examination reveals double prolapsed adherent ovaries.

On opening the abdomen the ovaries are found prolapsed in Douglas's pouch, and buried in old adhesions. On the right side the appendix vermiformis is caught in the mass of adhesions, and this with the ovary and tube on that side is removed. The left ovary, when freed from adhesions, is apparently healthy, and the tube is patulous. This ovary is lifted from the pelvis in the manner described.

The patient had a painless convalescence, and her constipation was relieved. At the time of this writing, four months after the operation, the patient declares herself entirely well. Has gained in health and strength, and has no pelvic pain of any kind. The ovary cannot be palpated by digital examination.

Case VIII.—S. S., aged 23, married two and a half years, was admitted to Ward 23, Bellevue Hospital, Oct. 24, 1903. Family and previous history have no bearing on present illness. Patient's menstrual history began when she was fifteen years old, has always been regular and quite profuse, and has been accompanied by severe pain. She has been twice pregnant, the last pregnancy resulting in the birth of a child at term, in April, 1903, while the first was ended by a miscarriage, at six months, two years ago. Since the birth of her child, in April, 1903, patient says she has had severe, constant pain in back and lower abdomen on both sides, greatly increased by standing or walking, and markedly so on defecation. She suffers from nausea, loss of appetite, general weakness and great depression in addition to her pains, and her health and strength have become so impaired that she can no longer work and is forced to seek relief at the hospital. Her bowels are obstinately constipated. The patient is pale, thin, anæmic, nervous, and hysterical.

Physical examination reveals a slight laceration of the perineum, with a slightly enlarged, soft, anteverted uterus, with ovaries prolapsed in Douglas's *cul de sac*, and exquisitely tender to touch.

On opening the abdomen, the diagnosis was confirmed; both ovaries were placed on pelvic top shelf, according to author's method, a number of small cysts having been punctured in each. The patient made an uneventful recovery, and was discharged from the hospital well. At the present writing she has greatly improved in every way, all her distressing symptoms having been relieved.

Nothing abnormal in the pelvis can be discovered by digital examination.

Case IX.—R. S., aged 20, married, was admitted to Ward 23, Bellevue Hospital, Nov. 20, 1903. The patient is a Russian, who is unable to give an intelligent account of her condition except that she suffers from constant nausea and pain, especially marked on coition and defecation. She is poorly nourished, nervous, and anæmic. Physical examination reveals a retroverted uterus with prolapse of both ovaries in Douglas's pouch, the left ovary being somewhat enlarged and extremely tender. These organs seem to be adherent in their abnormal position.

On opening the abdomen this examination was verified, and the appendix vermiformis was found to be chronically inflamed and closely adherent to the right ovary and tube. The adhesions were so dense as to cause in their separation considerable injury to the right tube and ovary. These organs, together with the appendix vermiformis, were removed. The left ovary, which was deeply prolapsed in the bottom of the pelvis, was freed from adhesions, and laid safely upon the top shelf of the pelvis.

So far as her symptoms and physical signs are concerned the patient is now entirely well.

Case X.—S. M., aged 38, married 21 years, was admitted to Ward 23, Bellevue Hospital, Nov. 28, 1903. Patient's family and previous history have no bearing on her present condition. She says that since her marriage, which occurred when she was seventeen years old, she has menstruated regularly, except when this function was interfered with by pregnancy. Has always had pain, severe on the first day of menstruation, in back and lower abdomen and thighs. She has had three children and four miscarriages. Since Sept. 1, 1903, patient has had severe pain in region of right hip joint, in the lower abdomen, and in the pelvic and sacral regions. This pain is greatly increased on motion, defecation and coition, and is of a peculiar "sickening" character. It has become so severe that she has

been obliged to give up her work and come to the hospital.

Physical examination reveals a uterus somewhat enlarged and retroverted, with enlarged adherent right tube and ovary, and probable prolapse of the left ovary.

On opening the abdomen the right tube and ovary are found to be the site of extensive adhesions, the tube apparently containing pus. The appendages on this side are removed. The left ovary, normal in size and condition, is prolapsed into the bottom of the *cul de sac*. It is "shelved" in the manner described.

On Dec. 19, 1903, the patient left the hospital well and, according to her reports, remains in excellent health.

Case XI.—C. T., aged 39, married 13 years, was admitted to Ward 23, Bellevue Hospital, Dec. 19, 1902, with the following history: Family and previous history unimportant. Menstrual history began at fourteen. Menstruation has always been regular except when interfered with by pregnancy. It has been scant in quantity, the flow lasting but two or three days. There has always been pain for three days prior to the flow, and since Dec., 1903, for two hours before its establishment; severe pain in the lumbar and sacral regions and generally throughout the deeper parts of the pelvis. She has had three normal labors at term without complications or sequelæ. In Dec., 1902, the patient lifted an iron bed. This was followed in three days with severe pain on both sides, low down in the pelvis. Since this time she has suffered from severe nauseating pain in the pelvis, greatly increased at the menstrual periods and by motion, defecation and coition. For two months prior to her admission patient was practically invalided. Patient is thin, anæmic and badly nourished. Digital examination reveals a retrodisplaced uterus with an extremely tender mass behind the uterus in Douglas's pouch. On opening the abdomen both ovaries are found prolapsed and adherent below and behind a retroverted uterus. The adhesions about the tubes and ovaries are broken up, a number of small cysts removed from each ovary, and the tubes being uninjured and patulous, the uterus is restored to its normal position in the pelvis and the ovaries placed upon the pelvic top shelf.

On June 13, the patient was discharged from the hospital in a greatly improved condition and almost entirely free from pain. Physical examination showed the pelvis clear. She reports to me at this time that she regards herself as entirely well, having passed through a painless menstruation since leaving the hospital.

Case XII.—J. B., aged 27, single, was admitted to Ward 23, Bellevue Hospital, Jan. 4, 1903. Patient's family history is excellent. She has had the usual diseases of childhood. For several years she has been exceedingly nervous, with hysterical attacks, gastric disturbances, cardiac palpitation, and so forth. Her menstrual history began at sixteen. Until one year ago she has always been regular, flowing for six or seven days profusely, with well-marked backache. For the past year she has been somewhat irregular, menstruation being accompanied by severe frontal headache, dull pains in the sacral region, nausea, faintness, and great physical and mental depression. The pain in the back is referred to the sacrum and is continuous, but greatly increased on motion, standing or leaning over, and by defecation. Patient is chronically constipated, going from four to seven days without a movement.

Digital examination reveals a slightly anteflexed uterus, with both ovaries enlarged and prolapsed in Douglas's pouch, the right ovary lying below the left. On opening the abdomen this diagnosis is verified. The appendix vermiformis, being thickened and adherent to the broad ligament, was removed. A number of small cysts were removed from each ovary and the round ligaments and infundibulo-pelvic ligaments being shortened on both sides, the ovaries were "shelved" as described in the other cases.

On Feb. 17, the patient was discharged in excellent condition.

Some time might be profitably spent in the consideration of these twelve cases. In selecting them for a test of the operation, which I have proposed and described here, I have chosen patients having conditions typical of several varieties of cases of prolapsed ovaries. The first two cases occurred in public dancers, and it may be assumed that this occupation had some bearing on the etiology of the condition, and would surely furnish a fair test as to the efficacy of the operation.

The first patient had had three abortions; the third one abortion; the fourth two abortions; none of these patients having borne children at term. Such cases are very common in women suffering from prolapsed ovaries. It is easily understood that just so soon as the growing pregnant uterus becomes of sufficient size to make serious pressure on the ovary, caught between itself and the sacrum, sufficient irritation is produced to bring about an abortion. The successful delivery at term, of Case I, after the operation, both ovaries being involved, and she having miscarried three times prior to the surgical interference, seems to furnish a positive proof of the value of the procedure, beyond the mere relief of symptoms existing.

Case VI was sterile, but this sterility may have depended on the stenosis accompanying the anteflexion which was present, although the prolapsed ovary practically precluded connexion, because of the severe pain resulting from coition.

In Cases I, II, III and IV, there was prolapse of enlarged cystic ovaries without adhesions or displacement of the uterus, while in Case V a backward displacement of the uterus existed in addition to the double ovarian prolapse.

In Cases VI, VIII and XII, there was anteflexion, together with prolapse of both ovaries.

In Case VII there were general pelvic adhesions, with disease of one ovary and tube sufficient to demand their removal, and very extensive adhesions which had to be broken up about the ovary, which was permitted to remain.

In three of the cases it became necessary to remove the appendix vermiformis, in addition to the ovarian operation.

These cases have been chosen for a test of the operation because they illustrate admirably the many conditions complicating prolapse of the ovaries, as well as the various pathological changes dependent

upon these conditions. This work has been carried out along the lines of conservatism enunciated by me in a paper read some ten years ago before the New York Obstetrical Society, and with the hope that many ovaries, which might otherwise be sacrificed, may be saved to perform their functions to the comfort and satisfaction of the women who possess them.

8 West Thirty-sixth Street

UNUSUAL FORMS AND FAVORITE LOCALIZATIONS OF THE RHEUMATIC PROCESS.*

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It is singular that so common a malady as rheumatism should give rise to such confusion and differences of opinion, not only in regard to its origin and nature, but also concerning its treatment.

Even leaving gout and acute articular rheumatism out of the question, the word rheumatism does not specify any clearly defined clinical entity, since some authors consider only affections of the muscles as coming within the limits of the term, while others include also the painful structures about the joints and the fibrous membranes.

A glance at the literature shows how great is the disparity of opinions. Cold, overexertion, irritation of the peripheral nerves, rapid changes of temperature, the attenuated poison of articular rheumatism, conjestion of the neurilemma of the motor and sensory nerves, trauma, and even unsuitable habits of life and heredity are all included in the etiology of the disease. Whereas Oppolzer views the malady as an inflammatory process without exudation, other authors consider rheumatism as a vasomotor disturbance. Leube and his followers speak of infection through bacilli. Prizbram considers muscular rheumatism as simply a muscular involvement attending articular rheumatism and not as a separate condition, while Lorenz states that the nature of the disease is so far unknown, and Senator calls the term rheumatism an inexact catch-all destined to receive all morbid processes in the muscles which cannot be more exactly defined. Leube has sometimes observed endocarditis together with muscular rheumatism; Strümpell denies any such connection.

Coming to the question of the pathological anatomy, some authors claim to have found a new formation of sclerotic connective tissue with secondary atrophy of muscle fibers and rheumatic nodes in the muscles, fascia, and tendons. Others deny the presence of pathological changes.

Views differ also in regard to treatment. Heat in the most varied forms is recommended (steam baths, hot-air baths, pine-needle baths, mud baths, slime baths, hot applications); acupuncture, injections of irritating fluids to produce phlegmons, massage, and medical gymnastics, salicylic acid and antipyrin, all have their adherents. Out of this labyrinth of conflicting opinions it is difficult to discover an issue and to follow the teachings of the two chief schools —those who believe in the infection theory and those who do not.

It is true that there are cases of muscular rheumatism accompanied by fever, but this symptom alone is not crucial, since it is well known that there are sensitive individuals who suffer a rise of temperature with any protracted pain, and, though occasionally some coincident circumstances bear out the idea of an infectious origin, a closer scrutiny of the facts impels to a different conclusion.

Permit me to describe briefly two cases in point observed about twenty years ago. I was called to see a young governess who had been in bed for several days with difficult and very painful respiration, and an elevated temperature. After careful ausculation it was possible to exclude any pulmonary or pleural affection, whereas pressure on the musculi serrati postici inferiores and on some of the intercostal muscles was acutely painful. Sure of the case I forcibly massaged the muscles invaded by the rheumatic process, with the result that the patient, with a deep inspiration, suddenly called out, "Thank heaven, I can breathe again!" Against my wishes she left her bed to take a walk in the garden, and what her friends had supposed to be pleurisy was cured in a few minutes. A year later I was at the bedside of a farmer's wife. The patient complained of pain in the posterior chest wall, just in the situation of the musculi serrati postici inferiores. Pressure on this spot caused acute pain and there was no doubt as to the diagnosis of muscular rheumatism. On examining the lungs, however, I found to my disagreeable surprise a well-marked pneumonia of the right side. Naturally, I did not massage, though that would certainly have relieved the rheumatism. The poor patient succumbed to the pneumonia and her death would surely have been ascribed to the mechanical treatment.

The causation of rheumatism by trauma must be denied on pathological grounds; and this theory serves only to make confusion worse confounded. Cases in which the patient believes that a long standing muscular pain is the result of some injury, usually reveal upon inquiry into the past some occasion on which sudden chilling followed overheating or overexertion, and when this history cannot be obtained it is to be assumed that the occasion of the rapid change of temperature has escaped the patient's recollection. An instructive case of this sort recently came under my observation.

A powerful man in the prime of life suffered for several years from a rheumatic process diagnosed as sciatica, severe enough to make walking, stair-climbing, and bicycle riding a torment. He ascribed the origin of his malady to overexertion while swimming. This possibility could not be excluded, but in the meantime months had elapsed and the enforced rest should have sufficed to relieve the pain and impairment of function. On examination I found a small, tender point at the edge of the sacrum corresponding to the gluteus magnus muscle, as well as tenderness about the trochanter (fascia lata). I then sought for the history of some sudden change of temperature to which, in the course of time, the patient had been exposed, and found that two years previously, in the spring, while in search of a summer residence, he had bicycled up a steep hill at the top of his speed, in order to catch a railroad train, and then, with only a light cloak for protection, had shivered in the car all night long. How often he

*Read at the seventy-sixth annual meeting of the Deutsche Naturforscher und Aerzte, in Breslau, Section of Internal Medicine, September 18-24, 1904.

might have previously exposed himself in this way after other bicycle rides he could not say.

Cases of muscular rheumatism come under observation which at first appear to be part of an articular rheumatism, but closer investigation reveals the fact that there is a combination of diseases and that the muscular affection may have even preceded the other, and that the disturbances are due to different etiological factors. This statement is illustrated by the following interesting observation: A perfectly healthy girl of nineteen years was in the habit of bathing daily in a cool mountain lake in Carinthia. On a chilly day she walked from the town at three hundred feet lower altitude to the lake, and, while heated from the climb, bathed in the water, which had a temperature of only 11° R. (57° F.). On the next day drawing pains were felt in the muscles all over the body, but no attention was paid to these. Some weeks later the family moved into a newly built house. The girl contracted acute articular rheumatism, involving all the joints of the body, including the maxillary and vertebral articulations, and rendering the patient nearly helpless. Mud baths at Carlsbad did not cause any improvement, but increased the sensitiveness to low temperatures. The following winter was a true martyrdom to the patient, who was confined to bed with increasing pain and loss of function. The following summer a mechanico-therapeutic course of treatment was recommended, and I treated the emaciated pacient, who could drag herself about only with difficulty on crutches, for two years, with massage and gymnastics, allowing intervals of rest. Her comfortless condition finally improved so that she could marry and become a happy mother. In this case the muscular lesion preceded the articular one and in the course of time became chronic. The articular rheumatism left incurable ankyloses in both elbows and in the right hip-joint. The muscular rheumatism was the result of the rapid change of temperature (bathing in the cold lake while overheated), and the articular rheumatism was explained by the removal into the newly-built house (bacilli). The fact is, there are border lands between articular and muscular rheumatism.

The case described also shows the superiority of mechanico-therapy over the method of heat application. The former generates warmth in the interior of the muscles, the dormant vitality is stimulated, and the normal relationship between will and muscle fiber is restored.

To this infrequent combination I should like to add the following unusual types of rheumatism, which have to my knowledge so far received but little attention in literature.

1. Rheumatism of the costal periosteum, of the costal arch, of the sternum, the ensiform process, and the hollow bones—diseases which, as the following observation teaches, are wrongly interpreted. In 1902 I became acquainted with the vigorous and otherwise perfectly healthy wife of a colleague who was accompanying her sick mother to my institution. Only by accident did I learn from the husband, who was present, that his wife had for years been suffering from a troublesome pain in the sixth and seventh ribs, which was very annoying, but had been treated by many physicians without avail. He had not spoken of it before, because he considered his wife's ailment incurable. Through former experience I had become familiar with rheumatism of the periosteum. My suspicion was confirmed. On examination I found that there was no swelling of the bone, and I at once began active mechanical treatment, which was continued for four days, at the end of which time the pain had completely disappeared and never recurred.

2. Rheumatism of the diaphragm. The disease manifests itself by dyspnœa and labored breathing, although the lung is healthy, the heart is normal, and there is no rheumatism of the accessory muscles of respiration. Mechanical treatment of the diaphragm is difficult and one must be content with the application of the less rapidly effective faradic current, applying the electrodes under the costal arch as well as circumstances allow.

3. Localized rheumatism of the tuber ischii and of the ligaments of the pelvic outlet. Such rheumatic processes sometimes persist for years in spite of all efforts to cure them by other means, but promptly yield to mechanical treatment.

4. Isolated unilateral rheumatism of the masseter. Wrong diagnosis of this condition leads to ineffective or even injurious treatment. In August of this year I visited a friend and found him with his face bandaged and complaining of pain in the lower jaw. He had been told to apply a dressing of aluminum acetate and to take only fluid nourishment. The lower jaw showed neither redness, swelling, nor heat, but there was severe pain on pressure over the masseter. This muscle was energetically massaged, the dressing discarded, and the patient told to chew solid food, with the result that he was cured the same day.

To the unusual types I should like to add the favorite seats of rheumatism: (1) The supraspinous fossa of the scapula; (2) the protuberance of the occipital bone; (3) the linea semicircularis of the occipital bone; (4) the galea aponeurotica of the calvarium; (5) the temporal muscle and its tendon under the zygoma; (6) the outer border of the scapula and the tendons of the teres major and minor muscles at their insertion into the humerus; (7) the sacral origin of the sacro-lumbalis muscle; (8) the sacro-lumbar fascia; (9) the origins of the glutei muscles from the sacrum and the pelvic brim; (10) the muscles originating from the pubic bone; (11) the muscles, tendons, and ligaments attached to the external and internal condyles of the femur; (12) the muscles attached to the fibula; (13) the tendons and ligaments attached to the external and internal condyles of the humerus, the radius, and the ulna.

A knowledge of these favorite sites is of importance for the physician, since it affords valuable assistance in making the differential diagnosis between rheumatism and the pain of neuritis, neuralgia, and neurasthenia, which require widely different forms of treatment.

I am fully in accord with Senator's view, that rheumatism is the result of disturbances of circulation, which, in a short time, correct themselves. Were this not so humanity would be in a bad way, and as long as it remained customary to treat fresh cases of rheumatism with fomentations, salves, rest, and catskins, there would be countless cripples drag-

ging out a pain-tortured existence. Sometimes the circulatory disturbance does not correct itself and chronic rheumatism develops, which involves new portions of the body and increases the number of functional derangements. Such patients do not recover spontaneously, and can be cured only by mechanico-therapeutics, often requiring months and years.

At the beginning every sufferer from rheumatism has his recovery in his own hands; he needs only to carry out the movements that give him pain. A poor carpenter who forces himself to saw and plane with rheumatic arms does his work at the expense of pain, but after a short time this disappears. Only the next morning, after hours of rest, does the pain recur again, to be dispelled by work, until finally it does not return. The poor workman has unconsciously carried out the treatment of modern mechanico-therapeutics. Had he been wealthy, the advice of some doctor still behind the times might have impelled him to place his arm in a sling, to apply ointments and fomentations, to make a fruitless journey to baths, and to have joined the unfortunate ranks of the chronic rheumatics.

Thirty years ago I learned by chance that movement is the best cure for chronic rheumatism. I sent to Vienna a horse that had limped for months, owing to rheumatism of the shoulder, in spite of treatment with all sorts of ointments, intending to have the animal sold as a work horse. The coachman who was to ride the horse was allowed three days for the journey. Out of impatience to reach the capital, he forced the pace and covered the distance in two days. On arrival in Vienna the horse no longer limped, and was brought back home completely cured, so that it did perfect service for years.

Every horseman knows the rule not to stable horses immediately on their return from exercise. They are rubbed down with straw (so that the peripheral vessels shall not contract too rapidly), are blanketed and walked up and down for some time before being put into their stalls. Similar rules would be of advantage for human animals.

As the result of my thirty years' experience I draw the following conclusions:

1. The term muscular rheumatism should be dropped in the interest of clearness and simplicity, and the unqualified term rheumatism substituted for it.

2. "Rheumatism" should be understood as meaning all the affections, produced by rapid changes of temperature, in the structures attached to the limbs, the periosteum, and in fibrous membranes.

3. Those disposed to rheumatism do not from a prophylactic standpoint need to dread uniform cold, even if intense, but rather warmth, especially that caused by muscular effort, suddenly followed by rest and cooling off.

4. The most rapid and reliable remedy for recently acquired rheumatism is muscular exercise. The patient should boldly perform the movements that cause pain. Articular rheumatism should of course be carefully excluded.

5. Chronic rheumatism can be cured only by mechanico-therapeutics, in which active and passive movements play the chief rôle.

6. The clergy, school teachers, and foresters should add this simple doctrine of muscular rheumatism to their stock of hygienic lore, in order that they may be able to instruct the people in regions without physicians and so preserve many from serious illness.

THE SPECIFIC TREATMENT OF TYPHOID FEVER.*

By JAMES MORRIS HACKETT, M. D.,
CHAMPLAIN, N. Y.

I WISH to call your attention to a method of treatment of typhoid fever which I venture to call specific. I have evolved this treatment from fifteen years' experience with this remedy in the treatment of typhoid fever, gradually developing each stage until I have reached a degree of certainty as to its efficacy.

While I am aware that up to the present time no remedy has ever been accepted as a specific in the treatment of typhoid fever, I wish to make the statement here this evening in the presence of this distinguished gathering of the medical profession, that mercury in the form of blue mass and calomel is a true specific in the treatment of typhoid fever.

Mercury when given into the human system is taken up by the circulation and distributed throughout the entire economy; this enables the mercury to come in contact with the typhoid bacilli, wherever they may be found, and to attack and destroy them, possibly having somewhat the same fatal action on the bacilli in the system that bichloride of mercury has outside the human system. I have demonstrated many times the fact that when blue mass was given to a patient suffering from typhoid fever, within from four to ten days subsequent to the beginning of the administration of the blue mass, the typhoid bacilli are no longer active in the system. This fact is signified by a gradual reduction of the body temperature to normal, and a general sense of well being of the patient, followed by a rapid convalescence.

In the short time accorded me this evening I wish to outline the mode of treatment, and exhibit a few temperature charts of recent cases. The treatment consists of giving mercury in the form of blue mass to the extent of one or two grains every three hours from the time the case comes under observation until the constitutional symptoms of mercury, viz., soreness of the gums, is noticed. An initial dose of five or ten grains of calomel is given as well, followed in a couple of hours by a Seidlitz powder, or two drachms of Rochelle salts, unless hemorrhage or grave diarrhœa is present. If constipation is the rule during the progress of the disease, five grains of calomel may be given once every day. Calomel is not as safe as blue mass to impregnate the system, as it is apt to cause grave diarrhœa with tormina and tenesmus and even great prostration. Whether the bowels are constipated or loose, the rule is to give an alkaline cathartic every morning during the course of the fever, a Seidlitz powder or a teaspoonful of Rochelle salts, unless there is hemorrhage or some other complication to contraindicate its use.

It is usually the case in typhoid fever that the patient is unable to sleep; this is due, perhaps, to the presence of the typhoid bacilli in the blood and

* Read by invitation at a meeting of the Medical Society of the County of New York, September 26, 1904.

should be met with an opiate. It has been my rule for years to give opium in one form or another in sufficient amount to ensure the patient good rest both day and night. Rest means repair, and this is what is required to procure the best results. Opium likewise retards the peristaltic action of the bowels,

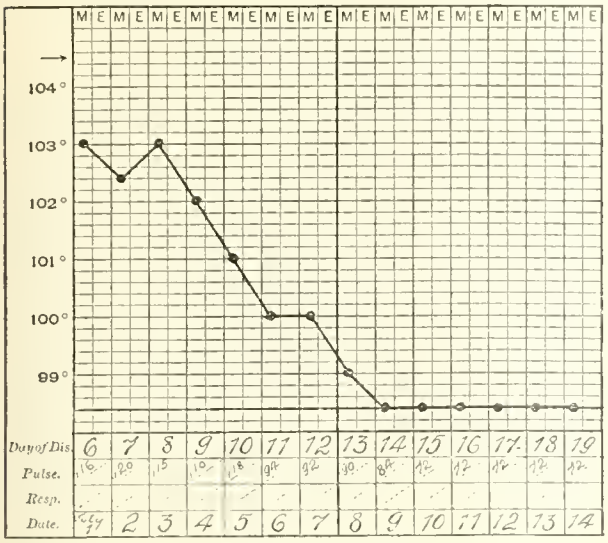

Chart 1.—Wm. R., aet. 45 years.

thereby, no doubt, lessening the danger of hemorrhage and perforation from ulceration; and should hemorrhage occur, morphine (hypodermically) should be given to the extent of keeping the bowels quite free from peristaltic action. An enema of water and glycerine would be indicated to bring about a stool.

In regard to diet, I established a few years ago a standard diet of milk and water in equal parts, a tumbler full, or such a portion of it as the patient could take, every two hours, given ice cold. I observed that this cold nourishment assisted materially in reducing the temperature. If this cannot be borne by the stomach after a fair trial, give some light farinaceous gruel or peptonized milk. I urge my patients to drink water as freely as possible all during the course of the disease; it acts as nourishment and retards the tissue waste induced by the fever. Watermelon I have found to be harmless and to prove a great comfort to the patient, filling a long-felt want in the diet treatment of typhoid fever.

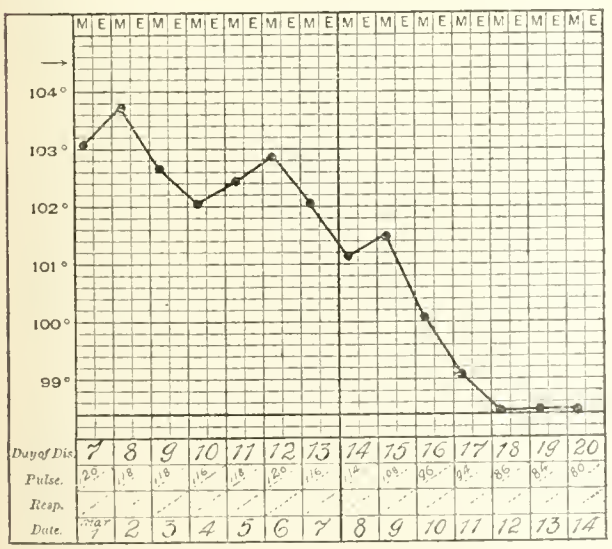

Chart 2.—Thomas L., aet. 16 years.

This treatment by mercury obviates altogether the necessity of the cold bath. However, when the conveniences are at hand, if the temperature is above

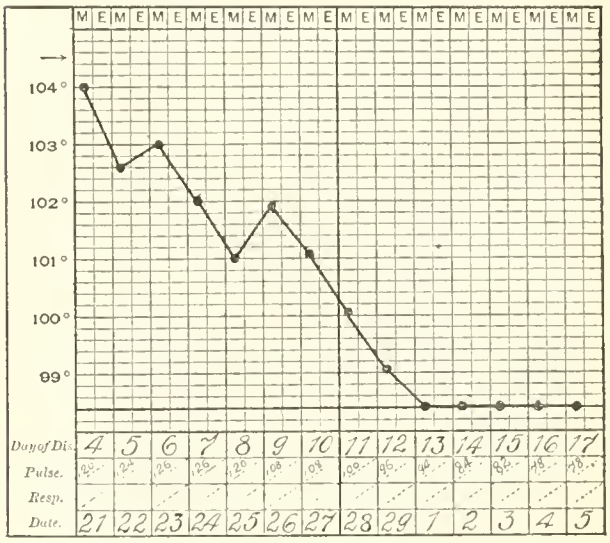

Chart 3.—Madeleine B., aet. 8 years.

102.5° the graduated cool bath is used for a few days as an adjunct to the treatment. It is a fact that cold retards the proliferation of germ life, therefore, in the early stage of typhoid fever, before the mercury has control of the bacilli, and in order to save the tissue waste of a high temperature, I use the graduate cool bath, or a sponge bath with alcohol and water, equal parts, night and morning, for about a week. This is agreeable to the patient, and, no doubt, of great benefit in bringing about a healthy condition of the system.

I have had many cases of typhoid fever, however,

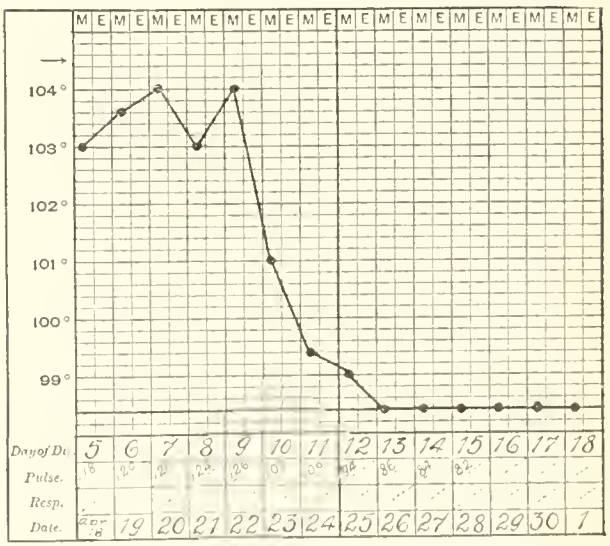

Chart 4.—Edward L., aet. 17 years; there were fourteen hemorrhages between the fifth and tenth days of treatment.

since using the mercury treatment, that were not bathed or sponged, and without any mortality. Two of the patients, whose temperature charts are exhibited this evening, were not bathed or sponged.

As a result of this treatment I have observed:

1. In all cases of typhoid fever mercury is well borne by the system; it required more mercury to

get the constitutional symptoms of tenderness of the gums when typhoid fever was present than under any other circumstances.

2. In the administration of blue mass in cases of typhoid fever that gradually, as the system becomes impregnated with mercury, just so gradually are the bacilli disappearing, so that when the system is impregnated with mercury to the extent of a slight soreness of the gums the bacilli are no longer active. This is signified by a gradual reduction of the temperature to normal and a rapid convalescence.

3. With the use of mercury the patient's blood is in a more healthy state; mercury maintains the red corpuscles of the blood, and accordingly the system does not fall into that state of grave anæmia so common to the disease under other or no treatment.

4. The patient may begin taking solid food as soon as the temperature is normal without danger of relapse. This I attribute to the healthy condition of the blood due to the action of the mercury in the system.

5. A few days after the beginning of the administration of mercury in the treatment of typhoid fever, the tongue gradually becomes moist. The breath gradually becomes less fetid, indicating a more healthy condition of the stomach, and there is a desire on the part of the patient to take the nourishment described. The stools also gradually lose their fetid odor. I have not had a dry tongue continue beyond three or four days after treatment was instituted since I began the use of mercury in this disease.

6. The temperature of the patient treated with mercury in typhoid fever does not become subnormal after fever drops. The reason I ascribe for this is twofold: (*a*) We get control of the disease before the patient falls into a very low physical condition, and (*b*) the mercury preserves and increases the red corpuscles of the blood, tending to maintain the physical standard.

7. It is unnecessary, unpardonable, and unscientific to salivate a patient when using mercury in the treatment of typhoid fever, but I have yet to observe any ill effects of the slightest nature from the use of mercury in the system to the extent only of the soreness of the gums.

I wish to call your attention to four temperature charts of recent cases, with all but one of which I have a certificate from the State Board of Health, certifying that the Widal reaction was present. The other specimen was mislaid in the laboratory at Albany for three weeks, and then proved negative. In this case, however, a young man of seventeen years had fourteen bloody stools from the fifth day of treatment until the tenth. Please notice by these charts that three weeks cover the whole period of illness, and, besides, that the third week is a week of convalescing.

In conclusion I wish to add that this paper may throw light upon the discussion that took place over the merits of the Woodbridge treatment, when we consider that among other drugs used in his treatment calomel was included in prescription No. I.

Mr. Chairman and gentlemen, I wish to thank you for the great pleasure and the distinguished honor of meeting you to-night, and may I hope that the discussion of this topic will be of benefit not only to us, but to those to whom we are called upon to minister. I ask your co-operation to further develop the treatment for typhoid fever, which I have here advocated.

WHY RAILROAD AND SIMILAR CORPORATIONS LOSE THEIR DAMAGE SUITS.*

A CRITICISM OF PREVAILING METHODS.

By JOHN PUNTON, M.D.,
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MEMBER AMERICAN NEUROLOGICAL ASSOCIATION; NEUROLOGIST TO ST. LOUIS AND SAN FRANCISCO RAILROAD, SOUTHERN KANSAS RAILROAD, ETC.

It is not usual for a physician to undertake to instruct the officials of a great railroad system how they should manage their business affairs. It may, therefore, seem somewhat presuming, if not absolutely impertinent, on my part to attempt to criticise prevailing methods, or be so bold as to assume the right to tell them why they lose their damage suits. Such an assumption at once questions my qualifications for such a task, as well as my motives for its necessity, or even the good which may accrue from its public discussion, all of which is pertinent and in strict accord with practical ethical court procedures.

It will be my purpose, however, to answer these questions in the course of my remarks to the satisfaction, I trust, of those interested, and in the hope of demonstrating not only some of their causes, but also needed reforms in dealing with these medico-legal problems.

No thoughtful person can fail to observe the marked increase of litigation of all kinds during the past decade; indeed, the tendency of the age in which we live is to sue for damages on the slightest provocation. It is only a few years ago, however, when the bulk of lawsuits were confined to railroad and insurance companies, but to-day no corporation or private citizen is exempt from its pernicious influence. Moreover, the successful practice which has attended its followers has proven to be a great temptation for the development of a class of lawyers who have earned the unenviable reputation of being designated by the term "snitch," which in medical parlance corresponds to the term "quack" or "charlatan." These miserable scamps rush to the scene of an accident and enforce their services upon the injured on the contingent fee plan, being very careful to enlist the services of some equally unscrupulous person, who having managed in some way or other to possess a medical degree, is thereby allowed to answer to the name of "Doc" or "Doctor," and whose opinions in courts of law are accepted with as much respect and sincereness as the most strictly ethical member of either of these noble professions. Contemporaneous with the "snitch" lawyer and the "quack" doctor, undesirable citizens of another class are rapidly growing in numbers who are also closely identified with the sharp methods and nefarious practice of these irregular professional contemporaries. These correspond to those who practice the deceptive art in relation to alleged injuries, and who invent various novel tricks and devices for the sole purpose of defeating the most thorough and painstaking medical examination.

The marvelous ingenuity displayed at times by these crafty malignerers in practicing their decep-

* Read before the Frisco R. R. System Surgical Ass'n, Altman Building, Springfield, Mo., May 24, 1904.

tion and the great success which attends their efforts at the present time should certainly tend to stimulate us to more effective service in exposing their fraudulent methods. That medical malingering constitutes one of the most formidable evils of the present age is well understood, but its peculiarly successful practice would seem to reflect upon the ability of the medical practitioner to detect its fraudulent character. Unfortunately, it is not uncommon to find well-known, and even reputable, members of both the legal and medical professions lured by these professional barnacles into the temptation of loaning their services in cases of doubtful merit, thus lending themselves and their influence, either through sheer ignorance or want of conscience, to not only unethical but the sharpest forms of fraudulent practice. Hence members of the regular medical profession are often known to place themselves open to severe and critical censure by their thoughtless or intentional actions, while their motives in such a case are readily detected, and by their more strictly ethical professional brethren are at once inaudibly classed where they belong, viz., with the charlatans.

Such disgraceful proceedings have been the means of lowering the value and dignity of both these noble professions in public esteem, but more especially does it reflect upon the integrity of the medical profession, whose opinions in courts of law are now subject to so much distrust, besides being ridiculed and even treated as a standing joke by the general public.

These facts, when associated with the universal intense prejudice which exists toward corporations of all classes by the general public, readily offers some good reasons why railroad companies lose their damage suits, for it must be confessed that when a railroad company, or any other corporation, is compelled by force of circumstances to meet in courts of law a trio of dangerous elements like those of a "snitch" lawyer, a "malingerer" and an "unethical doctor," and attempt to vie with them and their shrewd, malicious practices, it means certain defeat to those who oppose them.

That a combination of this kind, in part or whole, is found to exist in the very large majority of damage suits in which the railroads fail to obtain a favorable verdict is common knowledge, for experience proves that it is not the conditions in which undoubted organic changes are present that result in litigation, but those in which the evidence of an injury is largely subjective in character, and therefore readily assumed or simulated, and consequently more subject to doubtful inquiry. Moreover, when this dangerous combination is assisted by the active participation of some well known and supposedly ethical members of either the law or medical professions, their cause is greatly strengthened, for what may be lacking in their combined efforts to prove the actual liability of the railroad company the inherent public prejudice, which also extends to the jury, more readily supplies the missing link which completes the chain of evidence sufficient to establish the conviction of culpable neglect or responsibility on the part of the railroad officials, and an unfavorable verdict is the inevitable consequence.

Having for many years been called upon at different times, both at home and abroad, to serve in the capacity of a medical witness in damage suits, both for and against railroad, insurance and other corporations, beside individuals accused of crime and other misdemeanors, as well as pass upon the mental capacity of those suffering from various brain diseases and the ability of such persons to perform certain duties, such as make a will, sign a contract, and similar transactions, exceptional opportunities have been afforded me to become more or less familiar with the various methods pursued in the different courts in which the cases were tried, as well as recognize some of the prevailing evils which affect our courts and the present jury system. In this connection it affords me great pleasure to note that during the many years I have been associated in this way with our courts of law the utmost courtesy and kind consideration have always been accorded me by the court officials, and I am firmly convinced that they are much more ready to learn the truth than falsehood from any witness, and from the maze of confusion which ordinarily attends the average medical court examination they readily discern the sterling qualities of honesty, truth and sincerity of purpose when forthcoming from the medical witness, even though they be powerless to change the prejudicial convictions of the jurymen.

Moreover, in my extensive dealings with the officers who represent the various corporations, whose business, like that of a large railroad system, necessarily renders them more liable to become entangled in lawsuits involving medico-legal problems of the highest order, to their honor let it be said that not once have they asked me to favor them unduly or become biased in my judgment in their behalf. My instructions have invariably been to make a thorough examination of the patient and report the actual conditions as they exist to the best of my ability. That this, however, is contrary to general belief and opinion is very clear, for my experience proves that an effort is made in the large majority of damage suits in courts of law to show the jury that not only are the medical employees of railroads and other corporations necessarily biased in their opinions favorable to the company, but are even instructed and coached in regard to their testimony, thus attempting to prove that their evidence lacks truth and destitute of all honest intention, beside implying that such employees are simply assuming the "role" of bought witnesses.

This again furnishes another good reason why railroads lose their damage suits, for it cannot be denied that, notwithstanding the honest purpose of such a medical witness or his special qualification to serve in that capacity, the mere fact of his being an employee or furnished with a pass on the railroad is sufficient evidence, according to many unscrupulous lawyers, to cast a slur upon the integrity of his motive to tell the truth upon the witness stand.

A common misconception is also prevalent, especially among lawyers, to the effect that the conflicting testimony of the physicians is the responsible agent for many of their failures to win damage suits. It would require too much time to refute this charge in detail, and perhaps in a few cases such an accusation could be successfully sustained, but in the very large majority of cases my experience proves that it is not so much the fault of the doctors as the lawyers who question them that cause not only the fail-

ure, but also the medical confusion, as medical science is much more exact than they are wont to believe or allow. This therefore brings me to the very climax of my theme, for, in my judgment, it is not the doctor, but the want of medical knowledge on the part of the lawyer that tries the case, that not only results in the loss of the suit, but also proves so often disastrous to the railroad treasury.

No medical man who has had experience in our courts of law could fail to recognize the woeful ignorance of medical science that the average lawyer betrays. Without attempting to underrate their special technical knowledge of law or their educational advantages in other departments, I do not hesitate to aver that the medico-legal department of the average railroad is the weakest link in the great chain of all their mighty connections, and that lack of thorough organization of this important department is the most plausible of all the reasons that can be assigned for failure to win their damage suits. To prove the truth of this assertion, watch carefully the proceedings associated with the medical witnesses next time you attend court, and you will discover that it is the rarest exception that a lawyer can take advantage of a manufactured answer to his question by a medical man, when he desires to prevaricate or evade the truth. Many an answer given in this way is a medical contradiction, and often implies to the scientific physician an impossibilty, and out of all keepng with clinical experience and medical knowledge, yet the fictitious answer is allowed to go to the jury as a correct solution of the problem, because the lawyer fails to recognize its deception, as he is unversed in medical literature, and consequently cannot interpret its false and unsound premise. What physician, for instance, would accept without treating it as a joke the answer to the question, "Doctor what was your diagnosis of the case?" Answer, "Traumatic injury with general results." This was a case in which a quack doctor claimed that his patient had sustained permanent injuries, as the result of a slight accident. The lawyer representing the corporation ranks high in his profession, yet he failed to see the absurdity of this answer, and was therefore unable to demonstrate to the jury its fallacy. It is needless to say, he lost the suit, and the company was assessed several thousand dollars damages.

A short time since, a doctor in good standing claimed that the person he was defending had paralysis of nearly all the cranial nerves, but upon cross examination, said that the fifth supplied the face, neck, and upper extremity with motion. The lawyer representing the railroad company failed to recognize the absurdity of this answer until his attention was called to it, but not before the witness had been excused from the witness stand. Moreover, the plaintiff did not suffer from either motor or sensory paralysis, still he secured a verdict for $10,000.

As the result of a slight fall on a sidewalk, a doctor recently claimed on the witness stand that the heart had been displaced downwards two inches to the left, while three reputable physicians testified that the heart was not only normal, but the alleged displacement was an utter impossibility when all the circumstances were duly considered, yet this person secured a verdict for several thousand dollars.

Some time ago I was called as an expert to examine and testify as to the mental capacity of a man suffering from paralysis agitans, and his ability to sign a contract. After examination, it was my opinion that he was mentally competent. It seems he had failed to live up to a contract, and was sued. The evidence proved that he had always been a shrewd business man and acquired considerable wealth.

An old physician being called to the stand, testified that during his twenty years' practice in the neighborhood (a sparsely settled district of Missouri) he had seen at least a dozen cases of paralysis agitans among the inhabitants which had rendered all of them "*non compos mentis.*" The lawyer for the plaintiff, however, failed to recognize the absolute contradiction to medical experience and knowledge contained in the statement of the doctor, and allowed it to go to the jury unchallenged, which resulted in a verdict favorable to the defendant. These examples are cited simply to emphasize the fact that the lawyers themselves are unable to recognize the educational weakness of the medical men, whom they undertake to examine for the purpose of extracting the actual truth.

What is, therefore, needed, in my judgment, is a closer bond of union between the lawyer and the doctor, a more harmonious relationship between the legal and medical departments of the railroad; in fact, the organization of a medico-legal strategic board, composed of both lawyers and doctors, in connection with every great railroad system, whereby the lawyer can become better acquainted with general and special scientific medicine, and the doctor more thoroughly versed in practical legal technical matters. Only in this way can the legal and medical departments work together as a unit, as there should be a common understanding between the two, for at the present time these are carried on as distinct and independent departments, when, practically speaking, in courts of law, their interests are one, having the same aim and object in view, viz., to demonstrate to the jury the actual truth concerning the case at issue.

Every damage suit of large proportions, at least when there is the slightest suspicion of fraud or deception, should be fought and won before it reaches the court, on the same principle that the strategic board belonging to the War Department at Washington not only prepares plans for war, but fight battles and win victories before the actual conflict occurs. The same idea is implied by the insurance companies, who not only undertake to protect physicians from law suits, but are prepared to fight their battles in courts of law, with every assurance of final victory.

As it now stands, the medical department of a great railroad system is composed of the busy medical practitioners scattered along the steel highway, commanded by a chief surgeon, who, in addition to his multitudinous duties, is expected to take full charge of the hospital service, with all of its business ramifications, beside perform the major operations and the subsequent care and treatment of all those employees whose condition requires them to be confined in the large general hospital belonging to the company, as well as testify in court as an expert, when he is called upon. It is practically impossible for any chief surgeon thus situated to devote the time and attention that it justly demands

to the solution of the many intricate medico-legal problems that naturally arise in connection with the injured who resort to litigation for their recompense. Moreover, the local surgeons, at his command, are often called suddenly to the witness stand to answer the most difficult medico-legal problems without the slightest preparation. The fault of such a method, as well as its unfairness, easily explains why railroads lose their damage suits.

In addition, we also find the legal department no better prepared to grapple with these same problems, for it is not uncommon to find a firm of local lawyers residing in the town in which the case is tried, representing the railroad company, enforced to conduct a law suit in which several thousand dollars is involved, and in which medico-legal problems of the highest order are concerned, and yet they are destitute of the slightest assistance from their legal or medical headquarters. To their honor, however, let it be said that the shrewd and able manner in which they often conduct such difficult cases command the admiration of those interested, even though their lack of medical knowledge cause them to lose the suit.

Another reason why railroad corporations lose their damage suits was beautifully illustrated recently when the state attorney of one of the leading railroads refused to listen to the advice of an equally prominent doctor, in reference to a case which was attended with dangerous elements to combat in a court of law.

The lawyer admitted that the man was injured, thereby conceding the lawful liability of the company, and upon examination, the doctor claimed that some of the symptoms were the result of the accident, while others were simulated, and advised settlement of the claim, which could be done for less than $3,000. The lawyer, however, scorned the idea, and in his confidential pride said that he did not propose to be stampeded by any such advice, and would rather fight it out in court to the bitter end, which was eventually done to the tune of a verdict for a fraction less than $15,000, and which, unfortunately for the company, still stands against them, as a new trial has already been refused.

The only remedy, in my judgment, for this lack of organized effort, and one which will fuse the interests of all concerned, is the establishment of a *medico-legal department,* composed of alienists, neurologists, physicians, surgeons, and lawyers of undoubted reputation, skill and experience in their respective specialties, whose combined efforts should constitute a strategic medico-legal board, the duties of which should be to furnish and prosecute plans of defense against the inroads of fraudulent claims upon the railroad company they represent. This should be a separate and distinct organization from the present employees' hospital association, but should work in harmonious relationship with it, and its work thus becoming a safeguard to not only the railroad company, but also its numerous employees. Such an array of combined talent, working in harmony, could not fail to accomplish much good in both the equalizing of *just* claims as well as curtailing the great success which now attend the efforts of malignerers in our courts of law, while the expense incurred in the maintenance of such a board of experts would not begin to approach the amount of money now paid annually to fraudulent claimants. This method has already, to a very limited extent, been inaugurated upon the great railroad system we represent (the Frisco) by recognizing the special departments of medicine on its medical staff, and under the able direction of Dr. G. W. Cale, the Chief Surgeon, has already accomplished very substantial evidence of its power to yield financial results favorable to the company, for no railroad officer can become familiar with the celebrated "Hoskins" case of Fort Worth, Texas, without recognizing the value of medical expert opinion.

This, as you know, was a deliberately planned scheme to defraud this railroad company of $75,000, and an actual judgment had been secured by the malignerer for $35,000, even in spite of the fact that the fraud had been detected by Dr. Cale and myself, and had even been exposed in no uncertain way in my testimony on the witness stand. That this actually led to the confession and conviction of "Hoskins," as well as setting aside the verdict to the financial benefit of this railroad, I think you will all agree, and simply emphasizes the strength of my position when I advocate the necessity of the establishment of a medico-legal board of experts. In the vast majority of these damage suits, the same problem presents itself for solution, viz., the nature and extent of injury to the nervous system. This takes precedence of all other questions associated with such litigation, and such being the case, it is, in my judgment, not only possible, but absolutely certain, that this apparently complicated subject can be reduced to a definite number of intelligent facts, which, when duly presented, would not only appeal to, but come within the comprehension and understanding of, the average juryman, thereby enabling him to perceive the slick tricks and fraudulent character of many claims which he is called upon to pass final judgment.

The gross injustice which now prevails, in not allowing proper surveillance and examination of those claiming damages, is also responsible for many miscarriages of justice. That popular opinion inclines to the belief that railroad companies pay too little heed to the protection of human life, in order to enlarge their yearly dividends, is also a mistaken idea, and not in accordance with the truth. The facts are, there never was a time in railroad history when so many safeguards were furnished the human passenger. Notwithstanding all the improvements which modern invention supply, and the numerous safety devices for the good of humanity, which every first class railroad system has added to its equipment, it is a notable fact, according to the information furnished me recently by the vice-president of one of our great railroad systems, that during the past decade, in spite of all the many expensive instruments employed to protect passengers from injury on our railroads, damage suits have increased more than sevenfold during this period. What a sad commentary on our medical and legal professional ability, for it is only fair to presume that if the many frauds were detected and exposed in our courts of law, that appear there for legal adjudication, malignerers would not do such a thriving business.

That certain lawyers are known to refuse the truth when forthcoming from medical men, is also true,

hence we find them insisting upon the result of the examination of their client being made known prior to the medical witness being called to the witness stand, and if the medical opinion is not in accord with the view of the lawyer or his plan of defense, the medical witness is excused at once from testifying, because the lawyer does not wish any testimony to reach the jury that might injure his case, and thus the truth is often concealed or rejected.

It is also not uncommon for physicians to claim that railroads deserve to lose their law suits because of the niggardly manner in which they treat and pay medical men for their professional services. That railroad officials often treat medical men in a shabby manner, and fail to recompense them in proportion to the time and value of their services, is quite true, but this should never militate against their telling the truth on the witness stand. Moreover, it is a common observation that railroad officials pay too little heed themselves to local law or city ordinance, whenever an infringement of these are necessary to carry out to final completion a certain definite plan which adds to their convenience and financial profit; hence these shortcomings lend additional reasons why they lose their damage suits. Recognizing, however, that there are many faults on all sides, it is very clear that these will never be adjusted until some practical move is made in that direction, for it cannot be denied that the time is at hand when reforms are greatly needed relative to the solving of the many medico-legal problems which arise in connection with railroad injuries.

Admitting that the plan suggested for its relief is largely theoretical and open to just criticism, for no doubt there will be those that can see no good accruing from such a course, as such critics can always be found ready to attack any step in advance, even though they be wholly incapable of offering any better assistance. That the organization of a medico-legal strategic board of experts is perhaps not altogether ideal and without any flaws, yet its practical operation would certainly be a vast improvement on the faulty methods now in force. The time, however, may come when the physician employed on either side can take the case under advisement, and consider all its details impartially and dispassionately, thus conferring together in such a manner as to reach a mutual agreement, which can thus be referred to the court or jury. But in the absence of such an ideal method, the plan herewith outlined at least has the advantage of not only favoring the detection of fraud in all its forms, but also tends to overcome the many errors that now exist between both the lawyer and doctor, which again would also duly enlighten the citizens comprising the jury.

In order that my motive for presenting this subject may not be construed as having a mercenary or commercial object, I desire to state that under no consideration would I accept a position on this board were it offered me, but believe that the salaries attached should be sufficiently large and remunerative to command the services of the most able experts, who should devote their sole time and attention to this work. In its more matured state, the plan suggested would also embody features looking toward the enactment of laws having for their purpose the more just and equable disposition of such cases, as well as remedy many of the existing evils with which they are now surrounded.

It is to be hoped, therefore, that the plan advised will be duly considered by the proper officials, and if deemed worthy and expedient, will early inaugurate its practical operation. Such a course, in my judgment, will not only benefit the railroads and other corporations, but also all those who are in any way associated with damage suits arising from railroad and other forms of injury.

Altman Building.

ACUTE TETANUS CURED BY INTRANEURAL INJECTIONS OF ANTITOXIN.

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In the last few years a number of valuable articles upon the treatment of tetanus have appeared and a sufficient time has elapsed since the advent of the serum therapy of the disease to draw conclusions of some value. The generally accepted mortality under the symptomatic plan of treatment is from 80 to 90 per cent. in the acute form and 25 to 40 per cent. in the chronic form of the disease.

The use of antitoxin (by various methods) appears to have reduced the general mortality to between 40 and 50 per cent.—of the acute form to about 70 per cent., and the chronic to from 20 to 25 per cent. Packard and Willson, in a study of 1,216 cases of tetanus treated with serum found an average mortality of 42.2 per cent. Moschowitz, in a collection of 461 cases treated with serum subcutaneously and intravenously, found an average mortality of 40.3 per cent. Packard and Willson in 233 cases treated by intracerebral injections of antitoxin found a mortality of 58.7 per cent. Lambert in 52 cases, similarly treated, 87.50 per cent. for the acute cases and 26.66 per cent. for the chronic cases. There are many smaller collections of cases treated by various methods and with a mortality range of from 5 to nearly 100 per cent. Baccelli's method of carbolic acid injections does not appear to have achieved much success outside of Italy.

It appears in general that the earlier the treatment is begun and the larger and more frequent are the doses of antitoxin, the better is the result. Prophylactic injections are almost universally commended, and recorded as most valuable. But it is evident that the mortality figures for the serum treatment of tetanus are too favorable, many unsuccessful cases lacking report.

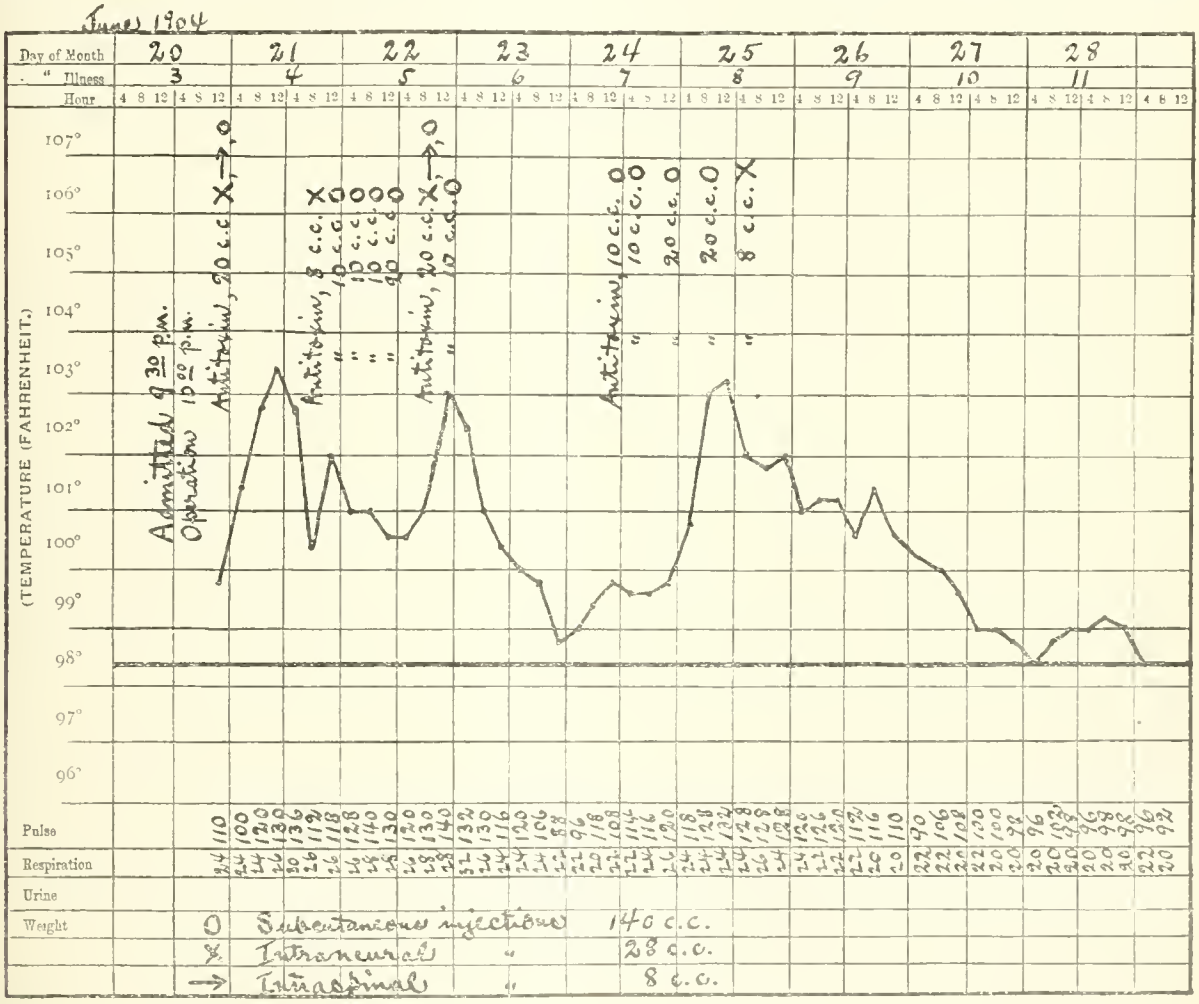
During the past year one of the last links in our chain of knowledge for the successful treatment of tetanus has been welded. How to overcome the toxin in its selective action upon the cells of the central nervous system, when once the symptoms of the disease have appeared, has been the problem. Since Nicolaier in 1884 produced tetanus by injecting garden earth under the skin in mice and rabbits, the sum total of our practical knowledge of this disease has steadily grown. Kitasato isolated the bacillus in 1889. Kitasato and Behring in 1890 showed that animals could be immunized against tetanus. Wassermann and Takaki showed that nearly all the toxin is taken up by the nervous tissue. Roux and Borrell in 1898 experimentally injected antitoxin into

the brains of tetanized guinea pigs. Blumenthal and Jacob in 1898 experimentally injected antitoxin into the subdural spaces in goats. Castromnovo, Bolton and Fisch, Zupnik and others did much experimental work upon the occurrence and distribution of the tetanus toxin in the animal body. Marie and Morax in 1902 and Meyer and Ransom in 1903 experimentally established the fact that tetanus toxin reaches the central nervous system only through the intact axis cylinders of the motor nerves, and moreover through the muscle end plates of these nerves. Furthermore, that it can travel only centripetally along them. Antitoxin follows the same course. Toxin or antitoxin, wherever generated or introduced, is first carried by the circulation to the end plates, or to some anatomical wound of the nerve fibres or trunk before the ascending journey to the central nervous system can begin. To traverse a nerve to its origin in the cord takes several days—the time varying directly as the nerve length.

It is obvious, therefore, why it is, when once symptoms have appeared, that treatment of this severe disease by subcutaneous injections of antitoxin so often fails in the acute cases, since so much time must elapse before the antidote can begin to neutralize the poison.

The exposure, by operative procedure, of the nerves of the part affected, and the injection of antitoxin into their trunks, allows not only a direct entrance for the antitoxin with consequent saving in time, but blocks the path for further toxin absorption by neutralizing that which is ascending. The nearer to the affected cells in the spinal cord the antitoxic serum can be placed, the better. Lumbar puncture (or even higher) should be done, the nerves of the cauda equina should be scratched, and antitoxin injected. Rogers has suggested the applicability of laminectomy to enable one safely and surely to scratch the cord. Meyer and Ransom seem to have been the first to treat the disease by this method, and successfully. Rogers' brilliant work should prove a stimulus to the method in this country. To his two papers (MEDICAL RECORD, May 21 and July 2, 1904) and reports of two cases successfully treated, I am indebted for much information.

The following case of acute tetanus furnishes, I think, very strong additional proof of the superior efficacy of the intraneural and intraspinal injections of the antitoxin in the treatment of this hitherto very fatal disease. This patient was admitted upon the Surgical Division at St. Luke's Hospital to the service of Dr. Robert Abbe, to whom it was referred by Dr. C. G. Kerley. For the privilege of observing the case and administering a number of the injections, as well as for this report, I am indebted to Dr. Abbe. The method, as reported by Rogers, was followed.



E. D., a boy of 5 years, seven days beefore he was taken sick, had stuck a very small sliver of wood beneath the skin on the outer side of the right knee. On Saturday, June 18, he complained in the morning of his jaws feeling stiff, especially at meal time. He could not open his mouth freely, and "ceased to laugh heartily." Was restless that night. The fol-

lowing morning there was quite marked rigidity of jaw and neck muscles, the boy could not take solid food, and complained of pain in the back of the neck and in the back. He walked with difficulty. He was seen by Dr. Terhune, the family physician. The first marked spasm occurred that evening.

Thereafter he was unable to turn himself in bed.

June 20.—All the symptoms increased in severity and spasms occurred frequently in the afternoon and during the ride to the hospital, to which the patient was admitted 9:30 P. M. The boy was of average frame, well nourished. There was moderate continued opisthotonos with head retraction and general muscular rigidity. The muscles of the right side seemed more affected. Slight spasms occurred about every ten minutes and lasted half a minute, but without cyanosis or labored breathing. Severe spasms were provoked by palpating the muscles of the back or neck. There was some photophobia. Trismus prevented a separation of the teeth of more than one-third of an inch. The pupils were equal and normal; the temperature was 99 4-5° F., the pulse 110. There was a very small healed wound on the right knee without local reaction.

The operation was performed at 10 P. M. The anterior crural and sciatic nerves were exposed for 1½ inches and raised on a flat probe. Injections were made with a fine hypodermic needle and well up and down the nerve trunk, the needle being inserted several times in order to slightly wound the filaments, three c.c. antitoxin being injected into each trunk. In order to facilitate reinjection of the nerves and to allow as much absorption of antitoxin as possible, the wounds were left open and lightly packed with sterile gauze strips saturated with antitoxin. Rubber tissue prevented absorption of the serum into the dressings. A lumbar puncture was made between the second and third lumbar vertebræ, and after allowing a small amount of fluid to escape 3 c.c. antitoxin was injected. At the same time an attempt was made to scratch the nerves of the cauda equina. Ten c.c. of serum was then given subcutaneously.

During the night patient had three marked and many slighter spasms. Chloral and potassium bromide given by rectum produced a quieting effect.

June 21.—Convulsive seizures were more frequent and more severe, controlled somewhat by chloral and bromide of potassium and chloroform inhalation. Temperature 103.4°, pulse 120 to 130. The intraneural injections were repeated under chloroform. During the night the spasms decreased.

June 22.—In the afternoon and evening the spasms were more severe again. The intraneural and intraspinal injections were repeated under chloroform.

June 23.—The patient was much weaker, having had several severe spasms during the night. The spasms were more frequent and severe during the day, requiring chloroform inhalation repeatedly.

June 24.—Condition improved; spasms less severe and frequent. This was the first day that diminished rigidity of jaw could be noticed. In the afternoon and evening there was some increase in the frequency and severity of spasms, and one of the most severe type occurred, accompanied by cyanosis and a barely perceptible pulse.

June 25.—There was one severe spasm again in the morning. The intraneural injections were repeated. The boy was able to take nourishment more freely during the day.

June 26.—The patient passed a better night, having had no spasms since 10:30 the previous evening. From the 26th to the 29th slight spasms occurred, but only in the mornings and at about the same time every day (8 to 10 A. M.). Improvement was steady and continuous, and the patient was allowed up on July 9 (the twentieth day after admission). There was no disability and the wounds had healed without suppuration.

The effect of the chloroform given for the injections and for the relief of the more severe spasms seemed decidedly beneficial and absence of spasm would be noted for some time after it had been given. Brandy, 15 to 20 drops every three or four hours, was given for several days by the mouth with the food. Chloral and potassium bromide were used from time to time, with the effect of diminishing somewhat the frequency of the contractions. The little patient was able, as a rule, to take a fair amount of fluid nourishment by mouth—but one day occurring during which practically nothing could be given in that way.

The very small, completely healed, and insignificant scar on the knee was not excised, as its appearance was so entirely healthy and without sign of local disturbance whatever. It is hardly necessary to say that energetic local treatment of existing wounds, even to excision, should always be employed.

The patient received nearly 180 c.c. antitoxin (some was lost in intraneural injection and some used in wound packing). The case of Meyer and Ransom and the two cases of Rogers are the only ones that I have seen reported as treated by this method to the time of writing. That the method is the greatest advance in the treatment of this grave and very fatal disease that has yet appeared and a triumph for surgery, these four cases (two of early development) would seem to show.

A temperature chart of the first eight days is appended and marked with the quantity, time and site of the antitoxin injections. The value of the intraneural and intraspinal injections over the subcutaneous administration is, I think, well shown in the temperature curve and pulse record.

Temporary Idiosyncrasy Against Mercury.—Berliner reports a case in which mercurial inunctions in a pregnant woman were followed by most alarming symptoms. During the sixth month of her pregnancy the patient developed a typical specific angina, accompanied by lesions of the mucous membranes and a macular eruption. The infection could be verified and the woman was given daily inunctions with 3 grams of mercurial ointment. Three days later she developed a severe enteritis, which failed to respond to the usual astringent treatment, and was accompanied by an extreme prostration. The symptoms disappeared within three days after the treatment was discontinued, only to return when it was again instituted, although in lessened dosage. The mercury had finally to be entirely omitted. A full term child was born, which died within five weeks of melæna and syphilitic pemphigus. Six weeks after delivery the inunctions were again started and continued without any evil effects. The author attributes the diarrhœal condition to the swallowing of saliva, which was very profuse. The teeth and gums were also in bad condition.—*Allgemeine medizinische Zentral-Zeitung*, Aug. 6, 1904.

Hemorrhage Before, During, and After Labor.—Julius Rosenberg discusses here the hemorrhages due to a premature detachment of the normally implanted placenta, placenta prævia, and post partum hemorrhage. He draws a vivid picture of sudden, severe hemorrhage during labor. He believes that Graves's disease is a potent etiological factor of accidental hemorrhage, the immediate cause being vasomotor disturbances which are present in this disease. Traumatism, direct or indirect, is named as a cause. Emotion, hydramnios, multiple pregnancy, unusual shortness of the cord, and anatomical abnormalities, may all produce premature separation of the placenta, but the most important factors are syphilis, nephritis, and uterine tumors. In concealed hemorrhage, the prognosis for both mother and child is very grave. In external hemorrhage the mother's chances are better. The mother only should be considered. Delivery should be attempted at once. The uterus must be emptied before the bleeding will stop. If possible, version, forceps, or craniotomy should be performed, but if the cervix remains intact, it should be incised. The supravaginal part, however, must first be dilated. When the placenta is attached to the lower uterine segment, it is called placenta prævia. The writer describes his treatment of hemorrhage in cases of undilated cervix as follows: The vagina is tamponed at once with iodoform or sterilized gauze, whether labor pains are in progress or not. The tamponade must be firm, especially in the fornix vagina. This treatment generally stops the bleeding. If the cervix will admit the finger, the membranes should be ruptured. If the hemorrhage is profuse, and the larger part of the placenta occupies the cervix, combined version is the best treatment. The writer emphatically opposes the forcible extraction of the child through the partly dilated cervix. Postpartum hemorrhage often follows accidental hemorrhage and placenta prævia. Hemorrhage with the placenta still in utero is generally due to undue interference during the third stage. The uterus must be emptied without delay. True postpartum hemorrhage, that is, after expulsion of the placenta, is due to an atonic state of the uterine muscle. Hemorrhage should be combated before delivery. All should be ready for this possible complication. Before treating the condition the source of the bleeding should be determined. Uterine massage is the quickest method in atonic hemorrhage. Intravenous infusion should be saved for desperate cases. After the hemorrhage is arrested, physiological salt solution should be injected into the rectum and under the skin of chest and thighs. For the flagging heart, the writer uses the hypodermic injection of camphor in a 1:9 solution in oil of sweet almonds. Hot cloths upon the chest and precordium have an excellent effect upon the circulation and respiration. Feeding by mouth must be avoided. The writer employs the ice-bag after any intranteurine manipulation. It saves the patient much pain and is a good prophylactic against inflammation.—*The American Journal of Obstetrics.*

Innervation of the Heart and Use of Cardiac Stimulants in Treatment of Shock.—O. O. Witherbee, in discussing the treatment of shock, declares that something is needed which will affect not only the vessels of the splanchnic area, but also those of the entire vascular system, and at the same time exert a direct action on the fibers of the heart. This must act independently of the nerve apparatus, and the manner of its introduction must be such as to admit of the least possible delay. He shows that extracts from the suprarenal gland have met the indications in a larger percentage of cases than has any other therapeutic agent yet used. This drug has a direct action on the heart and blood vessels, as well as on both the central and peripheral vasomotor systems. It is also a respiratory stimulant, and increases general metabolism and body temperature. It is not markedly toxic, and may be safely given far in excess of amounts sufficient to increase blood pressure.—*California State Journal of Medicine.*

Non-Diphtheritic Membranous Anginas.—Louis B. Wilson gives the following groups of microorganisms which have been found constantly associated with the 5 types of pseudomembranous anginas that have been hitherto reported. They are associated with (1) streptococci; (2) diplococcus pneumoniæ; (3) Friedländer's bacillus; (4) the spirillum of Vincent, and (5) blastomycetes. In the last group, besides thrush—due to oïdium albicans, which is at times anginal in character, there is considerable evidence that quite an important group of anginas is associated with the presence of a blastomycetic organism often called "yeast." The writer presents the following summary and conclusions: (1) The non-diphtheritic pseudomembranous anginas may be divided into several groups, each of which is a more or less distinct clinical entity associated with a species of microorganism, either alone or in great preponderance. (2) These non-diphtheritic anginas are important not only because of the necessity of differentiating them from diphtheria, but also because (*a*) they are frequently transmissible, and (*b*) their treatment should vary according to the microorganism present. (3) Our present imperfect knowledge of these anginas should be added to by carefully made and carefully recorded clinical observations in connection with full bacteriological investigations. (4) In order to determine as early as possible the etiological factor in anginas, direct coverslip or direct slide preparations from the membrane (as well as cultures on the ordinary diphtheria media) should be made by the physician on his first visit. These should be dried without heating, then fixed by heat and either stained by the physician or sent to a laboratory with the culture for further examination. This technique should be supplemented whenever possible by cultures on media more suited to the development of non-diphtheria-like microorganisms than is Löffler's blood serum, such, for instance, as broth or agar, both neutral and acid.—*The St. Paul Medical Journal.*

The Piezometer, an Instrument for Measuring Resistances.—Howard A. Kelly describes a new instrument, which he declares is not intended to replace the method of palpation, but to supplement or to confirm the results obtained by it. It is intended to register varying degrees of resistance. By its use a simple, scientific, objective means of demonstrating pressure is substituted for the subjective methods, which depend upon the use of the fingers. The instrument consists of a slender, graduated rod, about 30 cm. long. It is divided into centimeters from the lower end up to a metal cylinder, about 13 mm. in diameter, and 18½ cm. in length. In this the upper part of the rod is enclosed. This cylinder has an opening about 10 cm. long, in which slides an indicator attached to the rod that, when not in use, is held at the lowest point by a spring, where it registers zero. The distance between the zero mark and the upper part of the fenestra is graduated by hundreds up to 2 kilometers. A fenestrated wheel slides on the rod, between the button at its lower end and the cylinder. By means of this instrument one is enabled to estimate varying degrees of resistance, thus ascertaining the amount of pressure necessary to elicit tenderness, while at the same time the instrument registers the depth of the depression made on the skin surface, by means of the wheel. The instrument may be used for several purposes. For outlining an abdominal tumor, by using a given degree of pressure, for example, 800 grams; the depth of the impression made by it, as registered by the wheel, is noted. When pressure is made over a tumor only a slight depression is registered. When the same degree of pressure is made over the soft parts of the abdomen, the rod may sink in as much as 2 cm. or more. The piezometer may be used for estimating the degree of rigidity in the right iliac fossa, in doubtful appendicitis, by comparison between the rigidity of the right and left oblique muscles. Again, it may be used as an algesimeter. It will prove of great value to the teacher of physical diagnosis.—*Bulletin of the Johns Hopkins Hospital.*

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THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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THE SUPPRESSION OF TYPHOID FEVER AT ITS SOURCE.

NEW YORK CITY is passing through its annual visitation of typhoid fever in rather more aggravated form than usual this autumn. The large morbidity and mortality figures for typhoid fever presented in the weekly report of the Health Department have served to direct public attention to the prevalence of the disease, but except that the figures are a little larger than usual, there is nothing peculiar in the present autumnal epidemic. We have it every year—this "vacation typhoid," and it is the penalty we pay for our foolish trust in "the old oaken bucket." We go to the woods and the mountains asking for health and we get disease. This is the chief source of our typhoid fever, the importation of the bacillus in the bodies of its victims, but there is doubtless some brought in with milk and salads. In whatever way it comes, however, it comes from the country, and is never city bred. This is as true of every city as it is of New York, hence if we would do away with typhoid fever we must initiate the work of sanitation in the country. The filtration of the water supply is an excellent safeguard, and expensive as it is, it would well repay every city to install a filtration plant; the boiling of water will undoubtedly kill all the contained microbes—the good with the bad unfortunately—but if this method is to be effectual all the water, that for bathing and dishwashing as well as for drinking, must be treated; but when all this has been done our salads and other vegetables eaten raw may carry infection, and milk cans and bottles may be washed in infected water or the milk may be diluted with it. We are then at the mercy of the country, and we must demand of the country a sanitary reform.

In a well reasoned paper read at the annual meeting of the Connecticut Medical Society in May of this year, Dr. William C. Daggett, of New Haven, insists upon this fact of the rural origin of urban typhoid fever. He shows that in a sense the inhabitants of even the most remote country districts are neighbors of the city dwellers and as such they must not be allowed to maintain a nuisance. There is, he says, an ever increasing likelihood that the water on the farm will in some way reach the city, either directly through the public water supply or indirectly through the medium of milk or vegetables, and the farmer should therefore be held strictly accountable for the sanitary condition of his premises. The *fons et origo mali* is, of course, the country privy, the location and construction of which are, more often than not, faulty, and which is in consequence a potential focus of an epidemic of typhoid fever, either in the immediate neighborhood, or, more probably, in some distant town the water supply of which is drawn from the water shed which this privy pollutes.

In order to bring about a change in these conditions, Dr. Daggett suggests the organization under legislative enactment of a board of State sanitary inspectors, permanent in character, each member to be a competent civil engineer (we think one, at least, should be a sanitarian with medical training), this board to make a detailed sanitary survey of the State with reference to the relative locations of privy vaults and sources of water supply, with power to condemn and relocate wells and privies when necessary, and with instructions to advise the people as to the use of screens and the guarding of compost heaps to check the breeding of flies. The inspectors are to make frequent rounds of their respective districts to see that their recommendations are enforced, and to advise in all matters of a sanitary nature.

We are in hearty accord with the spirit of the above suggestions, and would urge that they be seriously considered by physicians, health officials, and legislators everywhere. The outlay would be large, but the returns would be far greater, and the resultant education of the people would bring about not only a radical diminution in the number of cases of typhoid fever, but also a marked decrease in the prevalence of other diarrhœal diseases which are fostered by unsanitary conditions. The Connecticut State Board of Health has taken the matter up, has had Dr. Daggett's paper printed for general distribution, and will endeavor to have suitable legislation along the lines here suggested enacted during the coming winter.

THE ORIGIN AND FUNCTION OF NEOPLASMS.

DR. MARY A. DIXON JONES, in a recently published article on the origin of fibroid tumors and other pathological formations in the internal organs of generation in women (*Annals of Gynecology and Pediatry*, September, 1904), calls attention to the great importance of considering the pathological conditions of the immediate and neighboring tissues, and the condition of the uterus in which fibroid tumors have developed. Referring to a previous article, published in the MEDICAL RECORD in the year 1903, she reaffirms the statement that, in cases of uterine fibroids she has invariably found the uterine appendages diseased. Again, she has found that when there was disease of the uterine appendages, the condition of the uterus was profoundly abnormal. When the muscle fibers of the uterus become more and more reduced to granular material or to protoplasm, all is ready for the development of small fibroid tumors and the formation of larger and more solid structures. Fibrocystic tumors are formed on the same principles. A myoma, when reduced to primal elements, may form any growth or develop any pathological formation. In the numerous specimens that the writer has examined she has always found that the tissues of fibroid tumors are very much diseased. She quotes the words of Christ: "Verily, verily, I say unto you, except a corn of wheat fall into the ground and die, it abideth alone: But if it die it bringeth forth much fruit." This she calls the "added proof." Physiologically, by the tissues dying, they bring forth much fruit. The

healthy tissues become inflamed, almost suppurating, and die, and then bring forth these new structures. It is by the death of normal tissues, or by their being reduced to their primal elements, that new pathological formations are developed. This is the only way they can develop. The writer likens these changes to the resurrection from the dead, and she points out how the Bible can give us light on many deep physiological problems.

These growths, Dr. Jones maintains, have the function of prolonging human life. For if the tissue elements did not go on to these new formations, they might form pus and sloughs and lead to death. Many dangers are thus prevented by these new growths. The writer explains the etiology of these new formations as follows: First, there is infection, than inflammatory corpuscles, or medullary material in which any new growth may be developed. In this material there exist the life elements for any pathological change. In these diseased tissues new fibroid tissue is forming, and the diseased tissues are being used up, the tumor is increasing in size, and the immediate danger to the patient's life is removed. This same series of changes keeps on, and it is the life-saving structures that are in active operation, whether the results are fibroid tumors, fibrocysts, blood corpuscles, or other formations. These same principles are applicable to the development of cancer. Its development prolongs the patient's life. As the writer tersely expresses it, "all pathological changes are life-saving efforts." She concludes the paper by emphasizing the importance of attention to the simple laws of health. By obeying them she believes that many of these pathological formations might be prevented by preventing the conditions which lead to them.

WOOD ALCOHOL.

The recent occurrence in one small section of this city of between twenty and thirty deaths, believed to be directly traceable to drinking a so-called whiskey made by coloring and flavoring diluted methyl alcohol, calls attention in a forcible manner to this new menace to life and health. Up to within a comparatively recent period cases of poisoning by wood alcohol were among the rarities of medical practice, for so long as the substance was manufactured by the old processes its offensive smell and taste were sufficient to deter even the most hardened drinker from using it to satisfy his craving for alcoholic stimulants. Since the time, however, that "deodorized" wood alcohol has been placed on the market, under various names, the fatalities from its use have gone up by leaps and bounds. Not only may it be used in place of grain alcohol in the manufacture and adulteration of spirituous liquors, but it is also largely and widely used as a menstruum in many toilet preparations and remedies for internal and external use. The reasons for this practice are twofold. First, and that which appeals most forcibly to human nature, is the comparative cheapness of wood alcohol, it being untaxed and costing but 50 cents per gallon, while grain alcohol, taxed, costs at retail $2.60 per gallon. The second reason is the ignorance of many manufacturers as to the deadly nature of methyl alcohol. Indeed, even among members of the medical profession views with regard to the poisonous nature of methyl alcohol are widely divergent, and some who have had no experience in cases of wood alcohol poisoning are openly sceptical concerning its reputed toxic properties. In order, therefore, to decide the question, Dr. Frank Buller of Montreal and Dr. Casey Wood of Chicago undertook in the beginning of 1904 an investigation of the subject, under the auspices of the Section on Ophthalmology of the American Medical Association. An exhaustive paper embodying the results of these investigations is published in a recent issue of the *Journal of the American Medical Association*. The investigators found that about 175 cases of blindness and about 100 deaths during the past seven or eight years could be directly imputed to wood alcohol in the various forms in which it is manufactured. This estimate is a conservative one and only treats of published instances of death and blindness.

Into the question of the manner of poisoning by wood alcohol, there is no space here to enter, but it may be said that all observers agree that the symptoms of such poisoning are unmistakable, and that the eye is the organ especially attacked.

Drs. Buller and Wood consider that the investigations undertaken by them confirm the suspicions entertained by many physicians that the fumes of wood alcohol, under certain favorable conditions, are a dangerous menace to eyesight, and they moreover believe that the consensus of opinion is opposed to the statement of the makers of the various forms of "deodorized" wood alcohol that its external use in liniments, alcohol "rubs," in baths, in cosmetics, hair tonics, perfumes, etc., is always devoid of danger to the eyesight.

The practice of substituting wood for grain alcohol in the manufacture of medicinal preparations would appear to be a most insidious and pernicious means of poisoning, and the sale not only of methyl whiskey but also of internal remedies and toilet preparations manufactured or adulterated with wood alcohol should be restricted by law. In fact, there is every reason why the proposition of Drs. Buller and Wood should be adopted that methyl alcohol in any of its forms should be treated as a poison and subject to the laws of the various states restricting and regulating the sale of poisons.

PHYSICIANS FOR THE CANAL ZONE—A WARNING.

OUR Washington correspondent writes that the Canal Commissioners have decided to employ a large number of recent medical graduates as internes in the hospitals along the route of the canal. The salary has been fixed at $50 per month with living expenses, and the term of service will be two years—doubtless with the privilege of renewal. There will, of course, be no difficulty in securing the required number of well qualified men on these terms, poor as they are—indeed, we understand there are already over five hundred applications on file, but any graduate in medicine who contemplates applying for appointment in the service should seriously consider what such a step means. The love of adventure is strong in the young, and the pull of the tropics on the native of the north is powerful; but there will be little of adventure for the house officer in a lonely hospital in the centre of the Isthmus, and a tropical climate, after its first temporary stimulating effect, cripples the will and weakens the body of the unacclimated northerner. The great tropical plagues, malaria and dysentery, are theoretically avoidable, but practically every one is

in constant danger where they prevail, and other diseases there are which incapacitate if they do not always kill. The true physician, like any other true man, would never shrink from his duty through fear of disease or death, but no duty calls the civilian physician to the Isthmus; no young man should delude himself with the thought that his country needs his services on the Canal Zone. He will be hired to do a certain work, just as the canal laborers will be hired to dig, and if he falls out by the way or comes home invalided and with a shattered constitution, his country will give no further thought to him; his pay will stop and he can support himself as best he may or live on his relatives or the county. The salary of fifty dollars a month will not go far at Panama, and the young man who thinks he will be able to save enough from it in two years to give him a good start in practice after his return home will be disappointed.

We have purposely exposed the dark side of this picture, not with a view of discouraging any young man, free from home ties, who can live his life as he will, from seeking a medical appointment in the Canal Zone, but only that he may do so with his eyes open. And that life there will not be without its attractive side we are free to admit. The climate of the Isthmus, in spite of what those who know only Colon may say, is in general not bad; the heat is not intolerable, and with care and good luck one may keep his health, though the vigor infused by winter cold will fail. The work will probably not be very onerous, and though the future will not be provided for, the daily needs of existence will be met sufficiently. Then for one who loves his science, the rich opportunity to study tropical diseases, which life in a canal hospital will provide, will go far to compensate for many drawbacks. We would simply warn those who are tempted to go to the Isthmus to remember that the actualities of life there will be very different from what the imagination pictures them, and that there is no patriotic call to which they must respond. No individual's services are needed there, for there will be more applications than there are places to fill, and if one goes let him go with a knowledge of what he is doing, undeceived by the glamor of adventure and of the *dolce far niente* of the tropics of the poet and the dreamer.

Fighting Tuberculosis in Prisons.

As is well known, and as also might be expected, the inmates of prisons are frequently the victims of tuberculosis. It stands to reason that the environment of prisons should be especially favorable to the development of this disease. Dr. Julius Ransom, writing on this subject, states that the mortality from tuberculosis is variously estimated by the best authorities at from 40 to 55 per cent. of all the deaths occurring in the prisons of the world. There are many isolated cases in which the mortality from this cause has reached a much higher percentage, and at one time in the State of New York it reached 75 per cent. of the total prison deaths. One of the chief predisposing causes of tuberculosis is, as Dr. Ransom points out, an unstable nervous system, and in prison life nearly all the factors exist calculated to undermine the nervous system and render it unstable. Age is also a predisposing cause which plays an important part in the development of tuberculosis in prison. Prisoners average about 30 years of age, a period which is especially favorable to infection by the tubercle bacillus.

Dr. Ransom sketches the history of the movement instituted against tuberculosis in Clinton prison, at Dannemora, N. Y. When he first began service there he found that tuberculosis was prevalent and that the means of fighting it were defective in every way. Owing to continued agitation, the legislature appropriated the sum of $2,500 for the purpose of constructing a ward for the treatment of tuberculous patients. At the present time there is in Clinton prison a total capacity of 54 beds for tuberculous inmates. The treatment in all respects is conducted on the lines of modern methods, physical and dietetic, with the administration of some medicine and the use of ultra-violet rays. The only drawback is that, owing to prison conditions, the tuberculous patient cannot obtain the amount of open air that his condition requires, but, notwithstanding this, the men improve in an astonishing manner.

Dr. Ransom concludes his interesting account by pleading for a further extension of the system inaugurated so successfully at Clinton prison, and urging also upon the legislature the need of constructing prisons of a less mediæval type. The danger of the prisoners spreading infection when liberated must count for something and it is one against which the public at large has a right to expect that the State will guard. Hence the care of consumptives in prison is a step in the right direction, if only to safeguard to some extent the health of the general community. The day when the criminal was treated like a dangerous animal has passed, never to return, and the care of his health is in line with the development of the humane system of reforming by intelligent means rather than deterring from crime by cruelty and brutality.

The Postponement of Medical Union in New York State.

We noted last July the attempt of certain members of the Onondaga County Medical Association to defeat the plan of union of the two State medical organizations by raising the plea of illegality in Justice Fitzgerald's court in this borough. This plea was unfortunately sustained, and the hopes of a lasting peace in the medical ranks in New York State must therefore be abandoned for the present. The point raised was that, inasmuch as the by-laws of the State Association contained no provision for the manner of giving notice of meetings, it was necessary to fall back upon the common-law rule. According to this, when a meeting of any organization is to be held for the passage of resolutions affecting privileges or property rights acquired by membership in such organization, the notice of the meeting must be served upon each member personally (not through the mail). Of course no such notice of the special meeting of March 21, at which the plan of union of the two State societies was endorsed, was given, hence the court has ruled that that meeting was held illegally and that the resolutions then adopted were of no force and the action taken was binding upon none of the members. We understand that notice of a proposed revision of the by-laws, providing for a simple manner of calling meetings, will be introduced at the coming session of the State Association in this city; but such notice must stand over one year before being acted upon, and if we read the signs aright there will be considerable opposition to any revision of the by-laws of the Association in October, 1905. Those who opposed union believe they have not postponed it only, but have made it impossible for all time. We trust they will be disappointed.

News of the Week.

Dr. Brooks H. Wells of this city has been appointed attending gynecologist to St. Vincent's Hospital.

A Commers in Honor of Visiting Scientists.—On Saturday evening, October 8, the Society of Old German University Students in America gave a Commers at the Arion Club in honor of the German delegates to the International Congress of Arts and Science recently held at St. Louis. Dr. Carl Beck, president of the society, presided, and was assisted by the vice-presidents, Drs. Cæsar A. von Ramdohr, William C. Alpers, W. Pfizer, and William Hallock Park, who sat each at the head of one of the tables. Among the guests were Lamprecht, the historian of the University of Leipsic; Sombart, the political economist of Breslau; Dessoir, the chemist from the University of Berlin; Laquer, professor of medicine at Wiesbaden; Quidde, of Munich; Sonnenschein, who went from Germany to London to teach chemistry; T. Clifford Allbutt, of Cambridge; Furtwengler, professor of art and history in Munich; Rein, of the faculty of philosophy at Jena; Liebreich, professor of therapeutics at the University of Berlin; Richter, of Baden, and Ettore Pai, of the University of Milan.

Drug Counterfeiters Arrested.—The police of this city arrested last week a gang of men charged with counterfeiting certain patent medicines and proprietary coal-tar analgesics and hypnotics. Millions of pills, put up in imitation of a popular patent medicine, were seized, and also vast quantities of spurious coal-tar products; among the latter were some tried remedies in constant employment in legitimate medicine. Samples of the "fake" stuff were obtained, it is alleged, at over 1,500 drug stores in this city and vicinity. These arrests are the result of a long and patient investigation extending over nearly nine years. The authorities say that they have now in their possession sufficient evidence to show exactly how the swindlers worked. There are charges enough against several men to give them long terms of imprisonment if convictions follow the well-planned arrests.

Wholesale Poisoning by Wood Alcohol.—In a limited area on the West Side of this city upwards of thirty men and women have died within the past three weeks, it is believed of poisoning by amyl alcohol. Most of them were known to have drank heavily of whiskey purchased at a certain saloon, one of the barkeepers of which was also one of the victims. It is supposed that the whiskey was doctored stuff, the basis of which was wood alcohol, flavored and colored with various chemicals. The police, the health department, and the coroner are all investigating the cases, and analyses are being made of the gastric contents of the dead and of the liquor found in bottles in the rooms formerly occupied by them.

In Memory of Dr. Lazear.—A tablet in memory of Dr. Jesse William Lazear, who lost his life during the yellow fever experiments conducted by Major Walter Reed in Cuba, has been placed in the new surgical building of Johns Hopkins University. At the unveiling of the tablet on October 5 addresses were made by Prof. T. Clifford Allbutt, of Cambridge, England, Dr. Lewis A. Stimson, of New York, and Dr. James Carroll, Assistant Surgeon, U. S. A., who was one of Dr. Lazear's associates on the Commission, and who himself suffered from the fever, narrowly escaping the fate of his colleague.

A Reception to Sir T. Lauder Brunton of London was given on October 3 by the Philadelphia Medical Club. In a brief address the distinguished guest expressed envy of the superabundance of energy of the American people and appreciation of their great opportunities for learning. He predicted that instead of physicians going from the United States to England and other European countries to study the most advanced thought in medicine, the tide shortly would turn in other directions, and physicians from France, Germany, England and other Old World countries would come to America to study and to do research work that they were unable to do in their own countries. Preceding the reception, a dinner was given to the guest by the president of the club, Dr. E. E. Montgomery.

New Professors at Columbia.—A reception was given to the newly-appointed professors in Columbia University on Saturday, October 8, in Earl Hall. Among the new professors are the following in the Medical Department: Gorham Bacon, Professor of Otology; Joseph A. Blake, Professor of Surgery; George E. Brewer, Professor of Clinical Surgery; James R. Hayden, Professor of Genito-urinary Diseases; Arnold Knapp, Professor of Ophthalmology; Samuel W. Lambert, Professor of Applied Therapeutics; Harry McMahon Painter, Professor of Clinical Obstetrics; Frederick Peterson, Clinical Professor of Psychiatry; William Kelly Simpson, Professor of Laryngology; John S. Thacher, Professor of Clinical Medicine; Frederick R. Bailey, Adjunct Professor of Normal Histology; Eugene Hodenpyl, Adjunct Professor of Pathological Anatomy; Russell Burton-Opitz, Adjunct Professor of Physiology; Francis Carter Wood, Adjunct Professor of Clinical Pathology.

Camps for the Tubereulous.—A circular letter was recently issued by the Illinois State Medical Society, the Illinois State Homœopathic Society, and the Illinois State Eclectic Medical Society, jointly, setting forth the purposes of a crusade against tuberculosis and asking citizens to join in the work of promoting the movement. The circular states that a large proportion of lives can be preserved by the early recognition of the disease, and the prompt placing of the sufferers under proper hygienic conditions in tuberculosis camps within the borders of Illinois. Such camps, it is argued, should be established and maintained by the State for the benefit, primarily, of the poor who are afflicted with the disease, and, secondarily, for the protection of the community against its spread. Similar camps are in successful operation in Pennsylvania and in some other States of this country. The camp at Ottawa, Illinois, under the administration of Dr. J. W. Pettit, of that city, is run on as nearly a self-supporting basis as possible, all medical services being gratuitous.

New Open-Air Hospital for Tuberculosis.—Philanthropic Cincinnatians will establish a free hospital for the open-air treatment of consumption on October 15. The hospital, which will be located back of Price Hill, will start with twelve cottage tents, in which the patients will live winter and summer. Dr. Oswald Katz will be the resident physician.

Cause and Prevention of Consumption.—Under this title, the Illinois State Board of Health has issued a third revised edition of its pamphlet, the first edition of which was published in July. Illinois is recommended as a suitable place for the treatment of consumption, and attention is directed to climatic conditions, elevation, and soil, which are equally as good as, and in some instances superior to, those found at the tuberculosis sanatoria of Massachusetts, New York, and Pennsylvania.

The Water Supply of New York.—Although at present there is no contamination of the water supply of Manhattan and The Bronx with typhoid bacilli, the unusual prevalence of the disease has led to the taking of special precautions to insure the purity of the water. Along the Croton watershed, all the way from Yorktown down past Amawalk Lake to the big Croton dam, a distance of seven miles, gangs of men are busy cutting down the trees and underbrush, which, as soon as they are dried, will be burned. The Water Commissioners are investigating the sewerage system at Mount Kisco, where, it is reported, there has been considerable typhoid fever. If it is ascertained that there is fever in the town and the sewers connect in any way with the watershed through Branch Brook, the Commissioners will appeal to the State Board of Health to prevent the contamination.

An Amendment to the Smoke Ordinance.—A Brooklyn Supreme Court Justice recently decided that the provision of the Sanitary Code making it a misdemeanor to allow smoke to issue from any building, as the code did, was ridiculous and inoperative, as it was practically impossible to build a fire without having some smoke. To meet this criticism, the Board of Health has amended the code which now makes it unlawful to permit smoke to issue from any building "to the detriment or annoyance of any persons not being therein or thereupon," or to permit the smoke "to enter any other building or to pollute the air in any street or thoroughfare within the city limits."

Medical Society of the State of Pennsylvania.—At the fifty-fourth annual meeting of this society, held September 27-29, at Pittsburg, under the presidency of Dr. William B. Ulrich of Chester, the following officers were elected: *President,* Dr. Adolph Koenig of Pittsburg; *Vice-presidents,* Dr. E. V. Swing of Coatesville, W. S. Stewart of Wilkesbarre, J. M. Corson of Chatham Run, and J. B. Ewing of Uniontown; *Secretary,* Dr. Cyrus Lee Stevens of Athens; *Assistant Secretary,* Dr. Theodore B. Appel of Lancaster; *Treasurer,* Dr. G. W. Wagoner of Johnstown. The secretary, Dr. C. L. Stevens of Athens, was appointed editor and publisher of the *Pennsylvania Medical Journal,* the official organ of the society. The next annual meeting will be held at Scranton.

The Pneumonia Commission.—The following is the constitution of the commission called by the New York City Board of Health to study, and if possible determine, the nature of pneumonia and the causes of its recent increase in this city. All of the members have accepted the invitation of the Health Commissioner to meet here. The commission will include Dr. Frank Billings of Chicago, Dr. Theobald Smith of Harvard, Dr. J. H. Muzzer of Philadelphia, Drs. William Osler and William H. Welsh of the Johns Hopkins University, and Drs. E. G. Janeway, T. Mitchell Prudden, and Emmett Holt of New York City.

Koch in Paris.—It is stated in *The Herald* that Professor Koch was warmly welcomed at the Pasteur Institue on Tuesday of last week. Professor Metchnikoff made a cordial speech, to which Koch replied in his native tongue. The scientists present included Drs. Nicole, Cesredka, Borrel (discoverer of a cancer serum which is now being tested), Chamberland, and Mesnil.

Fraud Order Against the Edison Vitalizer.—An order has been issued by the Post Office Department denying the use of the mails to the Thomas A. Edison, Jr., Chemical Company, on the ground that the company is attempting a fraud on the public in the sale of a "magno-electric vitalizer," which the concern claims has remarkable tonic, reconstructive, and bactericidal powers.

Proposed New Hospital in Covington, Ky.—The committees of the Covington General Council met October 7 and received a proposition from the local physicians for the erection of a hospital. Dr. Frank Eckman said the physicians would erect a modern hospital in the city if the latter would guarantee a certain amount annually, equivalent to the present cost of maintaining the city's indigent. He was requested to submit a written proposition to the Health Committee.

Physician Sues Physician for Fee.—Dr. M. P. Morrell, of St. Louis, has entered a second suit against Dr. J. J. Lawrence to recover for professional services rendered the son of the latter. The amount demanded is $25,000, in addition to $16,000 sued for in a former action still pending. The complainant asserts that for several years prior to the boy's death he was the medical adviser and physician of Dr. Lawrence's son. He further asserts that he sacrificed his city practice and home life to treat the boy in Europe.

The Legality of Christian Science as a method of the treatment of disease has been upheld by the Supreme Court of New Hampshire. A woman sued a "healer" to recover damages for injuries alleged to have resulted from his treatment. The court held that the practice of Christian Science was legal and that patients who resorted to such treatment could not recover any damages in case the practitioner used the accepted Christian Science methods of treatment.

A Tuberculosis Congress met last week in St. Louis. A number of papers were presented, one by Dr. Otto v. Schroen, of Naples, in which it was maintained that pulmonary tuberculosis is an incurable disease. Dr. J. L. Jacobson suggested that a prize be offered to the physician who reports the largest number of cases of tuberculosis in a community. He urged the need of keeping statistics of the number and the condition of the tuberculous patients in a community, and said that one of the best ways to secure these statistics was to offer a prize for the return of information. He also urged the passage of a law making the notification of cases of tuberculosis compulsory.

The Cancer Hospital for Philadelphia.—Application has been made at Philadelphia for a charter for the American Oncologic Hospital, for the treatment of cancer. Two sites for the new hospital are in view, to be bought or rented as soon as the charter has been granted. Among the incorporators are Drs. J. Solis-Cohen, Addinell Hewson, Boardman Reed, G. Betton Massey, B. K. Wilbur, Howard R. Swayne, and C. M. Desvernine.

Spencer Morris Prize.—By the terms of the will of the late Dr. Spencer Morris, a graduate of the class of 1872, the trustees of the University of Pennsylvania have received a sum slightly in excess of $10,000, to be invested and the income to be awarded each year to the medical student in the graduating class who shall pass the best examination for the degree of Doctor of Medicine. It will be known as the Dr. Spencer Morris Prize. It is expected that the income will be about $400 annually.

St. Luke's Hospital, Utica, N. Y., is to have a new building on a new and better site, the gift of Mr. and Mrs. Frederick T. Proctor of Utica. The new building, which is now nearing completion, will have room for eighty beds, and is a fireproof structure of brick, stone, and steel, of the most approved

modern type. The entire expense of the building and furnishing is borne by this one family, and the structure completed is to be turned over to the present Board of Trustees of St. Luke's Home and Hospital.

Dr. William H. Pritchard, former house surgeon at the Cincinnati Hospital, now identified with the Ohio Hospital for Epileptics at Gallipolis, was elected President of the Association of Assistant Physicians of Ohio State Hospitals at the annual convention of the society recently in session at Columbus.

Congress of German Naturalists and Physicians.—The next annual meeting of this congress will be held at Meran, Austria, under the presidency of Professor v. Winckel.

Vital Statistics of Ohio.—There were 64,916 births and 41,376 deaths reported in Ohio last year, and it is believed by the health department that there were many births not reported. The marriages occurring in the State numbered 43,668. Of the deaths 3,237 were caused by tuberculosis and 1,954 by cancer.

Dr. Charles W. Dabney, the new president of the University of Cincinnati, was introduced to the students of that institution on October 5 by Major F. J. Jones, chairman of the University Board. He will be inaugurated November 16.

Dr. Johannes Orth, Professor of Pathological Anatomy and Dean of the University of Berlin, was entertained at a dinner at the Yale Club in this city on October 3, by a number of his former pupils and others.

Smallpox in Illinois.—A mass meeting was held in Bellevue, Illinois, September 28, at which a committee was appointed to secure a location for the erection of an isolation hospital. It is said that there are about ninety cases of smallpox reported to the health authorities.

Bequest to the Hartford Hospital.—According to the will of Miss Mary A. Terry, of Hartford, Conn., who died recently in Venice, the Hartford Hospital will receive the bulk of the estate, amounting to about $300,000. The American College in Beirut, Syria, receives $15,000.

Russian Convalescent Hospital at Cannes.—The Grand Duke Michael recently inaugurated at Cannes a convalescent home for wounded Russian officers. The villa is the gift of Baron de Silvansky, and the cost of furnishing has been defrayed by the Grand Duke Michael, the Grand Duchess Anastasia of Mecklenburg-Schwerin, and Countess Torby.

International Dermatological Congress.—The next meeting of the International Dermatological Association will be held in New York City under the presidency of Dr. J. C. White, of Boston.

New Cincinnati Hospital.—The plans of the new hospital as they now stand provide for thirty-five separate and distinct buildings, all as fireproof as possible, as follows: Administration, three stories; ambulance court, one story; outdoor clinic, two stories; nurses' home, four stories; surgical, one white female, two white male, one colored female and one colored male, two stories; medical, two white female, one white male, one colored female and one colored male, two stories; dermatological, one male, one female, one story each; dermatological for diseased prostitutes, three stories; strong ward, two stories; neurological, three stories; measles, two stories; diphtheria, two stories; scarlet fever, two stories; two children's, two stories; aural and laryngological, two stories; ophthalmic, two stories; gynecological, two stories; operating, two stories; gymnasium, one story; bath, one story; morgue and chapel, two stories; power, two stories; laundry, one story; kitchen, two stories; disinfecting, one story; stable, two stories. Under this plan the sexes are kept separate and to an extent colored and white people are also separated.

Obituary Notes.—Dr. Charles Darwin Sprague, of Peekskill, N. Y., died of Bright's disease on October 7. He was born in Cuba, N. Y., about fifty-two years ago, and was graduated from the medical department of Buffalo University, although he never practised his profession. He lived for a time in New York City, but settled in Peekskill in 1887. He was Park Commissioner and was an amateur photographer of renown.

Dr. Edward J. Belt, of Springfield, Mass., killed himself on October 8, while suffering from delirium. He was born in South Boston, his father being a prominent physician there, and was graduated from the Harvard Medical School. He practised first in Fitchburg, Mass., then in Enfield, N. H., and finally settled in Springfield about two years ago.

Acute Articular Rheumatism.—Burwinkel, in discussing the present day knowledge of this disease, says that the weight of evidence seems to favor the idea that acute articular rheumatism is a disease of the blood, in which the red cells are destroyed in large numbers and the fibrin content of the blood increased. As a result of this marked viscosity of the blood, hyperæmia and thrombosis in the capillaries of regions poorly supplied with vessels are likely to occur, with subsequent exudation. Statistics supplied by various authors, Burwinkel contends, show that the introduction of the salicylates cannot be viewed as a progressive step in the therapy of this disease, for not only are they accompanied by unpleasant after-effects, but there seems to have been an actual increase in the number of cases with cardiac complications. The author's method of treatment comprises complete rest in bed until one week after absolute defervescence. The diet includes plenty of water, fruit, oatmeal soups, zwieback, milk, rice, and spinach, but no meat or meat soups. Three or four times daily he gives the juice of one lemon, together with a teaspoonful of bicarbonate of sodium. Mild hydrotherapeutic measures are recommended. Thorough evacuations of the bowels are necessary. Great value is attached to bleeding, which may be done two or three times during the onset of the disease to the extent of 150 to 300 cubic centimeters (five to ten ounces).—*Deutsche Medicinal Zeitung.*

A Case of Cancer of the Mamma Cured by Means of Roentgen Rays.—E. Schiff reports this case with diagnosis of inoperable cancer en cuirasse of the left mamma with lenticular metastases of the cutis. The left thorax was invaded by a tumor with large basis and of very solid consistence. The tumor extended from the left sternal margin to the axillary cavity, where it reached the glands and formed a hard bunch. The surface was ulcerated and exuded fetid matter. The lower edge showed 10 or 12 small tumors, slightly bleeding. On the patient's back were 5 similar nodules. Beneath the bunch in the axilla there was a crateriform cavity large enough to admit a pigeon egg. The edges were gangrenous. Both supra and infraclavicular glands were hard and resistant. After the third sitting the pain decreased considerably, and the purulent secretion diminished. After five months' treatment the writer noticed that excepting some superficial excoriated parts, a flat scar crossed by some enlarged capillary vessels had taken the place of the former tumor. The cutaneous metastases had disappeared and the groups of soft glands in the supra- and infraclavicular regions had greatly decreased and were soft. The general state of the patient had very much improved. The writer then gives a description of the histological appearance of the tissues, showing that the new growth had almost disappeared at the time of examination.—*Bulletin of The Johns Hopkins Hospital.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

OYSTERS AND TYPHOID—FORMIC ALDEHYDE AS A PRESERVATIVE—CORONER TROUTBECK AGAIN—COWELL'S LIFE AND LETTERS—X-RAY JOURNAL—SIR W. MACGREGOR—ITEMS—OBITUARY NOTES.

LONDON, September 23, 1904.

THE subject of oysters conveying typhoid fever is brought before the public again by the appearance this week of the Report of the Local Government Board for 1902-3. Other things are also dealt with in more or less detail, such as vaccination, smallpox, cholera, plague, and various scientific investigations. The sudden outbreak of typhoid in the autumn of 1902 at Winchester and Southampton was investigated for the Board by Dr. Bulstrode, whose exhaustive report is now presented. In both Southampton and Winchester, the mayoral banquets (November, 1902) were followed by illness of some of the guests, some of whom had hardly left the guest chamber before feeling ill. Many others fell sick within three or four days with gastromtestmal disturbances, from which, however, they shortly recovered. But two or three weeks later others developed definite typhoid fever, some of the cases proving fatal. Dr. Bulstrode traced both these outbreaks to oysters, which were served at both banquets, and on further investigation found that the bivalves in question had been furnished to both festivals from a single source, certain "oyster ponds" at Emsworth, which were extremely liable to contamination with Emsworth sewage. At the very time the oysters for the festivals were deposited in the "ponds" these sewers, which were discharging in their neighborhood, were contaminated by the dejecta of typhoid fever patients. Dr. Bulstrode concludes that it is impossible to consider these outbreaks, along with similar data which from time to time come to the notice of the Medical Department, without being impressed with the need that control of the interrelations of the various procedures of shellfish culture and sewage disposal should be without delay vested in competent authority.

Two dealers were fined £5 each and costs on Tuesday for selling milk to which formic aldehyde had been added. Contradictory evidence was given as to the effects of the preservative. The public analyst for Chelsea (Mr. Rideal) said he was the first to experiment with formalin in this country in 1894, and since his paper appeared it had been generally used. He had never known it to be injurious; he had given it to his own children, to kittens and other animals. There was not a tittle of evidence to show that 1 part in 100.000 was injurious even to an infant. He had experimented with fish. A gold-fish throve well in water containing 1 in 40,000, and 1 in 5,000 did not affect the heart of a frog. Dr. Harris, the M.O.H., gave evidence that after taking a pint of milk containing 1 in 100,000 a day for ten days he felt a considerable amount of nausea and discomfort. He thought it must be injurious to young and delicate children. Dr. Toogood, superintendent of Lewisham Infirmary, said formalin was an irritant poison. He could tolerate in dilution of 1 in 5,000; stronger than that it made him sick. He had no doubt that even a solution of 1 in 100.000 delayed digestion if taken for any period.

The fines inflicted in these cases will tend to restrict the use of formic aldehyde, though it may be doubted whether other preservatives will be better. We were told at first that boracic acid was not injurious, but later investigations threw doubt on the subject, and Dr. Harrington (*Am. J. Med. Sci.*) this month makes statements which may well make us hesitate to admit its alleged innocuity.

Mr. Coroner Troutbeck does not seem inclined to adopt a conciliatory course towards the profession. I told you formerly how his conduct led up to a protest. At an inquest on Wednesday he again exhibited himself in a hostile attitude. The deceased had collapsed when at work and was taken to St. Thomas' Hospital, where it was found life was extinct. Dr. Freyberger was again called by the coroner, and said the man died of heart failure while suffering from chronic heart disease. The foreman of the jury wanted to know why the doctor who saw him at the hospital was not called instead of Dr. Freyberger. The coroner said because Dr. Freyberger was the pathologist selected by the County Council to assist at inquests in special cases. But the foreman was not satisfied, said he had seen the controversy about it in the papers, and thought the expense not necessary. Mr. Troutbeck retorted: "You must be inclined to believe foolish things. It is the duty of the coroner to elicit the cause of death, and I do not choose to accept in a case like this the evidence of perhaps an extremely inexperienced house surgeon who has just qualified. And these newspaper controversies, which are carried on by interested parties who are endeavoring to preserve the payment of fees, which I do not think ought to be paid, will not affect the question at all."

But Mr. Coroner Troutbeck was apparently more concerned to flout the profession than to enlighten the jury. Otherwise he might have told them that he had supreme confidence in Dr. Freyberger and was quite willing for his fees to be paid and could recommend him, as he was his own brother-in-law.

In another inquest some time since Dr. Freyberger certainly professed a degree of pathological acumen which I think few would lay claim to. It was a case of a person who died a very short time after displaying symptoms which induced her doctor to suspect insanity was threatening. The patient was watched for a few days, but died of acute pneumonia before any steps could be taken as to certifying or removal to an asylum. Under these circumstances Dr. Freyberger performed the post-mortem for the coroner and testified that the patient had been insane for three and one-half years. After that can you wonder that his brother-in-law has the utmost faith in his pathological knowledge?

Mr. George Cowell, F.R.C.S., has published the "Life and Letters" of his eminent cousin, Edward Byles Cowell, the great orientalist, who went to India as a professor at Calcutta in order to give himself to his favorite studies, and there produced his editions of the Vedic Upanishads and the Yajur Veda. There, too, he mastered the modern Indian languages, as well as Arabic and Persian. No language seemed to come amiss to him, and he became perhaps the greatest master in Europe of Hindu philosophy. Failing health compelled him to return, and Cambridge University elected him Professor of Sanscrit on the foundation of that chair, which he held for some 35 years. His translations from Sanscrit and Persian have obtained a high place, and his biography will interest all admirers of Oriental literature.

The first number of the *Journal of the Röntgen Society* has made its appearance and is illustrated with a portrait of Prof. Silvanus Thompson, a past president. It is intended to give other portraits in the new journal, which is to be issued every other month.

Sir William MacGregor, M.D., late Governor of Lagos, has been entertained by the Liverpool Chamber of Commerce at a dinner when nearly £1,000 was subscribed to be handed to the Liverpool School of Tropical Medicine in the name of and as a memento to Sir William MacGregor. Liverpool may well be proud of her work. Sir William sailed on Saturday for Newfoundland, to which he has been appointed Governor.

The London fever returns last Saturday showed 1,901 cases of scarlet fever, 816 of diphtheria, 185 of typhoid, one of typhus, and 5 of smallpox. In a report of the London County Council, just issued, it is stated that no case of rabies has occurred in London since 1898.

Dr. Edmund Carver, F.R.C.S., etc., Consulting Surgeon to Addenbrooke's Hospital, Cambridge, died on the 14th, aged 80. He was a graduate in Arts and Medicine of Cambridge, at one time president of the Medical Society, and held various other honorable positions.

Lieutenant-Colonel J. H. Beath, M.D., C.B., whose death has occurred in his 70th year, served through the Indian mutiny and was present at Lucknow. He subsequently served in China and Egypt, was mentioned in despatches and decorated by the Khedive and received the C.B.

Mr. S. J. Hutchinson, L.D.S., M.R.C.S., President of the Dental Association, Consulting Dental Surgeon to University College Hospital and to the Royal Dental Hospital, died on the 15th inst., aged 58 years. He has long held a prominent position among our leading dentists, both as a practitioner and a teacher of dental surgery and pathology. He was author of various contributions to the Odontological and Dental associations.

Dr. C. W. Izod, who practised for more than 50 years at Esher and attended several members of the ex-Royal family of France during their residence at Claremont, died on the 16th inst. On the occasion of his jubilee he was presented with a testimonial through the Duchess of Albany, another of his patients, who was present at his funeral.

Dr. H. A. Benham, Superintendent of Stapleton Asylum, died of heart failure on the 14th inst., aged 50. He was lecturer on Mental Diseases at Bristol University College and greatly esteemed by his brethren.

Knock-out Drops of Picrotoxin.—Dr. Casel, writing in the *St. Paul Medical Journal*, reports several cases of "doping" by means of extract of cocculus indicus, called by the criminals who use it for this purpose "extract of hazelnuts." The primary effect of a moderate dose is a profound narcosis, larger doses producing convulsions, followed by paralysis and death. It is important to note, says *The Therapeutic Gazette*, that when picrotoxin is taken with alcohol the loss of power in the voluntary muscles is very much greater than it is in ordinary cases of drunkenness.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Oct. 6, 1904.

Pericemental Abscess.—D. D. Smith presents a most interesting paper on this subject. He cites the history of a case, in which although it was evident that the troublesome tooth was associated with an abscess, the most persistent efforts to relieve it by treatment through the root were absolutely without results. The tooth was extracted at the end of 4 weeks, and lodged in an irregular depression at the root, formed by a slight, sharp bend, about a quarter of an inch from the apex, was a glandular fibrous tumor of the size of an ordinary pea, covered with globules of pus. The base of this growth was relatively large and strongly attached to the pericemental membrane. It had no communication whatever with the pulp and canals. The pericemental abscess is caused by an irritant on the outer surface of the pericemental membrane. In acute cases, the first symptom is pain. This is not severe, but is continuous, and is located by the patient in the offending tooth. The patient always suffers from nervous apprehension in regard to the tooth. There are no marked inflammatory symptoms in the alveolar and gum tissue. The tooth gradually loosens, this symptom becoming more marked as the case progresses. In the chronic form, the escaping pus is discharged at the edge of the alveolus, between the alveolus and the gum, commonly between root bifurcations. The condition is wholly unlike the fistulous opening of an alveolar abscess. The writer declares that the nucleus of this inflammation and the resultant tumoric abscess is in touch with some stagnant, septic irritant upon the tooth or teeth, the external surface of the pericemental membrane alone being involved. The cavities and pits in the alveolus become cesspools of pus, prolific foci of infection. The writer believes that the nerve centers are the special points attacked by the pyæmic toxins from this abscess. He states that pericemental abscess, with its pyogenic infection and enfeebling effects, has doubtless been a predisposing factor in many cases of pneumonia. Pericemental abscess is virulently infectious and is incurable, except through the loss of the tooth.

New York Medical Journal, Oct. 8, 1904.

Observations on Carbolic-Acid Poisoning.—C. V. Burke has treated twelve cases of this nature. Two recovered and ten died. One patient was a hysterical girl, who had probably taken very little poison. She recovered, as did also a second patient, who had taken about an ounce with suicidal intent. Repentance quickly followed, and a large drink of whiskey was taken. The stomach pump was applied within fifteen minutes. Patient was unconscious half an hour, but recovered. Death is due, in Burke's opinion, to cardiac paralysis. Several times he was able to get a response from the breathing apparatus by rhythmic lingual traction long after the heart had stopped. He never saw vomiting except in hysterical patients. The acid is quickly fatal, and he believes it to be painless, except so far as throat and lip burns are concerned. He puts no confidence in sulphates as antidotes, but believes alcohol to be of great value. The tube should be used when any appreciable amount of acid has been taken, and should be a fairly stiff one. If alcohol (whiskey) cannot be given by the mouth, it must be given generously by needle and by rectum.

Respiratory Education in the Treatment of Heart and Lung Disorders.—J. Madison Taylor criticises the usual remissness of physicians to give definite instructions along the line suggested by the title of his paper. Respiratory education is better than drugs in many clinical conditions. His observations have been based mainly on young neurasthenic patients with respiratory and circulatory troubles. Such patients should be taught to expand their lungs fully. The rate of breathing should be five seconds in inspiration and seven for expiration, and these figures gradually increased to twenty and twenty-five, respectively. These movements are also useful in abnormal conditions of the abdomen, due to deficient circulation and aeration. The patient may lie, sit or stand, and the physician should explain that the thorax should be held so that the ribs are as nearly at a right angle to the vertebral column as feasible, and that the act of breathing shall be performed chiefly by the expansion and contraction of the lower ribs, which should acquire an increasing mobility and range. After the chest has been filled and held at the highest point of tension for a few seconds, expiration should begin by the indrawing of the umbilicus, and the force shared in by all the abdominal muscles which can be elicited in the act, the chest still held high, and a steady compression exerted upon the diaphragm chiefly. When the abdominal muscles have contracted to their full capacity the lower ribs follow, and finally all the air which can be expelled is extruded. At the end of expiration a slight cough may be encouraged, which seems to finish the act.

Dupuytren's Finger-Contraction.—C. A. McWilliams gives a general review of the prevailing ideas on this disease, and relates one personal case occurring in a man of fifty-three years. Operation was performed, all constructing and restraining bands between the tendons being removed, and a perfect result ensued, the patient being able to use his hand as freely as ever. The author describes the various surgical procedures in common use. In all cases careful post-operative treatment is necessary. After two weeks of splinting, massage and passive motion should be begun. At the beginning of the disease, much may be done to check its progress by systematic massage, active and passive motions, hot air baths, hot water baths, with the application of extension apparatus at night. Any constitutional diathesis should be treated. In case the disease advances, or in somewhat more developed cases, multiple subcutaneous incisions may be made, followed by the palliative treatment just outlined. In working persons, who can scarcely find the necessary time and means properly to carry on the palliative treatment, radical operation is to be advised as the quickest and surest means of effecting a cure. It should be advised at once also in advanced cases.

Medical News, October 8, 1904.

Internal Antisepsis.—J. N. Hall declares that although surgical measures, whenever possible, should be taken for the prevention of sepsis, still there are cases which are seen too late for this or in which prevention, as far as we know, is out of question. A case in point is typhoid fever, or sepsis of so-called cryptogenetic origin. In this affection treatment through the blood stream seems at present the only resource. The ability of septic organisms to do harm lies not so much in the few that are introduced into the blood stream, as in the capacity of these few to multiply indefinitely. An antiseptic powerful enough to prevent reproduction is not nearly so strong as one capable of destroying the parent organism. It is the young plasmodia of malarial fever which are killed by quinine rather than their progenitors. If we could take the next step their propagation could prevented. The digestive tract offers a most interesting field for this work. The antiseptic effect of the hydrochloric acid in the gastric juice probably prevents many infections. Comda bacilli in any reasonable numbers cannot survive the acidulated bath into which they are plunged when they enter into the normal stomach. It is interesting just here to note the reported hyperacidity of the digestive fluids of carrion-eating birds. The millions of virulent organisms which these birds swallow become harmless. It is stated by an authority that putrefaction does not occur in the small intestine as long as the contents are strongly acid. The use of antiseptics must not be too strenuous. Acute nephritis has developed after the too free use of salol in typhoid fever. Bacteria do not seem essential to digestion, and so there need be no special fear that digestion will be seriously interfered with by destroying intestinal bacteria. Although much may be accomplished by the use of various bismuth compounds, naphthalin, salicylic acid, and other remedies, as yet no generally accepted intestinal antiseptic has been produced. In the urinary tract the use of antiseptics has met with more success. Investigators have demonstrated the entire disappearance of the typhoid bacilli from the urine under the administration of hexamethylenetetramin. Such treatment is imperative, and the results are most gratifying, in almost all cases in which there is reason to fear a destructive process in the kidneys or an ascending infection. The writer has been most impressed by the cases in which there exist certain infections caused by the colon bacillus. Some of these cases which ended fatally, showed abscess formation in the most various localities, at post-mortem. In some cases in which urinary antiseptics were given intelligently the urine cleared and recovery took place. The writer believes that these are the most brilliant examples of the influence of internal antiseptics which he has seen. In cases which might be termed "streptococcic consumption" the injection of antistreptococcic serum has been followed by most gratifying results. The writer thinks that there are good chances that there will be discovered some internal antiseptic comparable in its effects with those of the silver salts in gonorrhœal ophthalmia. He believes that, judging from the advances in the past decade in internal antisepsis, we can hope for greater discoveries in the near future.

American Medicine, Oct. 8, 1904.

Gastroptosis, with Special Reference to the Surgical Treatment; The Operation of Gastropexy.—Henry D. Beyea, after carefully studying on the cadaver the anatomic relations and the ligamentary supports of the stomach and considering the importance of the preservation of the physiological mobility of a hollow viscus, especially the stomach, devised an operation which he briefly describes as follows: The principle of this operation is that, by placing three rows of interrupted silk sutures from above downward, and from right to left through the gastrohepatic and

gastrophrenic ligaments, a single broad transverse fold or plication is formed in the ligaments, shortening these ligamentary supports and elevating the stomach to normal position. The normal ligaments are shortened and the stomach elevated to position without in the least disturbing the physiological mobility of the organ. The results of this operation have been most successful. Eleven patients who have been reported have undergone this operation. They have now been observed for periods varying from eight months to six years after operation. The convalescence after operation was in each case normal and easy. In no instance has the stomach changed in position. Among these cases, it must be said, there was no relaxation of the abdominal walls or diastasis of the recti muscles. Further work will be necessary to prove what effect this operation will have in such cases. The writer believes that the surgical treatment of gastroptosis is the only logical one.

The Mild and Abortive Forms of Typhoid Fever.—John Bradford Briggs thinks that the simplest plan of classification is to consider all cases with a maximum duration of 18 days or less as "mild typhoid," and under this head to distinguish the mildest cases; "typhus levissimus," characterized both by brevity of course and mildness of symptoms, from the cases of true "abortive typhoid," in which the general symptoms may at any time be severe, but in which the defervescence is rapid, being complete by the middle of the third week. In a majority of the cases the onset is sudden. The rise in temperature is usually rapid, and the patient with abortive typhoid is apt to be incapacitated at a period when those with typical infections are still up and about. The symptoms are not severe, although some cases with evidences of marked toxæmia become afrebile by the twelfth day. The headache, the lassitude and the other classical symptoms of the typical attack, occur in the mildest form. Roseola is present as often as in the typical forms. In many cases, however, they have to be carefully looked for. Enlargement of the spleen is as common in the mildest as in the most severe forms of the disease. The bowels are generally constipated. The catarrhal condition of the bowel wall seems to be either absent or of very low grade in the milder infections. Abdominal pain is rare. There are no special systematic studies of the blood in these cases recorded in the literature. Agglutinating substances are sometimes present in the blood at an early date. Complications and sequelæ are rare. It is not certain whether there is a tendency to relapse in patients who have had the mildest form of typhoid. The essential part of the treatment is preventive. The patient should accept the usual typhoid regimen. The writer believes in the administration of castor oil. The nourishment should be in liquid form, and isolation should be practised. In the few post-mortem examinations that have been recorded, the characteristic intestinal lesions were found. It is known that active typhoid bacilli may be carried about in the intestine of perfectly healthy people, and that they may multiply and be distributed for some length of time, and all without producing any symptoms on the part of their host. The writer concludes his paper by emphasizing the importance of the recognition and proper treatment of these mildest cases of typhoid.

Dilatation of the Stomach, with Special Reference to Forty-Eight Cases.—John J. Gilbride has found among 637 stomach cases 48 cases of dilatation. Of these, 25 were women and 23 were men. Of the women, 23 were married, but only 11 of these had been pregnant. The disease is most common between the ages of 20 and 50. The youngest of these patients was 18, the oldest 70 years old. It is necessary that the cause of the trouble be ascertained in order that the proper treatment may be instituted. Many predisposing factors have been suggested, such as overeating, irrational clothing and sedentary habits It is probable that the method of feeding is responsible for the condition of "weak stomach" found in certain families. In one class of cases atony is present; in another there is no real loss of tone of the muscle, but an increase, and to this class belong the cases of stenosis at or near the pylorus. Gastroptosis and enteroptosis are not uncommon in dilatation of the stomach. It is important in these cases not only to determine the motor power of the stomach, but also to make a direct examination of that function. For this purpose the time of digestion should be tested according to the suggestion of Leube. A test meal of soup, beefsteak and a roll are given. If the stomach is empty after seven hours, it may be assumed that the time of digestion is normal. Artificial inflation of the stomach with air or carbon dioxide is essential in making a diagnosis of dilatation. An analysis of the gastric juice gives valuable information. Blood changes depend upon the cause of the disease. The bowels are often constipated. But whatever the symptoms may be, they will depend upon the original cause of the condition. The most important symptoms are those caused by motor insufficiency, and these must be distinguished from those caused by the primary disease.

Journal of the American Medical Association, Oct. 8, 1904.

Osmic Acid Injections for the Relief of Trifacial Neuralgia.—J. B. Murphy concludes a long article on this subject as follows: Trifacial neuralgia, tic douloureux, is not the result of a pathologic entity which has so far been definitely determined. The tendency after all types of operation, with the possible exception of removal of the sensory root behind the ganglion, is to recurrence of the disease. This is probably due to the regeneration of certain nerve elements following the deep operation, and anastomosis and retention following the superficial. Sudden shocks and irritation to the terminal filaments of the trifacial not infrequently cause an immediate and occasionally a permanent cessation of the neuralgic pain. The mortality from the superficial exsections is practically *nil;* the mortality from the intracranial operations is great. The hazard is greater than should be taken in a disease which does not in itself jeopardize life. Injections of osmic acid in 1 to 2 per cent. solution into the nerve trunks relieve the pain immediately, and in a large percentage of cases for a long period of time. The injections into the superficial tissue for peripheral neuralgia should be abandoned, as the nerve trunks are easily located, and there is no danger of superficial necrosis following such operation. It should never be injected into a motor nerve or a motor nerve area, and, therefore, never into the spinal nerves, except in amputation stumps. It produces a local necrosis of the tissue into which it is injected, and even of the wall of the foramen. This necrosis does not suppurate unless the area is exposed to mouth infection. In that case the suppuration often continues for weeks, draining into the mouth, giving no special inconvenience, and in no way interfering with the final result. The best results are obtained with a 1½ to 2 per cent. solution; this should be injected in many places into the nerve trunk, and also into the foramen. All of the nerve branches should be injected —the palatine, lingual, mandibular, superior maxillary (infraorbital) and supraorbital. They can all be exposed through mouth incisions, except the supraorbital. Many times there are three or four divisions of the supraorbital and they should be searched for carefully and each injected. Occasionally it is necessary to inject the auricular branch. The posterior palatine is not so difficult to inject as one would at first imagine. The foramina can and may be injected without anæsthesia or incision. The procedure is quite painful, however, and is not certain in its results. The injections can be made with local or general anæsthesia (general preferred by the author) and are free from danger. Judging theoretically from the experience with incisions, resections, and ganglion operations, the relief should not be permanent after the injection of the osmic acid. From clinical experience up to date, however, the fact is that many cases are permanently cured. Time alone must determine the final result of this treatment.

The Lancet, Oct. 1, 1904.

A Case of Banti's Disease.—The case is reported of Drs. J. F. Strickland, J. F. Hodgson, and W. B. Anderton, their patient being a woman aged forty-six, who presented herself suffering from epistaxis due to a fall. The bleeding was stopped with difficulty. She was extremely anæmic and had an enlarged spleen. The latter was first noted a fortnight after her last confinement, five years before. The liver was slightly enlarged and tender, but no ascites or dyspnœa were present. Blood examination showed less than half the normal cell contents and only one-third the normal hæmoglobin. Dyspnœa occurred at times and the heart action was weak. The general features of the case as it progressed were those of a slowly advancing anæmia, manifestly of a pernicious type, with the continued enlargement of spleen and liver. Death finally came from exhaustion, she having had periods of restlessness, and on one occasion attempting suicide. Autopsy revealed a paleness of all the tissues and serious condition of the blood. The spleen weighed nine pounds and was permeated with fibrous bands. Lymphoid cells were fewer than usual, and few red cells were seen. Numerous granules of black pigment were present, but there was no iron reaction. The liver showed similar changes. In this organ the iron reaction was present, but slight in degree.

Medical Treatment of Deep-Seated Hemorrhage.—The paper of F. Hare is a plea for the use of amyl nitrite in hæmoptysis. The remedy is given by inhalation. Sometimes the looked-for result followed the inhalating immediately; sometimes not for ten minutes; but in thirteen attacks, twelve tuberculous and one cardiac, the bleeding ceased in all but one in three minutes. One capsule is generally sufficient, and in following attacks nitroglycerin may be given. As a rule, bleeding does not recur when once checked by the inhalation. The author thinks that the sudden heavy fall of blood pressure permits some coagulation and plugging of the leak, and that this is usually adequate to resist successfully the subsequent rise, which, likely enough, fails in consequence of the previous hemor-

rhage to attain quite its former height. If the amyl is unavailable, the author suggests a hot immersion bath. The large vasodilatation of the skin area would lead to a lessened intra-aortic resistance, a fall of blood pressure in the left auricle, and eventually in the pulmonary area. At the same time the mouth and nose should be protected from inhaling hot air; in fact, cold air inhalations may themselves check the bleeding.

Medical Treatment of Constipation by the Injection of Olive Oil.—G. Herschell believes that in suitable cases and a proper technique for the injections, that olive oil is a most useful remedy in constipation. Results of a gratifying nature follow in chronic colitis, constipation associated with spasm of the bowel, as in neurasthenia and in atony of the intestine, here combined with the use of electricity. From three to ten ounces of oil should be injected at bed time and retained overnight. It should be slowly introduced by the force of gravity. He prefers a glass funnel hung in a metal frame and connected by a rubber tube with a nozzle of large bore and well-rounded tip. A spring clip regulates the flow. The amount at first should be restricted to five or six ounces, but this can gradually be doubled. After a while the injections can be given on alternate nights only.

A Retropharyngeal Blood Cyst in a Case of Pupura Hæmorrhagia.—The patient of P. S. Blaker was a girl of eight months. A diagnosis of retropharyngeal abscess was made, incision of the swelling evacuating not pus, but blood. The hemorrhage continued, however, from the area until the patient died, all efforts at hæmostasis proving fruitless. In view of the symptoms presented by the child previous to the pharyngeal swelling, a diagnosis was made of purpure hæmorrhagia. Nevertheless, the obstruction to breathing was so great that operation was imperative. The author is inclined to believe that intubation ought to have been tried, though it would have proven very difficult, or a preliminary tracheotomy might have been done and the swelling incised, this followed by the plugging of the cyst cavity.

A Case of Anilin Poisoning.—P. G. Harvey reports the case of a woman of twenty-seven years suffering for two months from painful swelling of the lips and gums, dyspnœa, and faintness. Later the buccal mucosa became discolored, and vomiting came on immediately after eating. A diagnosis of ptomain poisoning or local infection from unknown causes in the mouth was made, and on investigation it was found she was in the habit of using an anilin pencil, which from time to time she moistened in her mouth. Discontinuance of the pencil-sucking habit led to a speedy cure.

Some Observations Pointing to an Intra-Corpuscular Stage of Development in the Trypanosome.—E. J. Moore has noted the life history of the trypanosome in cattle, and has found that the parasites were very often found in pairs, and observed them travelling across the slide towards one another; the parasites also exhibited motions of a very peculiar nature, the body substance becoming repeatedly retracted to either extremity, and sometimes at the same time to both extremities, forming one or two spheres, with a bright spot in the center. These movements were sometimes followed by the death of the parasite, and it is a matter of interest that in dying the animal invariably assumed a globular shape; this probably accounts for the difficulty in finding trypanosomes post-mortem, even when they have caused the death of an animal. In the cases of parasites which survived longer, there was often a definite series of movements of the posterior portions of the body substance to the extremity of the tail, the tail-spot being jerked along with the protoplasm, which then gradually returned to its original position, the tail-spot remaining stationary against the side of the sheath, while the protoplasm rippled forward past it; the result of the movements was that the tail-spot became slowly pushed towards the hinder extremity. All the movements of the parasite seemed to be purposive and directed towards getting rid of the tail-spot, which seemed to constitute a source of irritation.

Berliner klinische Wochenschrift, Sept. 12, 1904.

"Some of My Opinions."—Jonathan Hutchinson believes that the most convenient method of administering mercury in syphilis is in the form of pill, in small doses frequently repeated (hydrangyrum cum creta, one to two grains for a dose). The course of treatment should be a long one, extending without interruption for from one to two years. In order to prevent diarrhœa, one to two grains of Pulv. Ipecac Comp. should be combined with each dose of mercury. This treatment should be begun as soon as the diagnosis of chancre becomes reasonably certain, and, once begun, should be resolutely persevered in. He allows marriage after the expiration of two years from the date of chancre and never earlier. The syphilitic virus probably persists in the ovaries longer than in the testes, and it is doubtful whether women who have suffered from syphilis can ever be guaranteed as regards uncontaminated offspring. A great many instances of second attacks of syphilis have come under the author's notice, several within very short periods, that is, within one or two years. Other opinions of the author are: That the eating of badly cured fish is the one sole cause of the origin of leprosy, and that it is not "contagious" either by touch, breath or insect bites. That leprosy may be communicated from one individual to another (1) by an infant taking milk from a leprous mother's breast, or (2) by a person eating food which has been contaminated by a leper's hands. That gonorrhœa in all stages is best treated by parasiticide injections. The more acute the symptoms, the more necessary is the chloride of zinc injection. That gonorrhœal rheumatism occurs almost solely in those who inherit gout, and that it is common in different communities in ratio with the prevalence of gout. That rheumatoid arthritis, or "rheumatic gout," occurs chiefly in the descendants of the gouty. That alopecia areata (tinea decalvans) is usually a sequel of ringworm (tinea tonsurans), and is common in ratio with the prevalence of the latter. That the fungus in the different forms of tinea is probably the same, and however great may be the apparent differences, they are not specific. That when tertiary syphilis stimulates lupus it is because the patient is tuberculous as well as syphilitic. That the various forms of malignant disease (cancer, sarcoma, etc.) depend not upon parasitic infection, but upon heritable proclivities of tissue which are essentially the same for all, and that the different forms are transmutable in inheritance. That the long continued use of arsenic, whether externally or internally, increases the tissue proclivity to all forms of malignant growth. That chimney sweeps' cancer is the consequence of the application of soot containing arsenic. That certain other mineral drugs may share with arsenic as tending to increase the proclivity to cancer.

Eosin Phototherapy.—Pick and Asahi report on a series of twenty-two cancers treated by a combination of eosin application and sunlight. The lesion in question comprised lupus, tuberculosis, cutis verrucosa, tricophytosis, scrophuloderma and rodent ulcer. The affected areas were daily painted with 1 per cent. eosin solution and exposed to the sunlight. In all of these cases the results were very encouraging, and caused gratifying improvement, although in its present form the procedure cannot yet be called curative.

Berliner klinische Wochenschrift, Sept. 19, 1904.

True Rabies or a Modified Inoculation Form?—Heydenreich describes the case of a kitchen-maid who was slightly bitten by a young dog and was immediately subjected to the Pasteur treatment. Twenty-four injections were given in twelve days; from the sixth day she began to suffer from malaise, nausea, slight cerebral disturbance and stupor. These symptoms increased in severity, and obstinate constipation, paralysis of the detrusor vesicæ, dyspnœa, great mental depression, with paresis of the face, tongue and pharynx developed. After a month of these symptoms the physical condition began to improve gradually, but the patient became profoundly melancholic, the intellect was clouded, and ten months after the injury was received she died a total idiot. The author believes that in this case the symptoms were due to the inoculations, for the disease began to show itself on the thirteenth day after the bite, an unprecedentedly early date for rabies to develop, especially as the bite was hardly a scratch and was on the hand. What is still more important, another servant in the same household was bitten by the dog at the same time, receiving much more severe injuries, but as she greatly dreaded the Pasteur treatment, she concealed the facts until later. This woman developed no symptoms whatever. It could not be determined whether the dog were really mad or not, as it had been promptly killed and no autopsy made.

Epithelioma and Lupus in a Diabetic Patient, Treated with the X-Rays.—Levy Dorn reports a case in which a lupus of the buttock of twenty years' standing underwent malignant degeneration and progressed as an epithelioma. For six years the patient had well marked diabetes, as much as seven per cent. of sugar being present before dietetic treatment was begun. Treatment of the local lesion by the usual means was ineffectual, and the ulcer measured more than two inches each way. Great improvement attended the first application of the *x*-rays, followed by a stationary period, and then complete healing of the ulcer, after the treatment had been pushed with sufficient energy to produce a moderate reaction. The case is interesting in showing that the *x*-ray is as effective in combatting combinations of lupus and carcinoma as it is for these conditions separately, and that even marked diabetes is no contraindication for its employment.

Münchener medizinische Wochenschrift, Sept 13, 1904.

Investigations on the Gastric Juice.—Bickel describes observations on the composition of the gastric juice made by the aid of the ultra-microscope. The secretion was obtained from dogs having a gastric fistula according to Pawlow, and was filtered until perfectly clear. The highest powers of the ordinary system show practically nothing in a drop of this fluid, but under the ultra-microscope myriads of faintly luminous granules are seen on a dark background. Boiling the juice and filtering off the resulting precipitate somewhat diminishes the number of the granules, as does also the interpolation of a Nicol's prism. Pure water, salt solution and dilute hydrochloric acid do not show such granules, and the author takes the view that they are connected with the ferments of the juice. The gastric juice is therefore not to be considered as a simple solution, but as an emulsion. On determining the freezing point and electrical conductivity of portions of gastric juice obtained at intervals during the process of digestion, it was found that the results were inconstant, and the author concludes that the juice differs in its chemico-physical properties at different stages of digestion, and that it is often more concentrated than the blood itself.

Inoculation Tuberculosis Accompanying the Morphine Habit.—Bruns has found four cases of cutaneous tuberculosis in the literature, which were due to inoculation by means of the hypodermic needle. His own case was that of a patient with an advanced pulmonary lesion, who had become a morphine habitué. He was accustomed to moisten the site of the proposed injection with saliva, and to blow through the needle each time before use. For several years this method had no disagreeable results, but finally nodules began to develop in the regions where the punctures were made, and these then broke down and became shallow, discharging ulcers. Cold abscesses also formed in the skin, and the pus injected into guinea pigs gave rise to typical tubercular lesions. In order to determine whether the infection had actually been from without, or whether the needle punctures had merely formed spots of least resistance which had succumbed to hematogenous infection, injections were made under aseptic precautions on one side of the patient's chest, and on the other following his own older technique. In this situation lesions similar to those already observed soon appeared, while on the other side no reaction was produced.

Radiotherapy for Uterine Tumors.—Deutsch has treated four cases of advanced myoma uteri with marked success by means of the *x*-ray. The tumors decreased in size and the patients were freed from symptoms. In particular, the increased frequency of micturition subsided after only a few treatments. A case of inoperable carcinoma of the uterus was much benefited, but in another instance in which an ovarian tumor was associated with a fibroid, the latter alone was appreciably affected by the treatment. The method seems very promising in cases unsuited to operation, its only drawback being the patience it requires on the part of the physician and patient.

Münchener medizinische Wochenschrift, Sept. 20, 1904.

The Bacteriology of Acne Vulgaris.—Söllner and Kreibichs have studied the bacteriological flora of acne and comedo in an attempt to reconcile the conflicting statements of various authors in regard to organisms that have been described as the causative agents of these lesions. Twenty different cases of comedo and acne-cocci were studied culturally and in regard to their hemolytic and agglutinating properties, with the result that it seems clear that the pus formation accompanying acne cannot be due to either the staphylococcus pyogenes aureus or albus. The part played in producing the acne lesion by the various white cocci observed is still undetermined. Attempts to identify the acne bacillus described by Unna were also unsatisfactory, and the authors conclude that many varieties of microorganisms occur in acne, but that it is impossible to determine their etiological relationship to the disease.

The Danger to the Cæcum Attending Obstruction of the Colon.—Kreuter calls attention to the fact that in cases of extreme dilation of the colon due to volvulus, stenosis, tumors, etc., the cæcum is almost always the seat of the greatest distention. This extreme dilation may lead to the greatest interferences with the nutrition of the part, to ulceration and even perforation. Four factors contribute to the production of this feature—the fact that the ileocæcal valve is competent, that the wall of the cæcum is the thinnest and least resistant part of the large intestine, that the continuity of the latter is interrupted through the occurrence of kinks at the colic flexures, and that the cæcum normally contains the greatest amount of gas and fecal material in the intestine. The danger of this complication should always be kept in mind, and the author's point is illustrated by a case in which fatal peritonitis followed perforation of the cæcum in a patient suffering from a stenosis situated at the splenic flexure.

Deutsche medizinische Wochenschrift, Sept. 15, 1904.

The Effect of Photodynamic Substances on the Action of the Röntgen Rays.—Kothe was led to experiment with various coloring matters in relation to their effect on the *x*-ray. It was found that photographic negatives made with plates that had been half immersed in blue-green, green or violet dyes gave very faint and blurred images on the side of the plate so treated, whereas the similar use of orange or red solutions was without effect. The injection of weak eosin solutions (1-100 to 1-1,000) under the skin before exposure to the *x*-rays greatly increased the reaction, and warts subjected to this preliminary treatment decreased in size more rapidly than others not so prepared. Experiments with rabbits gave similarly positive results, parts of the body previously injected with eosin soon showing a reaction, going on to ulceration and sloughing, while the uninjected control regions were unaffected. The author considers that practical use may be made of this property in cases in which it is desired to bring about a strong reaction quickly, and that it will prove especially applicable in the treatment of malignant growths.

The Treatment of Syphilis.—Rosenthal says that syphilis is a disease which can be cured with absolute certainty, and that uncured cases are evidence of insufficient treatment. Mercury is the only drug to be regarded as a specific, and in spite of the older views to the contrary, iodine must fall back into a merely secondary place and cannot be regarded as a substitute for mercury. The abortive treatment has little to commend it and is open to many objections; but while in most instances security of diagnosis is essential to proper treatment, under some conditions it is permissible to begin constitutional treatment early. Such are extragenital chancres situated on the lip, nose or eye, for example, where pain or the subsequent danger of deformity must be combatted, women infected during pregnancy, etc. Of the two plans of treatment in vogue, the symptomatic and the chronic-intermittent of Fournier, the latter is by far to be preferred. It must always be remembered, however, that it is the patient and not the disease that is being treated, and individualization is essential. The danger of over-mercurialization is slighter than is supposed, and energetic treatment is always required. Inunctions are unscientific because of their inexactness and have many disadvantages, whereas hypodermatic injections are superior to them, both theoretically and practically.

A Clinical Report on Phototherapy After Sensibilitization.—Forchhammer gives the results of an extensive series of observations made at the Finsen Institute, following a new plan. As is well known, the rays at the violet end of the spectrum possess greater bactericidal power than the green, yellow and red rays, but are inferior to these in penetrating power. Dreyer has found that by the use of certain fluorescent substances, such as erythrosin, which are called sensibilitizers, it is possible to make the yellow and green rays actively bactericidal without sacrificing their penetrating power. In order to test the practical utility of this method, twenty-three lupus patients were treated by the author in three hundred and fifty sessions. A sterile one to one thousand solution of erythrosin in physiological salt solution was injected cutaneously or subcutaneously, according to the seat of the lesion, and four to eight hours later the exposure to the light was made. The injection was not accompanied or followed by any reaction, but the light treatment caused intense pain and a severe local reaction, which was slow to subside, and in some cases went on to necrosis. The therapeutic results, on the other hand, were less satisfactory than with the old method, even in the case of deep-seated lesions. Attempts to diminish the reaction by reducing the amount of erythrosin, or by lessening the intensity of the light rays were unsuccessful, and the author reports the results as a warning to others whom the plausibility of the theoretical considerations involved might tempt to try similar experiments.

Deutsche medizinische Wochenschrift, Sept. 22, 1904.

The Teeth as Portals of Entry for Tuberculosis.—Partsch states that it is singular, considering the frequency with which tubercle bacilli are present in the mouth, that infection by way of carious teeth does not oftener occur. He describes the case of a girl of fourteen, who suffered for some time from a painful swelling of the jaw, accompanied by enlargement of the submaxillary glands. It was only after protracted treatment that it was recognized that the condition was a tuberculous periodontitis, which had its origin in the root of a decayed tooth, spread like an ordinary inflammation through the jaw, and caused swelling of the neighboring glands, later spreading to the cervical nodes also.

What Should the Treatment of Complete Rupture of the Uterus Accomplish?—Küstner says that the question of the proper treatment of this injury is still open to dis-

cussion. A few years ago the general opinion was in favor of laparotomy, or vaginal extirpation of the uterus, but at present the conservative treatment is again gaining ground. In considering the statistics caution is necessary in drawing conclusions, for this accident more than almost any other requires to be judged on the merits of each particular case. As the result of seven cases which the author treated by laparotomy, he expresses himself as in favor of this plan, even though but two of his patients recovered. He believes in free incision in all cases, whether the laparotomy is demanded for the purpose of checking hemorrhage or not, a careful search for all pools of blood, meconium and liquor ammnii in the peritoneal cavity, especially in the easily overlooked recesses in its upper part, and careful removal of these foreign fluids by sponging. The abdominal cavity is not to be flushed with salt or any other solution. Hemmorrhage is carefully controlled by ligature, and the rent in the uterine well sutured. If the bladder is torn, this should be sutured also. Hysterectomy is to be done only in exceptional cases, as the patients are usually not in condition to stand it. In some posterior ruptures it may be better to drain vaginally instead of suturing the uterus. A large Mikulicz tampon should in all cases lead from the uterine tear out through the abdominal incision.

French and Italian Journals.

Researches in Relation to the Agglutination of the Streptococcus in Scarlatina.—Georges Bourcart concludes from his studies that the agglutination of the streptococcus of scarlatina, by scarlatinal serum, may be brought about; that it may even be clearly positive; but that also, under the same conditions, the results are sometimes doubtful, and may be negative, even with the serum of the same patient. It is difficult to prove this agglutinative power by reason of the non-motility of the streptococcus, and the writer thinks that the determination of this phenomenon, simple though it is, when the bacillus is very motile like the bacillus of Eberth, becomes extremely uncertain when the micro-organism in question is non-motile. This reaction, after the employment of diverse methods, remains variable and inconstant. Any serum, normal serum as well as the serum of patients suffering from other infections than scarlatina may have anagg lutinative action on a streptococcus of scarlatina. This agglutinative power, inconstant and variable, may be in the comparative researches, weaker than that of the scarlatinal serum, but it may perchance also be equal to it. The author declares that these results do not authorize us to attribute any value to sero-diagnosis in scarlatina, and cannot lead to conclusions on the subject of the specificity of the streptococcus in scarlatina.—*Revue Française de Médecine et de Chirurgie,* September 5, 1904.

Concerning the Influence of the State of Health on the Freezing Point of Milk.—Bouchard presents the conclusions which Guiraud and Lasserre have drawn from their recent experiments with milk. They have found the freezing point of pure milk, taken from well animals, constant, between —0.55 and —0.56. This agrees with the work of Parmentier. The artificial addition of water could always be detected. But the special point of interest in this work is that of the influence of the state of health of the animal giving the milk, on the freezing point of the milk. The milk from both women and cows has been tested with the following results: Milk from a woman suffering with jaundice, on the first trial, —0.58; on the second trial it was the same. Milk from an albuminuric woman on the first trial froze at —0.59; on the second, at —0.58. The freezing point of milk from a syphilitic woman showed the freezing point —0.61 at two trials. Milk taken from a tuberculous woman froze at one time at —0.60, and a second time at —0.61. Milk from a cow, which had reacted to tuberculin, showed a freezing point of —0.60; that from a cow with tuberculous mammitis, —0.59. All of the milk with a pathological origin which these experimenters have been able to analyze have shown a freezing point sensibly lower than that of normal milk. All of these experiments, the investigators state, have been made with a freezing mixture of constant composition (one part of sea salt to four parts of cracked ice).—*Le Bulletin Médical,* September 3, 1904.

Cold Abscess of the Tongue.—Salva Mercadé states that cold abscess is among the rarer forms of tuberculosis of the buccopharyngeal cavity. The writer reports a case of this nature that came under his care. The patient was a small girl of 8 years, who came into Lannelongue's clinic. On the left side of the tongue there was seen a small whitish tumor, which at first sight resembled simply a purulent bulla. The tumor was about midway between the tip and the root of the tongue, and 1 or 2 millimeters from the median line which appeared to be curved to the right with the concavity toward the tumor. The growth was about the size of a large pea. It was covered with thin mucosa, and was clearly fluctuating. The evolution of the abscess was like that of a cold abscess, without pain, without fever, and without showing any special symptom. The mother had noticed it only 4 or 5 days before. Since that time the abscess had not changed. The child ate as usual and suffered no discomfort. No enlarged glands could be found. There was no cough, nor did auscultation reveal any abnormal sign. The lesion was incised and scraped as would be done in the case of a cutaneous gumma. It was very superficial. The pus from it was thick, greenish white in color, and give the macroscopic apeparance of tuberculous pus. The microscope revealed no sign of any pathogenic organism.—*Gazette des Hôpitaux Civils et Militaires,* September 8, 1904.

Pneumonie Phlebitis.—René Gaultier and Maurice Pierre declare that phlebitis occurs frequently enough in the course of pneumonia to be considered one of the possible complications of this disease. The writers believe that it should be classified as a form of infectious phlebitis due to the pneumococcus. It has been noted most often in moderately severe cases. It develops especially at the beginning of the period of convalescence. Patients frequently recover from this complication, although, on the other hand, the vein is often blocked by a clot which forms rapidly and consequently is only slightly adherent. Death by embolism is quite possible under such circumstances. The prognosis, therefore, is grave. This complication ought to be considered at a period of the disease, when it would appear that the patient is already beyond the danger line.—*Gazette des Hôpitaux Civils et Militaires,* September 3, 1904.

The Value of the Leucocyte Formula in the Liquid of Blisters.—Constatino Tommasini has taken up the method proposed by Roger for obtaining the leucocyte formula in various diseases by examining the liquid obtained by producing a blister with cantharides, and has made experiments in 63 cases of normal and diseased subjects. He finds that the blister is not formed in all cases in the same manner, and in 10 per cent. of the cases vesication was not successful. The fact that the cantharides produces an active inflammation of the skin causes the polynucleated neutrophiles to be most frequent in the liquid, and the mononucleated and lymphocytes to be few in number. He concludes that (1) the method of Roger is not reliable. (2) Although it shows a deficiency of eosinophiles in fever and grave general conditions, this gives no indication that the case itself does not give; and in other diseases there is no characteristic cytological formula to aid in diagnosis. (3) The cytological formula has no real dependence on the stimulation of the hæmatopoietic organs, and their capacity to react, but simply on the chemiotactic action of the local blister.—*Rivista Critica di Clinica Medica,* August 20 and 27, 1904.

Influence of the Lymphatic Glands on Immunity and Serum Therapy.—Guiseppe Evoli has studied experimentally the effect of the lymphatic glands on the passage of germs from one part of the body to another. He goes over the theories of the production of immunity and the different influences that oppose themselves to the action of bacteria. He divides these as follows: (1) Organs that oppose the penetration of the bacteria: skin, mucous membranes, etc. (2) Organs which oppose the multiplication of microbes and their deleterious action: spleen, liver, etc. (3) Organs which aid the elimination of the microbes and their toxic products: kidneys, lungs, sweat glands, etc. The lymphatic glands he classes among the organs that protect the organism by arresting the passage and retarding the spread of microbes, while allowing them for some time to retain their virulence. The microbes remain in the lacunæ of the reticulum of the glands. The author concludes from his experiments that the lymphatic system, by the richness of its distribution, is one of the most important means of defense against microbes. It retards their passage for a time, during which the organism does not feel their effect. This is due to the anatomical structure of the lymph glands. There is an antimicrobic influence in the lymph which attenuates the virulence. These facts are confirmed by serum therapy. —*Giornale Internazionale delle Scienze Mediche,* August 31, 1904.

A Case of Heroin Addiction.—Teofilo Montagnini reports a case of heroin habit, which he considers of especial interest, because heroin has been recommended to us as a drug that has not the danger of producing a habit, and that can be successfully used to assist the patient in breaking off the morphine habit. The patient, forty-seven years of age and in easy circumstances, began the use of morphine for severe uterine colic, and soon became a slave of the drug. Heroin was used as a substitute, in order to control the painful symptoms while giving up the morphine. The heroin had to be increased rapidly in amount, until after one year she was taking 60 centigrammes per day. The patient would even stop in the public street to take an injection of heroin; from being well-mannered and neat in her dress she became careless, slovenly, and vulgar. She lost all capacity for work or exertion of any kind, and became melancholy. There were grave disorders of the nervous system, tremors,

staggering, diminished pain sensibility; cardiac disturbances, weakness and slow pulse; digestive disturbances, loss of appetite, obstinate constipation, dryness of the pharynx, colic; renal disturbances, oliguria and presence of albumin; and general denutrition. When the drug was withdrawn gradually she suffered from vomiting, loss of sleep, and violent mania. After entering a sanatorium and having a uterine polypus removed, she was finally cured permanently of the habit.—*La Riforma Medica*, August 30, 1904.

Annals of Surgery, August, 1904.

The Combined Transverse and Longitudinal Incision in Laparotomy.—Lewis A. Stimson writes of his personal experience in at least 150 cases. The line of incision is a shallow curve, concavity upward, and crosses the median line three or four centimeters above the symphysis pubis. The sides extend toward the anterior superior spines, but stop well short of them, the extent depending upon the purpose of the operation, and the amount of fat in the abdominal wall. The aponeurosis of the external oblique is divided in the line of incision, as is also the internal oblique or "sheath of the rectus." The writer generally plans not to carry the incision of the aponeurosis beyond the outer border of the rectus, and, if more room is needed, to extend it along that border upward rather than transversely. The flap is then drawn sharply upward, and the abdomen is opened in the median line in the usual manner. The operation having been completed, the wound is closed by suture of the peritoneum and of the aponeurotic layer posterior to the recti, when it can be readily identified and secured; and if the recti tend to fall apart, two or three points of suture may be placed in them. The aponeurotic flap is secured in place by chromic catgut sutures for an inch or two on each side of the median line, and the remainder by plain catgut, interrupted or continuous. Sometimes he unites the two layers separately, and sometimes includes them in the same sutures. The skin is closed as usual. The scar was inconspicuous and freely movable in all except one case. In no case was there any weakness of the abdominal wall, nor any tendency to hernial protrusion.

Peptic Ulcer of the Jejunum.—A. W. Mayo Robson says that the true cause of peptic ulcer, whether gastric, duodenal, or jejunal, is probably a mild form of sepsis leading to gastritis and excess of free HCl in the gastric juice, though traumatism has been assigned as a cause but without adequate reasons. Peptic ulcer is distinctly one of the sequelæ to be reckoned with after gastroenterostomy; curiously enough it does not occur after pyloroplasty. As regards the frequency of peptic jejunal ulcers, out of 136 posterior gastroenterostomies which he has personally performed, he has not met with one example, nor has one occurred among 100 posterior gastroenterostomies performed by a colleague. His own case occurred after an anterior gastroenterostomy, one out of thirty that he had performed. The symptoms in his case were evidently chiefly referable to a perigastritis and extensive adhesions and the intense agonizing pains at times seemed to bear no relation to food. Hemorrhage was a distinct feature, and there was a well-marked tumor at the site of perforation. Greater attention to oral asepsis and to the condition of hyperchlorhydria subsequent to operation is advisable, and in this way the very serious complication of peptic ulcer in the jejunum and relapses in gastric ulcer might be prevented. There can be no question as to the desirability, nay, as to the absolute necessity, of operation, which ought not to be delayed too long.

The Treatment of Post-operative Vomiting by Gastric Lavage.—Charles S. White states that during anæsthesia there is a condition of atony of the stomach walls, together with an exudate of chloroform or ether into the stomach, acting as an irritant, and there is formed in their presence an increased amount of toxic substances. The only method which has given uniformly good results in his hands has been lavage of the stomach immediately after the anæsthetic is stopped and before the patient leaves the table. It is essential that the patient should be well under the anæsthetic at the time the tube is inserted. There are three conditions in which this prophylactic treatment is indicated. In cases in which there has been insufficient time to prepare the patient. Such patients often have their stomachs distended with food. In cases in which the anæsthesia has lasted an hour or longer. In cases in which the patient previous to operation has suffered from attacks of nausea and vomiting, or chronic gastritis. It is contraindicated in operations upon the stomach and in very young children.

Unsuspected Lesions in Movable Kidneys Discovered During Nephropexy.—Frank E. Taylor reports five cases from which it may be assumed that a movable kidney is not uncommonly the seat of some lesion which is quite unsuspected from a clinical examination of the case. If a patient suffers from a movable kidney which gives rise to definite symptoms, there is absolutely no reason why relief should not be obtained from a well-performed nephropexy. The cases reported constitute a plea from the more frequent performance of nephropexy for movable kidney.

Transverse Ectopy of the Testis.—Albert Ashton Berg reports the following case: M. F., aged thirteen years, has had a left-sided rupture since birth, which was always reducible. Upon admission to hospital the internal organs were found to be healthy. The right side of the scrotum was poorly developed. There was a large scrotal hernia on the left side, the hernial orifice being large, and the epigastric vessels lay along its inner margin. At the bottom of the left half of the scrotum was a fair-sized testicle; its free concave border pointed downward. From its right pole a normal-sized cord passed upward to near the root of the penis, then curved sharply to the left, and was lost near the opening of the hernial ring. On slight coughing, a small mass, size of an almond, presented at the left extended ring, and it could be pulled down into the scrotum. Pressure upon it gave the testicular sensation and a cord passed from it into the hernial ring. The right external inguinal ring was very small, and no cord could be felt entering it. On violent coughing several loops of intestines prolapsed through the left inguinal canal, pushing the smaller testicle before them, but not affecting the position of the larger and stationary one. At operation for radical cure of the hernia, both cords were found to pass through the left inguinal canal. The testes were of unequal size. The smaller occupied the upper part of the sac, and its cord had a distinct mesentery; it passed up into the left inguinal canal, through the internal ring, across the space of Retzius, to the right inguinal region, whence it descended to the pelvis. The larger testicle lay in the bottom of the sac, its cord passed up into the left inguinal canal, and descended on the left side of the bladder to the pelvis. The right inguinal was found to be closed. The scrotum showed no evidence of division into two compartments. Both testes appeared normal.

Physiological Salt Solution.—Frank S. Matthews says that the use of salt solution by the hypodermic or intravenous method seems constantly widening, yet comparatively little attention is paid to the constitution of the fluid used. The fluid used should be one that will not interfere with the performance of the blood functions nor injure the body cells, and as an index of the effect on cells in general he takes the effects on red blood-cells. If the solution is too concentrated the red-cells shrink, if too dilute they first swell and later part with their hæmoglobin. The question of swelling or shrinking of the cells is determined by the osmotic effect, and not by the chemical composition of the fluid or actual weight of dissolved matter. The osmotic behavior of blood-plasma and saline solution is shown by a method based on the fact that two solutions having the same freezing point have the same osmotic pressure, irrespective of the nature of the dissolved substances. The freezing point of human blood is 56° C. In health it varies but slightly from this figure in either direction. A depression of the freezing point of .03° or .04° C. may indicate a considerable renal insufficiency. The point to be emphasized is the constancy in health of the freezing point, and consequently of osmotic pressure. Hæmatocrit determinations of the salt solution in which red cells neither swell nor shrink give .9 per cent. as the proper concentration. A .9 per cent. solution of sodium chloride is found, too, to freeze at about the same temperature as blood-plasma. Chemical analysis of the plasma, computing the sodium as a chloride gives .84 per cent. as the amount of salt in human plasma. From these determinations it is clear that the osmotic pressure of blood is equivalent to that of a sodium chloride solution of from .84 to .0 per cent. concentration. In view of these facts, it seems remarkable that the impression is so widespread that a .6 per cent. salt solution is "physiological." This solution is isotonic with frog's corpuscles, and it seems to have been assumed to be on that account innocuous to human corpuscles. It is better not to call a solution used for infusion "normal salt solution," as "normal solution" has a definite chemical significance in no way related to the solution under co-consideration. Even "physiological" solution admits of some ambiguity. For instance, such a solution for use in the conjunctival sac should have a concentration of 1.4 per cent., since that is the concentration of human tears.

Chinese Sanitation.—Arthur Stanley says that, although the Chinaman is sometimes spoken of as the most unsanitary of individuals, he would be a poor observer who would hold that Chinese sanitation is not better than that of mediæval Europe. Were China imbued with the true scientific spirit she would become perhaps a model of sanitation, because the methods of living of the people are essentially good. The prolonged national life of the Chinese and their great population is an unanswerable argument indicating sound sanitation.—*The China Medical Missionary Journal.*

Book Reviews.

Die Tuberkulose als Volkskrankheit und ihre Bekämpfung durch Verhütungsmassnahmen Ein Mahnruf an das deutsche Volk. Von Dr. Max Salomon, Sanitätkrat in Berlin. Berlin: S. Karger, 1904.

This monograph is merely a duplication of what has been written in many languages by many authors. The standpoint of the author is, however, a thoroughly scientific one, though his pages are especially designed for the laity. The advice he gives is sound and well systematized.

An Index of Symptoms as a Clew to Diagnosis. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital, Author of "Syphonage in the Large Intestine." Third Edition. 400 pages. New York: William Wood & Company, 1904.

The third edition shows the addition of over 130 pages to its predecessor and about fifty new symptoms. The lists have been enlarged and seem practically complete, thus affording those who consult its pages an excellent guide when they are seeking all possible explanations of a given symptom. For students who are just beginning their clinical experience, the book could be of use every day; to the practitioner who is puzzled, it will refresh memories of the more uncommon diseases and afford a clue to diagnosis which otherwise might not be made. It is the pioneer work of its kind, and the author is to be congratulated on placing so much before his readers in such a small space.

International Clinics. A quarterly of Illustrated Lectures and especially prepared original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and Practitioners. By leading members of the Medical Profession throughout the World. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, Pa. Volume II, Fourteenth Series. Philadelphia: J. B. Lippincott Company, 1904.

This issue of the International Clinics contains amongst other valuable material, an excellent illustrated article by Dr. Ch. F. Mason on "The Spread of Diseases by Insects, with Suggestions Regarding Prophylaxis." The article is well written and shows that the writer has devoted considerable attention to the subject. The other articles are all carefully selected on subjects to interest physicians and surgeons of almost any specialty, as well as the general practitioner. They are divided under the headings of diseases of warm climates, treatment, medicine, surgery, pediatrics, and rhinology.

The Lymphatics. By G. Delamere, P. Poirier and B. Cuneo. Authorized English Translation by C. H. Leaf. Chicago: W. T. Keener & Co., 1904.

This book is a section of a French work on anatomy, edited by Poirier and Charpy. The first part, on the general anatomy of the lymphatic system, is by Delamere; the second, on the regional lymphatics, is by Poirier and Cuneo. All of these authors have achieved claim to recognition in their particular fields. The process of injection by Prussian blue, known as Gerotta's method, has been largely employed by the authors and has afforded a means of studying the lymphatics in certain parts of the body which were not well adapted for injection by mercury in the usual manner. The claim is made by the editor of the work that this is not a general review or a compilation, but is a record of opinions which are based on the result of personal researches. The work consists largely of anatomical description, but very valuable additional features are the historical notes, complete bibliographies, and notes on the technique of injection and dissection of various groups of lymphatic vessels. The book contains a fair number of original illustrations. The translation closely follows the original French. From a practical point of view, a thorough knowledge of the histology, arrangement, and distribution of the lymphatics has become very essential and the book will prove a valuable work of reference.

A Short Treatise on Anti-Typhoid Inoculation. Containing an Exposition of the Principles of the Method and a Summary of the Results Achieved by Its Application. By A. E. Wright, M.D. (Univ. of Dublin), Late Professor of Pathology, Army Medical School, Netley; Pathologist to St. Mary's Hospital, Paddington, W. Westminster: Archibald Constable & Co., Ltd.; Chicago; W. T. Keener & Co., 1904.

This treatise comprises a series of papers recently published in *The Practitioner* and now put into book form. The author gives in the first chapter the general theoretical principles in obtaining immunization, while in the second chapter he deals more particularly with immunity in typhoid fever. The second half deals with the practical technique and results of his well-known methods. He is evidently desirous of a just judgment, and has been very careful in the use of his statistical records. These records embrace over 400,000 doses of antityphoid vaccine, but still a definite conclusion is impossible, and the army authorities of Great Britain still seem at variance regarding the value of the method, knowing that those who subject themselves to protective influences are the very ones who would reduce the causes of infection to a minimum, while the ordinary soldier would drink water from which he had been specially warned. However, as a contribution, it merits the attention of all experimenters in that particular field and contains many improvements, *e.g.*, the technique for measurement of the content in protective elements of small blood samples.

Diseases of the Stomach and Their Surgical Treatment. By A. W. Mayo Robson, F.R.C.S., and B.G.A. Moynihan, M.S. Lond., F.R.C.S. Second Edition. 508 pages. New York: William Wood & Company, 1904.

The rapid advance made within the past few years in the surgical treatment of diseases of the upper abdomen has necessitated the publication of the present revised edition. The experience of the authors in over 600 operations on the stomach has permitted them to perfect the technique and to come to more definite determinations regarding the procedure to select under the differing circumstances. The authors seem to prefer the operation of gastrectomy in cancer of the stomach if the conditions permit. However, it is in non-malignant disease that the special surgical triumphs are particularly noticeable, and the markedly reduced mortality will make the internist far more willing to trust cases of hæmatemesis which resist medical treatment to the surgeon's hands, not only for the most urgent conditions but as the one means which will give a probable cure.

Although the work will be chiefly read by surgeons, it is the duty of medical practitioners to study a book of this character, for the older attitude toward operative interference must of necessity change, and the work before us will give many valuable hints regarding the diagnosis, medical treatment, and the indications of the time when medical means alone cease to be advisable—in fact, become criminal procrastination.

Food Inspection and Analysis. For the Use of Public Analysts, Health Officers, Sanitary Chemists, and Food Economists. By Albert E. Leach, S.B., Analyst of the Massachusetts State Board of Health. 787 pages and 278 illustrations. New York: John Wiley & Sons. 1904.

This is a thoroughly good book and one which will fill a previously existing want. The number of recent works on food analysis is comparatively few, and the reviewer knows of none of them which covers the subject as well as the book under consideration. Many valuable data in regard to the analysis of foods, which had previously existed only in magazines, monographs, and government bulletins, have been compiled by the author and rendered readily available in this book. For reference by public analysts and others engaged in food examination, this work will have great practical value. It is clearly and concisely written, and good judgment and discretion have been used in its compilation. The different subjects are treated comprehensively, yet without superfluity. The various methods of procedure detailed are such as have stood the test of general practice, and have the merit of simplicity and ease of execution. The author is fortunate in having avoided the temptation, in preparing a work of this sort, of including a large number of methods which possess a value largely academic and which are rarely, if ever, employed in actual laboratory practice.

A Text-Book of Diseases of Women. By Charles B. Penrose, M.D., Ph.D., Formerly Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, Philadelphia. With 225 Illustrations. Fifth Edition revised. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

Most text-books have a faculty of growing larger with each successive edition, till finally, by sheer weight they fall out of the niche which they formerly occupied, and for which they were originally intended. The fifth edition of Penrose's admirable text-book is a notable exception to this tendency; for, while thoroughly up to date, it contains only twenty pages more than the first edition did. Among the features introduced during the seven years which have elapsed since its first appearance, will be found paragraphs on kraurosis vulvæ, adhesions of the clitoris, atresia of the vagina, senile endometritis, syncytioma malignum, adenomyoma of the uterus, ovarian pregnancy, myoma of the ovary, stricture of the urethra, and abdominal myomectomy; the chapters on menstruation and the menopause have been enlarged. To the student or general practitioner in need of a good book, free from fads and theories, giving rational and modern methods of treatment, well written and illustrated, this volume can be recommended.

The Practical Application of the Röntgen Rays in Therapeutics and Diagnosis. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; Member of the American Dermatological Association; and Eugene Wilson Caldwell, B.S., Director of the Edward N. Gibbs X-Ray Laboratory, University and Bellevue Hospital Medical College, New York; member of the Röntgen Society of London; Associate Member of the American Institute of Electrical Engineers. Second Edition. Thoroughly Revised and Enlarged. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

Although the literature upon the therapeutic use of *x*-rays during 1903 has been enormous, little that is novel has appeared. Nevertheless, such advances as have been made are recorded here. In this edition the author, as he states in the preface, has not changed in any important particular his former statements concerning either the therapeutic indications for the application of *x*-rays or the general conclusions as to their field of usefulness. To the original reports of his own cases, have been added notes giving the subsequent histories for the last year. The great weight and bulk of the volume are serious drawbacks, and in the interest of the reader are to be condemned. With only 700 pages it ought not to be more than one-half its present weight and thickness.

A Handbook of Pathological Anatomy and Histology. With an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M.D., LL.D., Emeritus Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University, New York; and T. Mitchell Prudden, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York. Seventh Edition, with 13 full-page plates and 545 illustrations in the text in black and colors. New York: William Wood and Company, 1904.

Delafield and Prudden's Pathological Anatomy and Histology is so well and favorably known that it is almost unnecessary to do more than announce the appearance of a new—seventh—edition. This is not a reprint of the previous edition, but an actual revision of the entire work, and a re-writing of several portions. Among the new features are the sections on immunity, Ehrlich's side-chain hypothesis, and cytolysis; the sections on the blood, malaria, and the nervous system have been brought up to date; the references to the bibliography have been increased; and there are many new illustrations, both photographs and drawings, all up to the level of the highest standard. The plates on the hæmatozoa of malaria, the blood, and lesions of the ganglion cells are particularly fine. The book well sustains the high and authoritative position acquired by the earlier editions.

A Text-Book of Materia Medica, Including Laboratory Exercises in the Histologic and Chemic Examination of Drugs. For Pharmaceutic and Medical Schools and for Home Study. By Robert A. Hatcher, Ph.G., M.D. Instructor in Pharmacology, Cornell University Medical School, New York; Formerly Professor of Materia Medica and Vegetable Histology, Cleveland School of Pharmacy; and Demonstrator of Pharmacology, Western Reserve University; and Torald Sollmann, M.D., Associate Professor of Pharmacology and Materia Medica in the Medical Department of Western Reserve University, Cleveland, Ohio. Illustrated. Philadelphia, New York, London: W. B. Saunders and Company, 1904.

This book is a laboratory manual, and is intended to place the teaching of Materia Medica on a rational basis. Instead of the dry descriptions given in the average text-book, it is suggested that the student study the specimen in the laboratory; and this little book will serve as a guide to the worker along these lines. It represents the experience of the writers in the Cleveland School of Pharmacy; and they say that the results were gratifying from the start, as the student not only showed a greater interest, but also obtained a much better grasp of the subject. The book is divided into three parts dealing respectively with the gross study of the crude drugs, their microscopical examination, and chemical exercises in Materia Medica. An appendix containing reagents, staining fluids, table of doses, and a glossary and an index complete the volume.

The Elements of Kellgren's Manual Treatment. By Edgar F. Cyriax, M.D., Edinburgh, 1901: Gymnastic Director, Stockholm, 1899. New York: William Wood & Company, 1904.

The text of this valuable book, as the author says in his preface, is founded upon the thesis which he wrote in 1901, and which was accepted with commendation by the University of Edinburgh, gaining for the writer the degree of M.D. Since that time the original thesis has undergone considerable expansion. The first part has been essentially rewritten. In the second part are included the details of many cases which have come under the author's treatment in the last few years. The subject matter is arranged in two parts, which are again divided into chapters. "Gymnastic Movements" are treated in great detail in the first part, while the second part deals with the application of gymnastic treatment to the various diseases. This subject is elaborately treated. This is the first time that a systematic, detailed description of Kellgren's Manual Treatment has been attempted. In the introduction the author gives a brief history of this system. Kellgren improved many of the movements already existing in Ling's system, and added some new ones, but he never attempted to publish anything concerning his work. Among the new manipulations were nerve frictions and vibrations, by which Kellgren treated diseases of the central nervous system with great success, and which he used to combat the acute specific infectious diseases. The method presented in this book shows a distinct improvement over all others, and is applied to many cases that have never before been touched by gymnastic treatment. The author calls attention to the fact that some of the changes made by Kellgren are often apparently slight, but it is just such changes that often make a vast difference in actual practice and greatly increase the beneficial effects of the treatment. This volume, which represents infinite labor, deserves the careful acknowledgement and encouragement of all physicians.

Clinical Urinology. By Alfred C. Croftan, Professor of Medicine, Chicago Post Graduate Medical College and Hospital; Physician-in-Chief to St. Luke's Hospital. Illustrated. New York: William Wood & Company, 1904.

Dr. Croftan's book, in the arrangement of its subject and in the treatment of its theme, differs greatly from other manuals on uranalysis. It is a study of the urine from the viewpoint of the physiologist, the student of metabolism, and the clinician, rather than those of the chemist and the microscopist. The range of topics discussed includes those usually considered in works on the urine, with the addition of chapters on the functional examination of the kidneys, including the freezing-point method, the methylene-blue test, etc. What especially distinguishes the book is the stamp of modernity, so lacking in some others of its class, which appears on every page. Old moss-grown theories are swept aside, and the reader is given a résumé of the latest researches on each question, together with a clear statement of the present status of our knowledge, and here and there a forecast of the directions in which this knowledge will advance.

In the chapter on albumin, the subject of non-nephritic albuminuria is fully discussed from the modern viewpoint. The chapters on the purin bodies, uric acid, urea, nitrogen, etc., are especially valuable on account of the author's personal contributions to these subjects. The whole structure of fact and theory in connection with the purin bodies has been exposed in these pages and the relation of these substances to disease carefully explained, according to up-to-date views. Ruhemann's method of estimating uric acid is not mentioned, nor are the method of Camerer and the purinometer of Hall described,—omissions which conflict with the author's avowed aim to give brief clinical methods wherever possible, even though they be not absolutely accurate. Doremus' well-known apparatus for urea is mentioned only to be condemned, and the author prefers the less well-known instrument of Hufner.

The chapter on carbohydrates is alone worth the purchase of the book. It is full of the most suggestive material and the discussion of glycosuria, brief as it is, presents the subject in an admirable manner. In the section on inorganic constituents a departure is made from old models by a much fuller and deeper discussion of the metabolic relations of these bodies.

Hyaline casts, according to the author, always indicate a functional disorder of the kidneys, which may be transient, but are to be regarded with suspicion, as they indicate the beginning of a renal inflammation. In view of the fact that hyaline casts are found in almost every urine, these conclusions are somewhat at variance with the modern trend of opinion, which considers pure hyaline casts as of very slight import. A great deal of scepticism is expressed by the author as to the possibility of differentiating epithelia from various parts of the urinary tract, and he gives no guide to the localization of affections of the various organs of this system by means of the microscope, though he figures the different epithelia diagrammatically. In the final chapter on the determination of the renal function, the author gives a brief outline of the subject, together with a very conservative estimate of the value of the various tests now employed for this purpose.

Dr. Croftan's book will delight the advanced student and the broadly educated "all-around man" of medicine. It will be found useful by the scientific practitioner and the specialist on diseases of metabolism.

Society Reports.

THE SEVENTY-SIXTH CONGRESS OF GERMAN NATURALISTS AND PHYSICIANS.

Held at Breslau, September 18-24, 1904.

(Special Report to the MEDICAL RECORD.)

For the third time Breslau welcomes this society and offers its generous hospitality to a Congress of the German Naturalists and Physicians. The quaint older quarters as well as the broad avenues of the new town are gaily decked, and everywhere flags fly in salutation to the visitors. Two thousand guests were present on the opening day, and the streets were filled with professorial dignitaries whose gray beards wagged merrily in animated conversation with old acquaintances. The Congress convened in the City Theater and the session was formally opened by addresses from the President of the Province, the Dean of the University, the Mayor, and the heads of the learned societies.

The Mechanics of Development, a New Branch of Biological Science.—Professor WILLIAM ROUX of Halle presented a communication with this title. The earlier investigators of development were content with merely descriptive lore and were slow to progress, but when William His began his efforts to discover the origin of every perfected organ in its ancestral cleavage cell, the horizon was greatly broadened. But only a study of the causative agencies themselves can fully illuminate the subject, and in this way the new conception of the mechanism of development came into being. Experiments on the frog show that, all extraneous influences being excluded, the line of division of the first cleavage cell of the ovum always indicates the line of symmetry of the future animal, so that the position of head and tail is immediately determined. All parts of the ovum are not essential for full development, for partially emptied frog's eggs develop into complete embryos. It is possible to limit development to a single half and thus to produce half-embryos consisting only of the anterior, posterior or lateral portion. Many observations of different authors have brought to light numerous other factors, such as the superficial tension and osmotic pressure of the first cleavage. These factors would justify the establishment of a purely mechanical theory if other experiments had not revealed the fact of self-regulation, as shown by the regeneration of lost members and by functional adaptation. The following conclusion is the result of many observations; when the first cleavage cell becomes round again after the division, a complete embryo will result; if it remains hemispherical only a half embryo is found. In the author's opinion, both the typically mechanical, and the regulatory laws are subordinate to the causative doctrine, and this will be the chief objective point for scientific research.

The German Expedition on the Gauss.—Dr. HANS GAZERT of Berlin described this voyage, which was undertaken with the idea of advancing as far south as possible and then wintering at some point for the purpose of scientific observation. On the twenty-first of February, 1902, the newly-discovered Emperor William I. Land was reached, and winter quarters were established on the ice fields 30° beyond the Antarctic Circle. For five months storms and snow prevented excursions from the ship, and the monotony and inaction caused mental depression among the members of the expedition, though neither insanity nor scurvy developed. Canned foods, preserves, fresh meat of seals and penguins, as well as alcohol, formed suitable provisions and kept them well. Wounds healed without suppuration, but very slowly; the hair, beard and nails grew only very slowly, and catarrh never occurred. Several new facts were discovered, including investigations on the plankton, and the observation that south of 63° east winds prevail. The sea water was very poor in germs, though these were present in abundance in the kitchen refuse in spite of the low temperature. A sledge expedition penetrated further south, and on the Gaussberg four months of scientific work was done. Below the ice the ground was composed of gneiss and granite. The prevailing dryness was a noteworthy feature. The highly satisfactory opportunities for scientific work made attempts to penetrate further south seem ill-advised, so this idea was abandoned. On the thirty-first of January, 1903, the first crevasse formed, and on February eighth the ice began to move. It was found impracticable to carry out the original intention of spending a second winter further to the westward, and the scientific workers left behind on Kerguelenland, one of whom (Dr. Euxensperger) had died, were picked up, and the voyage homeward begun. The author deprecated the criticisms to which the expedition had been subjected, and said its object had been scientific discovery and not the pursuit of danger, and that in this respect it had been very successful. Numerous photographs illustrated the paper.

The Frequency of Tuberculosis in Man.—Dr. KRÄMER read this first paper in the Section of Internal Medicine. The doctrine of the universal prevalence of tuberculosis is still unproven, for the high autopsy statistics of hospitals are based upon the poorer population, the lesions ascribed to tuberculosis, such as calcareous deposits, may sometimes be due to other causes, and the large number of inactive latent cases must be deducted, so that only 30 per cent. of infections remain.

Dr. FREYMUTH of Breslau gave seventeen patients tuberculin in pill form and obtained valuable results. Cases giving only a slight reaction on internal administration become very susceptible to later injections, and very small doses then suffice.

Dr. MOURNEY of Mettmann obtained unequal results with tuberculin injections, and believes that it is largely a question of the powers of immunity of the patient, and that these may be stimulated by the tuberculin.

The Prognostic Significance of the Pulse in Pulmonary Tuberculosis.—Dr. SCHNEIDER of Göbersdorf read a paper on this subject, saying that acceleration of the pulse always indicated injury to the patient. He considered pulses up to 90 normal, from 90 to 110 accelerated, and above this, much accelerated. In all stages of the disease patients with normal pulses are able to continue at work longer and to live longer than others. This fact is therefore of importance in considering the question of sanatorium treatment.

Dr. WASSERMANN of Meran called attention to the necessity for a well-regulated circulation in tuberculosis, and described a gymnastic treatment he employed.

Dr. STRÜMPELL of Breslau chairman of the section, summarized the results of the discussion by saying that the tuberculin treatment is the stage of development, and that it has a promising future.

Artificial Feeding of Infants.—Dr. SCHLOSSMANN of Dresden opened a discussion on this subject. Milk used in place of breast milk must be pure, good and fresh, and should come from cows that go out to pasture. As the observation of these conditions makes the price of milk high, the municipal authorities should become milk producers or should control the dairies, and should offer facilities for instructing the mothers of children, especially pointing out the advantages of breast milk. The poor should receive milk gratis. Canned milk preparations are not suitable for infant feeding. Behring's statement that boiled milk is injurious is not justified, though the milk should not contain many germs even before boiling. The addition of formalin as suggested by Behring checks the lactic acid formation but not the growth of other germs, and this agent is injurious to infants even in minute quantities.

Dr. SEIFFERT of Leipsic reported some interesting experiments on new-born calves. Boiled cow's milk can cause profuse diarrhœa, but if the animals have previously been given colostrum they remain well. The colostrum

produces a passive immunity in the child, which later becomes an active immunity. The addition of such substances as formaldehyde or peroxide of hydrogen, etc., is injurious. In the protracted discussion which followed Heubner and others condemned the preserved milks and spoke of the presence of streptococci in milk as being especially dangerous.

Drainage in Empyema.—Dr. RAUCHFUSS of St. Petersburg demonstrated illustrations showing triangular drainage openings on the healthy side in empyema, these reaching to the vertebral column as a consequence of the pushing of the entire mediastium to the healthy side.

PFAUNDLER, of Graz, showed an apparatus intended to announce a movement of the bowels in an infant by means of an electric bell. The apparatus can be arranged so as to give the child an electric shock, and is well adapted for use in cases of nocturnal enuresis.

Bactericidal Action of Radium.—Dr. ARCHKINAS opened a discussion on this subject in the section on Dermatology. He said that three varieties of radium rays, α β and γ might be distinguished. The γ rays which are not influenced by the magnetic field possess no bactericidal powers. The α rays and β rays which are deflected to different sides by the magnetic field, kill bacteria after some time.

Dr. HOLZKNECHT of Vienna spoke of the nature of ray therapeutics. How is it that rays differing so much in nature as the Röntgen, radium, cathode and sunlight rays should act on the photographic plate and on living tissues in so similar a way? Goldstein's hypothesis is correct, viz. that all these rays as soon as they strike ponderable matter become converted into ultraviolet rays. The elective action of the rays is only relative, that is, all tissues are injured by the rays, but to a different degree. Holzknecht has employed radium spread in a thin layer over a surface in order to treat more extensive cutaneous areas in a short time. For the mouth and nose suitably shaped applicators have been made. In the discussion the author's views regarding the ultraviolet theory were not corroborated, though all the speakers coincided with his theory of elective action.

Diagnosis and Treatment of Gonorrhœa.—Dr. ALEXANDER of Breslau spoke of a new agent for the diagnosis and treatment of gonorrhœa. He injects a 1 per cent. solution of peroxide of hydrogen into the urethra after the gonococci can no longer be demonstrated. The resulting secretion often shows the organism again. The author assumes that the foam formed opens the choked-up glands and renders them susceptible to treatment with bactericidal injections.

Dr. POSNER of Berlin said that he had often found the nuclei of the cells in urethral pus degenerated into angular, deeply-staining masses, and that this was characteristic of chronic non-gonorrhœal urethritis. Marked vacuolization of the leucocytes observed on the second day of the discharge points to a rapid subsidence of the process. Large numbers of mononuclear cells do not, as Poppenheim states, indicate a cure, but also frequently occur in the third to fifth week of gonorrhœa.

The Action of Physical Therapeutics in Inflammation.—Dr. SCHÄFER of Breslau read a paper on this subject. He drew threads infected with bacteria under the skin of the backs of rabbits, and then treated one side with heat, ice, and wet dressings, using the other side as a control. Continuous heat was most efficient; the ice-bag was also serviceable, especially when a pig's bladder was used as container. The wet dressing covered with gutta percha was also useful, but not the Priessnitz compress. These statements were illustrated by anatomical preparations.

In the Gynecological Section a discussion relative to the method of treating carcinoma of the uterus resulted in the conclusion that the abdominal operation was preferable. Mackenrodt counseled complete clearing out of the pelvis.

Intrauterine Menstruation.—Dr. HALBAU of Vienna spoke on this topic. His observations afforded an explanation of the cases of bleeding from the genitalia sometimes observed at the birth of female children. This is due to what is undoubtedly a menstrual process.

The Mechanism of Labor.—Dr. SELLHEIM of Freiburg read a very interesting paper on this subject. By forcing a fœtus through a tubular model he showed that the fœtus must carry out the normal mechanism of labor, following the laws of least resistance.

In the Surgical Section Hoffa spoke enthusiastically of models seen in America for the treatment of spondylitis. V. Mikulicz praised the skill of American surgeons, particularly that of Young, in his report of eleven cases of prostatic hypertrophy that he had operated perineally by means of Young's instruments. He makes a median incision, and with one index finger in the rectum, bluntly dissects down to the gland with the other index, and after incising the capsule, turns out the gland. All the cases healed well and gave good results.

Nerve Blocking in Neuralgia.—Dr. HEILE of Breslau reported upon a method of treatment of trigeminal neuralgia employed in v. Mikulicz's clinic, and which gives results almost equal to those attending extirpation of the nerve. A weak cocaine-adrenalin solution, followed by a 1 per cent. solution of osmic acid, is injected with a Pravaz syringe into the foramen of exit of one of the three nerves, according to the localization of the disease. The openings are easy to strike, and the fact that they have been found is shown by a sudden sinking in of the needle. Out of twelve cases so treated nine gave excellent results, and an advantage of the method lies in the fact that the injection may be repeated as often as desired.

(To be continued.)

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held October 6, 1904.

ANDREW H. SMITH, M.D., IN THE CHAIR.

THIS meeting was held under the auspices of the Section on Obstetrics and Gynecology.

The After-Effects of Hysterectomy on the Nervous System.—Dr. GRAEME M. HAMMOND said that the brain was the only part of the entire nervous system which seemed to be influenced by operations upon the pelvic organs; the peripheral nerves and cells in the cord remained apparently unchanged so far as primary degenerations are concerned, even after the lapse of years. But so much cannot be said of the brain. Among the sequelæ of hysterectomies he mentioned certain psychoses, paranoia, involutional insanities, melancholia, presenile and delusional insanities. Epilepsy, hysteroepilepsy, and hysteria, and occasionally profound neurasthenias may follow. It cannot be claimed that the extirpation of the uterus is ever in itself a cause of psychoses or neuroses; when paranoia develops it is not because of the removal of the uterus, or because it ceases to perform its function, but because the individual was born with a tendency to become a paranoiac. These conditions may exist when we have profound nutritional changes at the menopause; just so may they occur when the uterus is removed. When epilepsy, hysteroepilepsy, or hysteria follows a hysterectomy it is because the subject was neurotic, or had become neurotic from long-continued illness. Dr. Hammond wished to be distinctly understood as believing that hysterectomy causes *per se* no mental or nervous diseases which other operations would not cause. That extirpation of the uterus and ovaries might be followed by mental and nervous diseases there was no doubt. The attempt had been made to prove that the ovaries secreted some substances which were necessary for the integrity of the nervous system, but this could not be proved. It should be remembered that the diseases which call for such a radical procedure are severe in character and exhaust the brain cells, and makes it difficult for such patients to stand the shock of such

operations. Therefore the surgeon should carefully consider the question of certain nervous symptoms following hysterectomy, as well as other operations. He concluded as follows: (1) There are no mental or nervous diseases which develop as the result of hysterectomies or ovariotomies *per se*. (2) The loss of the uterus and ovaries and the sudden cessation of menstruation have nothing to do with the development of mental or nervous diseases. (3) The shock of the operation is the sole exciting cause of the nervous diseases which follow hysterectomy. But shock alone is not sufficient as a cause; there must be some congenital defective brain, or congenital tendency to premature degeneration, or an acquired neurosis which must exist at the time of the operation.

The After-Effects of Hysterectomy upon the General Health.—Dr. Eugene Coleman Savidge said that at Roosevelt Hospital it had been his fortune to come in contact with many patients whose uteri and ovaries had been removed; most of them had been recent cases. The conviction, as a result of his observations, grew upon him that ovarian tissue was necessary and essential for the woman's well being. Among the after-effects of hysterectomy might be mentioned the lusterless eye, the roughened voice, the increased growth of hair, the increased amount of fat, the devitalization or defeminization of the individual, the change from the alertness of city life to that of the country dullness, the wiping out of zest and the lack of pride, the abolishment of the feminine element, etc. The quality of hope is often removed after hysterectomy.

The After-Effects of Hysterectomy on the Sexual Functions.—Dr. Hiram N. Vineberg said that the whole subject of the sexual functions in women was very vague and women were seldom interrogated regarding this point. In his opinion it had little bearing upon the conditions for which women sought advice. Some women with no sexual desire have large families, and the reverse is also true. Dr. Vineberg then considered the question of the seat of the sexual instinct in women. The removal of the uterus and adnexa had little influence upon the sexual instinct; this statement was based upon his own investigations and from a study of the reports from other writers. He had recently written to several of his patients upon whom he had operated, and many stated that there had been no effect upon their sexual passions. Some even stated that prior to operation they never knew what passion was; following hysterectomy it developed to a marked degree. In no instances did the sexual appetite become less than what it was prior to operation. In no instances was the sexual appetite destroyed. He concluded that whatever effects the removal of the uterus and ovaries might have upon the woman, it had little or none at all upon the sexual feeling.

Dr. Edwin B. Cragin said that in such a discussion one should look upon the after-effects as those of comparison, the comparison lying not between the absence of a normal uterus and presence of a normal uterus, but between the absence of the uterus and presence of a diseased uterus. The after-effects were going to depend upon what condition the uterus was in and the symptoms from which the patient suffered. He believed that one should draw a sharp line between the after-effects following the removal of the uterus and ovaries and the removal of the uterus alone, because the effects produced were distinctly different. He could not endorse all that Dr. Hammond had stated; in his own experience the effect of removing the uterus and appendages had been determined by the amount of shock produced, just as from an operation upon an extremity; but the same amount of shock and gravity of operation in any other part of the body did not produce the same amount of disturbance of the nervous system as operation upon the uterus and appendages. With regard to the effect upon the general health he called Dr. Savidge's attention to the fact that when he (Dr. Savidge) was in the Roosevelt Dispensary it was the custom to remove both ovaries with the uterus; therefore, most of the hysterectomies then done were panhysterectomies, and not the removal of the uterus and leaving of one or both ovaries, as the custom is at the present time. The removal of both ovaries left the woman in a neurotic condition, which was worse than the disease for which the operation was performed in many instances. To-day the pendulum had swung the opposite way, and some ovarian tissue was left whenever possible. Another division must be made in considering the after-effects of hysterectomy and depended upon whether the cervix was removed with the uterus or not. He admitted that the sexual feeling may not be greatly altered in a large majority of the cases, but it did make a difference in the conditions of the vagina; for instance, sometimes vaginismus was very marked and resulted from the rapid atrophy which sometimes followed this operation. Provided the ovaries and cervix be left the sexual life of the woman, so far as satisfaction in sexual intercourse was concerned, was not changed. It had been his experience in several cases when both ovaries had been removed that there was such a change in the external genitals, such as atrophy, that sexual intercourse had to be abandoned. This was an exception to the rule, and yet that was one of the results.

Dr. J. Riddle Goffe said that in the removal of an important part of any individual, shock, which was usually only a passing incidental experience, might at times be of such a character as to affect the mental characteristics for the balance of life. The self-consciousness of disfigurement or mutilation often restricted business and social relations, so that the entire morale might be changed. Such effects might naturally be expected in the removal of so important an organ as the uterus, and such results sometimes, though very rarely, occurred. The functions of the uterus being intimately connected, not only with the nervous system, but also with the psychological equilibrium of the woman, have been said to dominate her life. Certain it is, that the function of reproduction exerts such a reciprocal influence upon the traits and characteristics of the individual as to markedly distinguish the parous from the multiparous woman. The woman subjected to hysterectomy was deprived of the experience of motherhood, and to that degree her moral, mental, and emotional horizon was limited. Many women, however, have experienced this broadening influence before the operation had been performed, so that it was necessary to classify according to age and previous condition. From the standpoint of the woman there were three aspects in which this question would be considered: (1) The effect upon the sexual appetite and enjoyment. At the meeting of the American Gynecological Society, 1903, where this question was discussed, it seemed to be the consensus of opinion that the ovary was the determining factor in the sexual sense. The removal of the uterus had absolutely nothing to do with it. Dr. Goffe's experience led him positively to confirm this opinion, although it had been the experience of Dr. Noble, who had made a special study of this matter, that the removal of the ovaries did not affect the sexual appetite any sooner than would happen in the natural course of events. (2) What will be the effect of the suppression of ovulation and menstruation? These phenomena are regulated by three factors, the uterus, the ovary, and nerve centers. When both these organs are removed the symptoms of menopause appear, as well as abnormal psychic manifestations, but the system gradually adapts itself to the changed conditions. If the general health had been depressed, it usually happened that general nutrition was improved and that there was a gradual restoration to a normal, healthy condition. The state of the general health after this operation was the true test of the success of the procedure. He said that the results of his work in the large majority of cases had stood this crucial test. (3) How will the nervous system functionate under the new order? When the uterus only had been removed and the ovaries left, menstruation

had ceased, but the nervous manifestations had been largely absent. He emphasized the point that whenever possible at least one ovary, or as much of it as was healthy, should be left *in situ*. It had been the experience of Dr. Lindley that hysterectomy cases recovered more promptly when the ovaries were left, and he knew a number of women, holding responsible positions, upon whom hysterectomy had been performed, who were having the brightest and most successful years of their lives.

Dr. W. Gill Wylie did not agree with the statement that the removal of the uterus and adnexa had no effect upon the nervous system. In many instances there was a marked depression, and even melancholia, following such operations. To-day he would not remove all the ovarian tissue in any woman under 45 years of age if it were possible to save any portion of it. The younger the woman the less willing was he to remove all the ovarian tissue. In young women the changes that took place were very marked, especially when they were under 30 years of age; there was a rapid atrophy, and sometimes the changes in the tissues became pathological, in many cases giving rise to vaginismus. This occurred especially in the young. He said he was satisfied that it was not a dangerous procedure to leave the ovaries, or parts of the ovaries in doing hysterectomy. The most important tissue to remove in order to get permanent results was the Fallopian tube, especially its mucous lining.

Dr. F. H. Wiggin said it had never been his custom to remove normal tissue, and that he believed in leaving in the cervix whenever it was possible.

Dr. Graeme M. Hammond said that the minds of the gynecologists seemed to be imbued with the idea that the integrity of the nervous system depended upon the integrity of the ovaries. This was not true. He believed that women might have perfect, healthy minds and nervous systems without uterus or ovaries; they might be removed without any injury to the nervous system whatever. On the other hand, trivial operations on the uterus and adnexa are often followed by profound mental symptoms.

Dr. Hiram N. Vineberg said that in looking over the literature he noted the belief that sexual passion ceased at the menopause was not so common as generally supposed, and there had been reported cases in which this passion continued until advanced age. He could not take a positive stand in reference to the advantage of leaving in the cervix and portions of the ovary and the influence upon the future welfare of the patient; that was a subject still *sub judice*. In the majority of cases when the uterus has been removed the ovary will atrophy in a short time.

Before the adjournment the president introduced Prof. T. Clifford Allbutt of Cambridge, one of the Honorary Members of the Academy.

Cincinnati Academy of Medicine.

At a regular meeting, May 9, Dr. Samuel Iglauer read a paper on "Nitrous-oxide Ether Anæsthesia." He first compared ether and chloroform, showing that chloroform was by far the more pleasant to take, but as shown by Hewitt's statistics of over 1,000,000 cases, was also much more dangerous; one death resulting in every 3,162 chloroform cases, and one in 10,302 ether cases. The zone between the psysiological and the lethal dose of chloroform is much narrower than that of ether, and the failure comes much more suddenly with chloroform, ether giving plenty of warning. The advocates of chloroform claim that the after-effects of ether are worse than those of chloroform and that pneumonia is much more frequent, but Drummond has noted the relation between painful abdominal wounds with limited diaphragmatic action and pneumonia, and Mikulicz shows that the pneumonia is caused more by the operation than the anæsthetic, and gives tables showing that he has had more pneumonias following operations under cocaine than in the same operations under general anæsthesia. It is stated that ether causes more trouble in the kidneys, but experimentally fatty degeneration has been produced by long-continued chloroform anæsthesia, not only in the kidneys, but in the liver and the heart itself, while ether has failed to produce these results. Ether produces less vomiting because it is more volatile and passes off more quickly. This also explains why nitrous oxide, ethyl-bromide and ethyl-chloride so seldom produce this symptom. Ether then, being the safer anæsthetic, should be made as agreeable as possible by relieving the irritating throat symptoms and sense of suffocation, and reducing the stage of excitement to a minimum. This was done by Clover in 1876, when he devised his apparatus for administering gas followed by ether. Nitrous oxide is the safest anæsthetic known, its mortality being one in 750,000 cases, and its administration is not unpleasant. When followed by ether, the patient passes directly from one to the other without excitement. The writer here presented his apparatus for the gas-ether sequence. It consists of a metal face-piece containing a wire basket for gauze; above is a glass ether container with a stop-cock. Accurate fitting of the face-piece is obtained by a rubber cushion. The face-piece is joined to a rubber bag for the gas by a piece of metal tubing; a lever projects through an air-slit in this tube and is connected with an obturator, which controls the escape of the gas. On each side of the face-piece is a trap for admitting air, if desired. In using, the basket is filled with gauze and the container with ether; the rubber bag is then filled with gas (about 2 gals.). The air-slit is opened, and after a few breaths of air, to inspire confidence, the gas is turned on, which at the same time closes the air-slot. The patient then breathes the gas back and forth into the bag; after about 40 seconds he will show slight cyanosis and stertor, and the cornea will become insensitive. Then the ether is turned on, about 5i being allowed to flow onto the gauze. He now breathes a mixture. In about one minute, or if stertor becomes marked, allow a breath of air, and then continue to feed the ether slowly. In about three minutes complete ether anæsthesia ensues. The large gas bag is then removed and replaced by a lighter rubber bag. The administration is then continued, enough air being admitted to prevent cyanosis.

The speaker said he had notes of sixty-two cases in which his apparatus was used in major and minor operations. Of these, only three required restraint while being anæsthetized, and two of these were alcoholics. These patients varied in age from four to seventy-three years. Vomiting occurred only twice during the anæsthesia; thirteen patients became cyanosed. Special advantages of the gas-ether sequence are: (1) The two safest anæsthetics known are used. (2) The method can be used as a routine for nearly any class of operations. (3) Unconsciousness is quick and leaves no unpleasant recollections. (4) Struggling, excitement, choking, and the initial vomiting are eliminated. (5) Nitrous oxide does away with the large amount of ether required to induce anæsthesia. (6) Only one-third to one-half the ether is used in the close, as compared with the open, method. (7) The patient breathing the same warmed ether to and fro suffers less from refrigeration. (8) The atmosphere of the room is not saturated with ether fumes. (9) Deep anæsthesia is more easily maintained. (10) The method can readily be changed from the close to the open by removing the bag. (11) In clinical work, the patient can be anæsthetized when the operator is ready, and need not be put under in advance and kept waiting. (12) Recovery from narcosis is more rapid. (13) Nausea, vomiting, and headache are less intense after operation. (14) It is a time-tried method and is recommended by leading anæsthetists.

At a regular meeting, May 20, Dr. Wm. F. Jelke reported the following obstetrical case: A woman of neurotic type, the mother of four children, who had had two miscarriages between the fourth and fifth month, after the second miscarriage, had hysterical attacks, with partial loss of consciousness. Her second child had epileptoid attacks until six years of age. Four weeks before recent confine-

ment she fell downstairs, spraining her ankle and striking right side of abdomen on step. Labor pains, with slight hemorrhage, followed, and os dilated to admit finger. She was given morphine hypodermically and placed in the Trendelenburg position. A pillow under the head relieved tension on abdominal muscles. Warm applications were applied locally to relieve bruising, and after six hours labor pains ceased. On May 23, one week before this report, labor pains came on. The position was found to be left occipito-posterior. The os was dilated, the membranes very tough and unruptured, while the amniotic fluid was much diminished. After two hours, membranes having been cut, the head was rotated with forceps and delivered. The child was blue and heart not palpable. The cord was quickly cut, and the usual method failing, the lungs were inflated by a bicycle pump through a catheter passed into the larynx; warm towels were applied and the skin irritated at frequent intervals by massage with camphorated oil. Respiration was restored about one hour after birth. That evening the child began to have convulsions, beginning in the mouth and eyes and becoming general. These occurred about every hour and were preceded by a sharp cry. The next evening the rectum was washed out and 3 grains of chloral hydrate were injected in ℥ii of Pasteurized milk and ℥i of salt solution. This was followed by a hypodermic of salt solution with 4 drops of whiskey, which was repeated some hours later with 5 drops and again with 6 drops. The general condition of the child improved on the taking of the salt solution, and only two more convulsions occurred. On the third day the child took some milk which had been drawn by the breast pump, and on the fifth day nursed for itself. Following the convulsions it remained spastic for some days, but this has disappeared and improvement continues.

Dr. Kennon Dunham presented Dr. Sweet's apparatus for localizing a foreign body by means of the *x*-ray.

Philadelphia County Medical Society.

At a stated meeting, held May 25, Dr. Chas. W. Burr exhibited "A Case of Osteoma of the Frontal Bone." The patient was a colored lad, perhaps twelve years old, with a family history of syphilis, who seven years previously had been kicked in the frontal region by a horse. A swelling soon appeared in the situation of the injury, and gradually increased in size until it had attained quite considerable proportions. At the same time vertigo, headache, and static and motor ataxia developed and became marked. There was also impairment of hearing. A skiagram showed the frontal bone to be greatly enlarged from the presence of hyperostosis or exostosis and exerting pressure on the brain and on one eye. The knee-jerk was preserved on one side and absent on the other. The eye-grounds exhibited no lesion. Improvement in all of the symptoms took place under antisyphilitic treatment.

Dr. J. Madison Taylor read a paper entitled "Special Lectures for the County Medical Society; a Suggestion." He proposed the establishment by the County Medical Societies of large cities of post-graduate lectures, to be given on certain evenings set apart for the purpose, by members of the Society or others, illustrated by means of blackboard or other drawings or lantern demonstrations.

Dr. Chas. K. Mills read a paper entitled "A Glance at the History of Cerebral Localization, With Some Considerations Regarding the Subdivisions of the Areas of Representation of Cutaneous and Muscular Sensibility and of Concrete Concepts." He traced the evolution of cerebral localization from its uncertain and remote beginnings down to its present comparatively refined development, giving especial credit among early investigators to Gall, and among more recent students of the subject to Fritz, Hitzig, Flechsig, Ferrier, Horsley, Beevor, Sherrington, and Grünbaum. The advances in this department of knowledge have been made partly from clinical and pathological observations on man and partly from experimental observations on animals. There is reason for believing that the motor centers for the different parts of the body are situated in front of the central fissure, and the sensory centers are situated behind this fissure, and that there is a certain correspondence or relationship between the situation of the two sets of centers in the cerebral cortex, with reference to the respective parts of the body. It would seem that there are, further, special centers for abstract and concrete concepts, the one being situated in the frontal region and the other in the upper and lower parts of the posterior portion of the brain. The occipital lobe contains an object-seeing center, and the temporal lobe a center for musical apperception.

In the discussion, which was participated in by Drs. Francis X. Dercum, Wm. G. Spiller, Chas. W. Burr, Wm. Pickett, G. E. de Schweinitz, Chas. H. Frazier and E. W. Holmes, various phases of the subject were dwelt upon and a full measure of praise was accorded Dr. Mills for his long-continued studies and his valuable contributions in this field of inquiry.

Medical Society of City Hospital Alumni, St. Louis.

At the meeting held May 26, Dr. S. E. Solley, of Colorado Springs, read a paper on "Climatology." Dr. Solley said he wanted to call attention to the importance of this subject rather than give an epitome of what climatology is. Climatology has received a set-back by the late discoveries of the value of hygiene in the treatment of tuberculosis. Altitude is a very powerful remedy, but for patients who have lived on the coast it is a severe change. Speaking of his personal experience, he said that in Colorado they used to be flooded with cases sent there too late, and the patients were not instructed to follow any particular way of living, so that local physicians had very little control over them. Hygiene is the first essential, and a bad climate with good care is better than a good climate without care. To secure the highest degree of benefit from sun-heat, dryness is necessary; therefore, a sunny and dry climate is of great value. No climate is suitable to all cases, and to know about a climate it is necessary to know about its meteorology as well as its topography. Climatology is a science, and if the data are before the physician he can build up a climate for himself. Many other diseases than tuberculosis are benefited by a change of climate. Kidney diseases are very much benefited, and for these troubles Arizona is probably the best because it is more equable. Heart disease and chronic rheumatism are also greatly benefited. The speaker made a plea for the study of Climatology being included in the curriculum of medical colleges, even though it be a short time during the school year.

Prophylaxis Against Malaria by Quinine.—In an official report by H. Ziemann, based on his observation in the German possessions in Cameroun, Africa, the following conclusions are contained. In 16 per cent. of those who received prophylactic treatment regularly the outbreak of the fever was entirely avoided. When no prophylactic measures were employed none was spared; and when they were not followed regularly, only one. Furthermore, in those regularly under treatment 23 per cent. only experienced a slight attack, and in 25 per cent. the fever disappeared as soon as more stringent measures were adopted. The majority of those under prophylactic treatment (90 per cent.) were able to work in the tropics, of those under irregular treatment only 67 per cent., and those without treatment only 12 per cent. These results would be even better if the prophylaxis were more universally applied. The use of quinine alone, however, is not sufficient, and all the other known methods for securing hygienic conditions in the tropics are essential. Among these is the necessity of securing the coöperation of the natives by teaching them, if possible, the value of such methods, and the author reports that this has been attended with some degree of success in the locality in question.—*Archiv für Schiffs- und Tropen-Hygiene.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgement will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK FOR THE YEAR 1904. 8vo, 502 pages, muslin. Published by the Society.

A TREATISE ON OBSTETRICS FOR STUDENTS AND PRACTITIONERS. By EDWARD P. DAVIS, A.M., M.D. Second Edition. 8vo, 809 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia.

HEALTH AND DISEASE IN RELATION TO MARRIAGE AND THE MARRIED STATE. By various authors. Authorized translation from the German. By J. DULBERG, M.D. Vol. I. 8vo, 498 pages, muslin. Rebman Company, New York.

AN ATLAS OF HUMAN ANATOMY FOR STUDENTS AND PHYSICIANS. By CARL TOLDT, M.D. Assisted by Professor Alois Dalla Rosa, M.D. Section 4, Spanchnology. pp. 404-538. Section 5, Angeiology. pp. 556-728. 4to, illustrated, muslin. Translated from the Third German Edition. Rebman Company, New York.

THE DOCTOR'S RED LAMP. A Book of Short Stories Concerning the Doctor's Daily Life. Selected by CHARLES WELLS MOULTON. 8vo, 343 pages, illustrated, muslin. The Saalfield Publishing Co., Chicago.

REGIONAL MINOR SURGERY. By Dr. GEORGE GRAY VAN SCHAICK. Second Edition. 8vo, 228 pages, illustrated, muslin. International Journal of Surgery Co., New York. Price $1.50.

A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY FOR STUDENTS OF MEDICINE AND PHYSICIANS. By CHARLES E. SIMON, M.D. Second Edition, Revised and Enlarged. 8vo, 500 pages, muslin. Lea Brothers & Co., Philadelphia.

THE SUPPRESSION OF TUBERCULOSIS. By Professor E. VON BEHRING. Authorized translation by CHARLES BOLDUAN, M.D. 12mo, 85 pages, muslin. John Wiley & Sons, New York. Price $10.00.

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BERI-BERI: BEING EXTRACTS FROM "AN ESSAY ON BERI-BERI." By Dr. PERCY NETTERVILLE GERRARD. 12mo, 53 pages, flexible cloth. P. Blakiston's Son & Co., Philadelphia.

YEAR BOOK OF THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK. P. BRYNBERG, A.M., M.D., EDITOR. June, 1904. 12mo, 193 pages, illustrated, muslin.

KIRKES' HANDBOOK OF PHYSIOLOGY. Revised by FREDERICK C. BUSCH, B.S., M.D. Fifth American Revision. 8vo, 862 pages, illustrated, muslin. William Wood & Company, New York. Price, $3.00 net.

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LECTURES TO GENERAL PRACTITIONERS ON THE DISEASES OF THE STOMACH AND INTESTINES. By BOARDMAN REED, M.D. 8vo, 1,021 pages, illustrated, muslin. E. B. Treat & Company, New York. Price, $5.00 net.

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A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By JAMES NEVINS HYDE, A.M., M.D., and FRANK HUGH MONTGOMERY, M.D. Seventh Edition. 8vo, 938 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia.

FIRST LESSONS IN FOOD AND DIET. By ELLEN H. RICHARDS. 12mo, 52 pages, muslin. Whitcomb & Barrows, Boston. Price, 30 cents net.

A TEXT-BOOK OF HISTOLOGY, INCLUDING MICROSCOPIC TECHNIC. By Drs. A. A. BÖHM and M. VON DAVIDOFF. Second Edition. 8vo, 525 pages, illustrated, flexible cloth. W. B. Saunders & Company, Philadelphia. Price, $3.50 net.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 8, 1904:

	Cases.	Deaths.
Measles	44	3
Diphtheria and Croup	248	34
Scarlet Fever	103	6
Small Pox		1
Chicken Pox	16	
Tuberculosis	291	157
Typhoid Fever	136	26
Cerebro-Spinal Meningitis		10
Typhus Fever		
Yellow Fever		
Cholera		
Totals	838	237

Malaria on the Shores of the Black Sea.—The St. Petersburg Institute of Experimental Medicine has sent an expedition to the shores of the Black Sea to inquire into the prevalence of malaria, especially in the neighborhood of Gagory, which is a climatic health resort.—*British Medical Journal.*

The War and the Supply of Medical Men for Civilians.—Every day, says the *Novoe Vremya,* the war is thinning the ranks of the St. Petersburg medical men, and thus the remaining contingent of town medical men is overloaded with work. Measures are being taken for recruiting a temporary staff to continue on duty during the absence of the city medical practitioners.

Lepers in the Transvaal.—A recent report from Mr. George Turner, the medical officer of health for the colony, states that whereas in 1895 the number of lepers under his charge was 109, it is now over 200. It is not exactly known, however, how many leprosy afflicted people there are in the Transvaal. A medical man who had been in charge of lepers in that country asserted in 1900 that there were at least 3,000 lepers.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended October 7, 1904.

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Illinois, Chicago	Sept. 25–Oct. 1	3	1
Louisiana, New Orleans	Sept. 25–Oct. 1	1	
Massachusetts, Fitchburg	Sept. 25–Oct. 1	1	1
Massachusetts, Fitchburg. North Adams.	Sept. 25–Oct. 1	1	1
	Sept. 25–Oct. 1	2	
New York, Buffalo	Sept. 25–Oct. 1	1	1
Ohio, Cincinnati	Sept. 23–30	1	
Pennsylvania, Philadelphia	Sept. 25–Oct. 1	1	
Tennessee, Nashville	Sept. 25–Oct. 1	2	
Wisconsin, Milwaukee	Sept. 25–Oct. 1	1	

SMALLPOX FOREIGN.

Brazil, Bahia	Aug. 27–Sept. 3		1
France, Paris	Sept. 10–17	16	
Great Britain, Glasgow	Sept. 16–23	1	1
London	Sept. 10–17	1	
Manchester	Sept. 10–17	7	
Newcastle-on-Tyne	Sept. 10–17	6	
Italy, Palermo	Sept. 10–17	17	1
Mexico, City of Mexico	Sept. 3–17	7	4
Russia, Moscow	Sept. 3–10	4	1
Warsaw	Aug. 6–13		23
Turkey, Beirut	Sept. 10–17	(Present.)	
Constantinople	Sept. 11–18		22
Venezuela, La Guayra	Sept. 10–17	(Present.)	

YELLOW FEVER.

Mexico, Tehauntepec	Sept. 18–24	2	2
Venezuela, La Guayra	Sept. 17	(Present.)	

CHOLERA.

India, Bombay	Aug. 31–Sept. 6		18
Turkey, Bagdad and vicinity	July 31–Aug. 20	423	302

PLAGUE.

Africa, Cape Colony	Aug. 20–27	3	1
Tringa (German East Africa)	Jan. –Mar.	47	41
Brazil, Bahia	Aug 27–Sept. 3		6 (Verified.)
Chile, Arica	Sept. 3	(Present.)	
Egypt, Achmun	Aug. 26–Sept. 2	1	1
Alexandria	Aug. 26–Sept. 2	5	3
India, Bombay	Aug. 31–Sept. 6		51
Karachi	Aug. 28–Sept. 4	5	4
Peru, Callao	Aug. 27–Sept. 3	1	
Chiclayo	Aug. 27–Sept. 3	2	1
Eten	Aug. 27–Sept. 3	3	2
Lima	Aug. 20–Sept. 3	13	4
San Pedro	Aug. 27–Sept. 3	3	3
Turkey, Smyrna	Sept. 5–7	2	

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Original Articles.

THE GYNECOLOGICAL IMPORTANCE OF PROLAPSED KIDNEY.*

By AUGUSTINE H. GOELET, M.D.

PROFESSOR OF GYNECOLOGY, N. Y. SCHOOL OF CLINICAL MEDICINE.

THAT prolapse of the kidney has an important bearing on gynecological conditions there can be no question; that it is often overlooked as an etiological factor both in producing and maintaining congestion of the pelvic organs and diseased conditions coincident thereto, and in producing symptoms which are referred erroneously to the pelvic organs is very true also, and is constantly observed in cases coming to me from other gynecologists.

I first expressed my views publicly on this point at the Saratoga meeting of the American Medical Association, in 1902, and my paper was published in the *Journal of the Association*, August 23 of the same year. They were received with some scepticism by some who discussed the paper and who, I hope, have gained wisdom in the light of riper experience.

In that paper I pointed out that the kidney when prolapsed overlaps the ovarian vein as it ascends along the spine, and compresses this vein, thus obstructing the return circulation from the pelvis when the waist is constricted by the corset or clothing. It is not necessary that the constriction at the waist be more than sufficient to support the clothing, for the intestinal distention, always associated with this condition, is an important factor in forcing the kidney back against the spine. It would seem that the kidney, being movable, would escape such compression. But the colon, being attached to the kidney, drags upon it when it is distended, and holds it in position at the waist line favorable for compression. The distended bowel must necessarily become displaced below the waist line, since there is no room for it above.

Even in the early stages of prolapse the kidney may retard the circulation in the ovarian vein; because when the kidney descends its lower pole swings inward towards the spine, overlapping the vein, as shown in the drawing by the dotted outline.

Compression and consequent obstruction of the circulation of the ovarian vein may be brought about in another manner by prolapse of the kidney. Bear in mind the relation of the ovarian vein to the ureter. The vein is in front and the ureter behind it, where they cross. Therefore, when the kidney descends the ureter becomes bent upon and drags on the vein.

Distention of the ureter from accumulation of urine in consequence of obstruction at the point of flexure will also cause pressure on the ovarian vein.

Thus it will be seen that prolapse of the kidney is an important element in maintaining congestion of the pelvic organs, and is to be regarded as a factor, and a very important one, in causing diseased conditions arising therefrom.

It is certainly true that in almost every woman having prolapse of the kidney there is some associated pelvic disease. The position of the kidney may not be always the sole cause, but I contend that it is an important etiological factor in these conditions, and when so, a cure is not possible without fixation of the kidney. This has been so frequently demonstrated that I am thoroughly convinced upon this point.

Prolapse of the kidney may have a strong influence in causing or maintaining such conditions as persistent leucorrhœa, endometritis, uterine hemorrhage, uterine displacements, even ovaritis and salpingitis, and hemorrhages into the pelvis (hematoma and hematocele), irritable bladder, and even cystitis.

The gynecologist in particular should hence make a special point of recognizing this condition or excluding it in making his diagnosis, and should, as a matter of routine, examine all his patients for this purpose, not once, but repeatedly if necessary, until he can be convinced of its presence or absence. Repeated examination is sometimes necessary before a positive diagnosis can be made, because the colon, when distended, is interposed between the kidney and the abdominal wall, acting like an air cushion, through which it is impossible to distinguish the kidney.

The frequency of prolapse of the kidney in women, especially gynecological patients, is another cogent reason for thus examining every female patient, and not considering the examination and diagnosis complete without it.

Prolapse of the kidney should never be overlooked in these patients, for unless it is recognized and its importance in relation to the pelvic organs is appreciated, not only will such oversight give rise to embarrassment on the part of the gynecologist when it is discovered that he has overlooked so important a condition, but he will often, in consequence of ignorance of the whole trouble, give advice that may prove harmful to his patient.

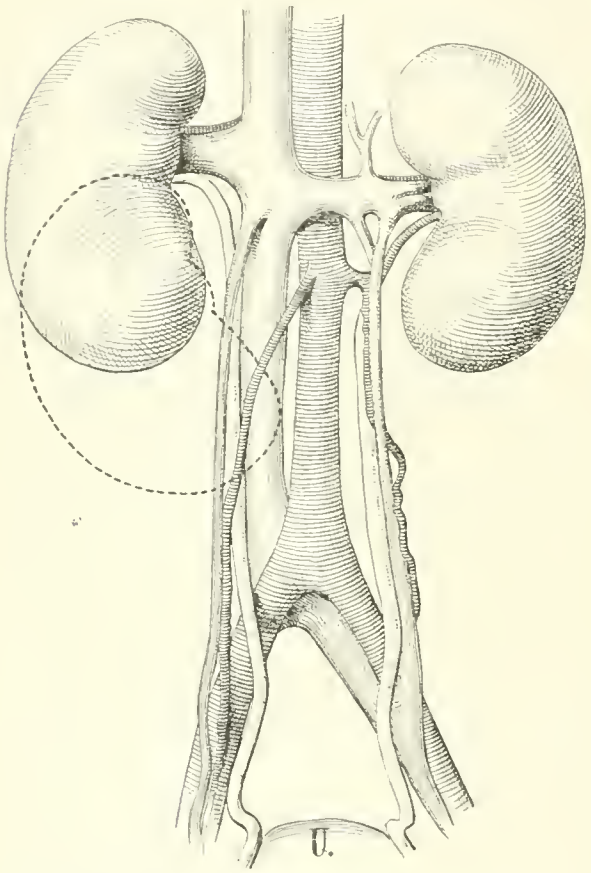
This point is emphasized by the following cases:

A patient who consulted me had been examined by another gynecologist most carefully under anæsthesia, and he discovered nothing but a chronic colitis. He advised horseback exercise, telling her to select the hardest riding horse she could find. She protested that she could not even walk or step down suddenly without experiencing discomfort, and was sure such exercise would add to her discomfort and aggravate her condition. She did not think she could ride even an easy horse. There was not the slightest difficulty in making out prolapse of the right kidney in the erect position, and it was well down below the ribs. She presented typical symptoms of prolapse of the kidney, and pain in the right ovarian region led to suspicion of pelvic trouble, for which she was examined under anæsthesia.

Another patient, who consulted me three years ago, when a diagnosis of prolapse of both kidneys

*Read at the annual meeting of the New York State Medical Association at New York, October 18 to 21, 1904.

was made and operation urged, because there was evidence of commencing nephritis, refused operation, and passed from under my observation. Three months ago she returned and begged me to operate on the kidneys, admitting she had made a mistake in not acting on my advice before. After leaving me she had been examined by another surgeon, who told her one of her ovaries should be removed, and that was the whole trouble. When told of the prolapsed kidneys I had found, he admitted the possibility of the condition, but did not consider it worthy of attention. One operation seemed less formidable to her than two, so she consented, and had the ovary removed, but had not experienced the relief promised, and she was in many ways worse than ever;



for after waiting two years for some good result to be manifested, she broke down completely, and was unfit for her ordinary duties. I fixed her kidneys, and she has made an excellent recovery, feeling already better than she has done in years.

Another patient, who, besides the usual symptoms, had at every menstrual period profuse hemorrhage or an excessive menstruation which exhausted her, consented to operation eighteen months before, when I first made the diagnosis of prolapse of both kidneys. But, unfortunately, she had a brother and brother-in-law, both physicians, who opposed the operation, as well as her husband and mother. She submitted to curettage, which afforded only temporary relief, menstruation becoming excessive again within a few months. She was then sent to a prominent neurologist in this city because of her nervous symptoms. He could not find either kidney prolapsed, and said if they were it was of no consequence. He advised a trip to Europe. She protested that she could not bear the motion of the ship, and did not see how that could benefit her.

I saw the patient with this neurologist, and succeeded in convincing him that both kidneys were prolapsed. I then told him I would prove that all her symptoms were due to the kidneys, and would cure her, for she had taken the matter into her own hands and decided to have the operation, despite opposition. The operation was done only three months ago, and the patient is a perfectly well woman to-day, no longer a sufferer from nervous symptoms; her menstruation is normal, and she is rapidly regaining her lost weight.

Another patient, who consulted me recently and who has submitted to the operation for fixation of both kidneys with gratifying result, complained several years ago of the same symptoms for which she now sought relief. She had undergone curettage of the uterus and repair of a lacerated cervix at that time, upon promise of relief, with disappointment, and had been urged to have the right ovary removed, with which I could find nothing wrong except some slight enlargement, due to congestion.

Another patient who consulted me had worn a belt for three years, and suffered continually until she discovered she could be cured by having the kidneys fixed. The operation gave complete relief of all the pelvic symptoms of which she complained.

I might enumerate dozens of other cases similar to the above, where the patients have suffered for years because the kidneys were either overlooked or their importance disregarded.

In view of the importance of the kidney as an excretory organ, and with the knowledge that its function is seriously impaired by its prolapsed position, it is really a matter of surprise that it is so often disregarded or made light of. I had one patient tell me that her former physician, a very prominent practitioner and consultant, told her that prolapse of both her kidneys, which he made out, was of no consequence; that they would go back into place eventually and cease to trouble her; that an operation should not be thought of. She continued to suffer, however, and was, and had been for years, a chronic invalid in consequence. She was finally restored to health when she consented to an operation.

How otherwise sensible men can disregard this condition and express themselves thus is truly astonishing to the surgeon who is constantly observing results quite the contrary, and who has the opportunity to see the good results from these operations.

It is quite true that many of these patients exist for years with their kidneys out of place, but they are more or less chronic invalids, and their kidneys are diseased. We should ever bear in mind that the prolapse leads to disease of the organ, owing to the continual interference with its circulation and function, and that from constant congestion a chronic inflammation results that may remain in a quiescent or mild state for a while, but eventually atrophy of the organ, or hydro-nephrosis or pyonephrosis may result. It is fortunate that the kidney becomes replaced by the recumbent position, and that during this time it may functionate normally and its circulation be restored, but during the greater part of every twenty-four hours, when the patient is up and about, the kidney must suffer. Besides this, in consequence of its low position in the abdomen, it is constantly subjected to irritation and injury from compression and dragging of the distended colon to which it is attached.

We should not forget also that flexure of the ureter permits accumulation of urine in the pelvis and consequent distention, with pressure upon the secreting structure of the organ and arrest of function.

During the last three years I have had the urine of all these patients coming to me with prolapse of

the kidney examined systematically with the microscope, and find that the majority (75 per cent.) show evidence of already existing inflammation of either the pelvis or urinary tubules. In a paper[1] presented to the New York State Medical Association, October 20-23, 1902, I urged this as a strong indication for operation.

If others could see these kidneys, as the surgeon does, exposed on the operating table, there would be less hesitancy in advising operation for correction of the displacement when it is discovered, and the operation would be more uniformly successful in affording relief. The operation would not be then, as is so often the case now, postponed until structural disease of the kidney has occurred, which may perhaps be incurable.

I find the patient is often given an erroneous idea of the gravity of this operation, as she has been told it is not altogether free from danger. If I can do 197 consecutive nephropexies, in 47 of these fixing both kidneys at the same time, without mortality, any other painstaking surgeon should do as well. Hence it cannot be said that this operation has any mortality.

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THE PATHOGENESIS AND TREATMENT OF ŒDEMA.

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The pathogenesis of œdema, especially of œdema occurring with Bright's disease in which at times the renal lesions seem quite insignificant, defied for a long time attempts at interpretation. It was not difficult to reconcile the occurrence of œdema or even general anasarca with extensive degeneration of the kidneys, but that slight general lesions, such as those often met with in profoundly œdematous individuals, should be the only cause of such œdema, many, in fact most, observers doubted. However, despite the necessity for a more satisfactory explanation, none of any particular value was suggested until 1898, when Reichel,[1] considering the fundamental rôle played by sodium chloride in maintaining osmotic equilibrium was led to perform some interesting experiments which paved the way to a clearer interpretation of this condition. This observer injected saline solutions subcutaneously into patients suffering from Bright's disease and found that the liquid was slowly absorbed, "producing a sort of local œdema." Following these experiments Hallius and Carrion[2] injected rather strong saline solutions into the blood of animals, and œdema resulted, especially of the lungs. In 1900 Widal and Lisné[3] demonstrated that the freezing point of blood was considerably lowered in chronic nephritis, and as a sequence to this Archard[4] suggested that the œdema of Bright's disease probably resulted from the excessive accumulation of some substance in the blood. As an early contribution to this subject A. Chaufford,[5] in 1900, repeatedly injected a saline solution into a patient with jaundice and scant secretion of urine; the amount of urine was not increased, but, on the other hand, an œdema of the face resulted, "due, no doubt, to the retention of the sodium chloride in the system."

Strange as it may seem, the important facts adduced by these observers were not made use of in a practical sense until last year. On June 12, 1903, Widal and Lensierre[6] read a paper, entitled "Pathogénie de Certains Oedèmes Brightiques; Action du chlorure de sodium ingéré," before the Société Médicale des Hôpitaux de Paris, which served the double purpose of materially adding to our knowledge of the pathogenesis and treatment of œdema and interesting and stimulating the entire profession in France. One result is that since the reading of this paper some fifteen communications on the subject have appeared, all substantiating, and many adding to, what these investigators had said. Widal and Lensierre have contended that in the treatment of œdema we should withhold from the patients so afflicted sodium chloride, because the ingestion of any considerable quantity of this salt by patients suffering from nephritis is often, though not always, followed by œdema. They cited four cases of chronic interstitial nephritis, in which sodium chloride was administered with the intent to induce œdema, but without the desired result. On the other hand, they reported three cases of parenchymatous nephritis similarly treated, two of which developed a pronounced œdema. From these results they are led to believe that in order to produce œdema experimentally in nephritis one must administer the sodium chloride at a time when there exists in the blood a considerable quantity of this salt; and further they believe that the results of their experiments indicate clearly that the quantity of sodium chloride in the blood of persons with nephritis varies from time to time, often very considerably.

Claude and Manté[7] have suggested the administration of sodium chloride in ten-gramme doses as a means of determining the prognosis in chronic nephritis; they have found that the prognosis is unfavorable if, after administering this salt, the amount eliminated in the urine is small, but again Claude and Barthe[8] found that there was an abundance of chlorides eliminated in the urine of patients suffering from chronic nephritis.

Pierre Merklen cites the case of a woman with chronic nephritis complicated with œdema and ascites, who was given a diet of bread, potatoes, and soup, in which great care had been exercised in extracting so far as possible the salt. On this diet the œdema quickly disappeared, but the ascites remained; and he concludes that possibly ascites and œdema have a different pathogenesis. The same patient was later given a milk diet and shortly after the œdema reappeared.

The favorable results obtained by Widal and his associate in the treatment of nephritic œdema by excluding sodium chloride from the diet, naturally led others to resort to the same measure in the treatment of œdema of whatever origin. Pierre Merklen[9] was the first to suggest that sodium chloride played a similar rôle in the etiology of œdema associated with cardiac disease and cited the benefit to be derived in the treatment of such cases by excluding salt from the diet; and Olmer and Audibert,[10] of Marseilles, demonstrated the important part played by sodium chloride in ascites of hepatic origin, and in a subsequent communication they gave further proof of this fact. In connection with this subject the following two cases are of more than passing interest, because the method of applying the remedial measure

[1] "A Study of the Indications for Nephropexy," Medical Record, December 20, 1902.

was so simple that it might be adopted under the most unfavorable conditions. The observations were made at the Bicêtre Hospital in the service of Prof. Pierre Marie, who has very kindly permitted me to quote them.

Case I.—Male, 55 years old, single, employed up to the time of his present illness as fireman in the French Navy. He denies syphilis but admits having had gonorrhœa at the age of twenty-two. His family history is of no interest, his parents lived to old age and his only near relative, a brother, is still living and well. For two years he has suffered from tabes, and now presents the clinical signs of that disease. Three months prior to his admission to Bicêtre Hospital, on February 12, 1904, he had noticed moderate swelling of his legs, but not enough to cause him any appreciable inconvenience until ten days before his admission when it became very much aggravated. On his arrival at the hospital he was found to be in an extremely critical condition; his legs and scrotum were distended to enormous proportions. There was also considerable fluid in the abdominal cavity. His heart presented every evidence of advanced myocarditis and a most striking feature was its pronounced arrhythmia. There was but scant secretion of urine. After five days in bed on a restricted diet of milk and broth and the administration of drugs for the purpose of inducing diuresis, his condition became worse. There was almost complete suppression of urine (100 c.c. in 24 hours), and dyspnœa became a very distressing feature. It was now decided to withhold the salt he had been receiving in broth and articles of diet. Within twenty-four hours the effect of the change was manifest in an increase in the amount of urine. It was now one litre in 24 hours. He continued to improve, and at the end of one week was passing approximately four litres of urine daily. The dyspnœa had disappeared and his legs to the casual observer would suggest nothing abnormal, although at the ankles there was still slight pitting on pressure. The ascites had seemingly disappeared, and there was little fluid in the scrotum. Frequent examinations of his urine failed to reveal the presence of albumin or casts. As might be expected, the heart's action became much stronger, but the arrhythmia being an expression of advanced myocarditis still persisted.

Case II.—Male, 67 years old, single. No occupation. There was nothing in his family history aside from the fact that his mother died of brain tumor. He denies venereal and alcoholic history. In infancy he suffered fom poliomyelitis with resulting deformity of the left leg.

He was admitted to Bicêtre Hospital February 17, 1904, and examination revealed the following: Extensive œdema of legs and scrotum, extreme degree of ascites, heart enlarged to the left, second aortic and pulmonic sounds accentuated; especially the latter. Dulness over the lower portion of both lungs posteriorly and respiratory sounds in this region almost inaudible. Dyspnœa very urgent; urine scanty (less than half a litre), and it contained a trace of albumin, but no casts. Pulse rapid, frequently 130, tension high, volume normal. He, like the other patient, was placed on a diet of milk and broth, with the addition of bread, and was given diuretics, but without effect,—in fact, while under this treatment his condition became distinctly worse. At the end of six days he was given bread and broth unsalted, and here again the beneficial effect of a non-salted diet was observed within the day. His urine became profuse, the œdema lessened and the ascites at the end of one week had practically disappeared. It is needless to add, a corresponding improvement has been noted in his general condition. He now (April 1) voids from two to two and a half litres of urine daily and there is no trace of albumin, casts, or sugar.

Both patients are now permitted the regular ward diet, but on several occasions with Case I. it was foun dnecessary to resume the non-salted diet, owing to a partial return of the œdema.

As one contemplates the facts connected with these cases one of the most striking features that presents itself is the profuse diuresis which quickly followed the reduction in the amount of sodium chloride ingested by these patients. These cases appear clearly to confirm the contention of Archard and others, that organic changes in the viscera are not *per se* the cause of œdema.

It would seem that the same metabolic disturbances which occasion degenerative changes in the kidneys and other organs were also capable of determining (aside from such changes, but unquestionably assisted materially by their presence) the retention in the organism of sodium chloride in abnormal quantity. Taken these two cases alone, it can be seen that the kidneys were not rendered incapable by structural alterations of performing their normal function—for they are now doing that as well as ever—but what would seem to be the most likely explanation is that the watery elements coursing to the kidneys being overcharged with sodium chloride were less fitted for exosmosis than normally. These cases would seem also to disprove positively the contention of A. Chaufford[5] that possibly ascites and œdema have a different pathogenesis, as here we had the ascites disappear as quickly as the œdema on reducing the percentage of sodium chloride.

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Bicêtre (Dépt. de la Seine), Paris

THE HISTORY OF TUBERCULOSIS.

By JOHN B. HUBER, A. M., M. D.,
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From time to time in the history of mankind some one disease or another has popularly been looked upon as the universal scourge. Thus has the Wandering Jew personified the cholera, which in various eras swept away enormous numbers. Dr. Hecker's book on "Epidemics in the Middle Ages" reveals how like a blighting spectre the Black Death stalked through three continents. Before the beneficient discovery of Jenner smallpox had destroyed vast numbers of lives, so that oftentimes cities and towns were much more than decimated, and villages were swept entirely out of existence; so that every other person met upon the thoroughfare would be a pock-marked survivor. The congener of such diseases as these in the present day is tuberculosis; and it is as certain as any human fact that such has been the case from time immemorial. It is likely to have had an existence at least coeval with man; that our primordial ancestors, indeed, were afflicted by it in remote and nebulous ages. To-day the simian suffers from it probably more than does any other living thing.

The physicians of all times, Hippocrates, twenty-five centuries ago, and after him Galen, Celsus and others, had to contend with the Great White Plague, as we have to to-day. Its ravages have not exhibited so terrible an aspect, nor have they been so gruesomely picturesque; nevertheless this insidious disease has always been far pre-eminent as regards the number of its victims. It has undoubtedly been more destructive than the sword to human life. It does seem odd, for instance, that in a city like New York an epidemic, say of smallpox, which may involve the deaths of a mere handful, will create a prodigious panic, while consumption, which in this city destroys every year ten thousand in the most productive periods of life, receives comparatively so little attention. Only the other day the *Sun* reported that one man died in the Bronx Borough of smallpox. "There were three hundred or more people living in two adjoining tenements, and they were exposed to the contagion for fifteen or twenty days." Our Health Department at once sent its physicians, who found the street, in which the death occurred, crowded with excited men and women, many of whom dared not go home for fear of contracting the disease.

Then followed a scene, the description of which is corroborated by that of many a historical incident. The physicians prepared at once to vaccinate all within the sphere of the contagion. The tenants, mostly women and children, were very uneducated and were of all nationalities, mostly Italian; and there was generally a superstitious horror of the proceedings. Here and there frightened people fought fiercely and had to be roughly handled before they could be vaccinated; many submitted only upon threat of arrest and imprisonment. The neighborhood was greatly excited over the news that one individual had died of smallpox, "and the police had to deal with a kind of panic."

If a case of bubonic plague, or of yellow fever, or asiatic cholera, were to develop in this city there would be newspaper "scare head" extras, and the greatest alarm would be felt; and business and traffic to the city from the surrounding country would certainly be demoralized. Yet, as we have noted, but little attention comparatively is given to consumption, a disease much more deadly than all of these put together, and much more inimical to human happiness. The terrible Black Death lived one year in London; it killed fifty thousand. Consumption kills in Europe every year more than a million; in England and Wales alone more than sixty thousand a year. And of all deaths in the United Kingdom between the ages of twenty-five and thirty-five nearly one half are due to this disease.

And all this is so great a pity, because consumption is a disease so easily preventable; and in most cases curable. And though death-rate statistics are impressive enough, still more so are the connotations of sufferings antecendent to death, of the periods of illness in the cases of the vastly greater number of the phthisical who have recovered, and of the hardships visited upon the families and friends of the afflicted.

Among the early Greek physicians there were those who recognized the infective nature of tuberculosis. For instance, a physician of the time of Aristotle asked: "Why are those taken by phthisis, who are brought in contact with the sufferers, and not taken by such diseases as dropsy, fever and apoplexy, however close the contact with sufferers from this disease may be." Phthisis, continues this physician, is obviously infectious, because it spoils the air and makes it heavy, and thus others become infected. That such views as these were generally prevalent may be gathered from a speech by Isocrates, who based the claim of his client to inherit his father's estate on the fact that he had nursed him whilst suffering from phthisis, although his friends had dissuaded him, saying that most of those who nurse in this disease succumb themselves to it. Galen clearly held that phthisis was an infective process, and that it was a danger to live with those who suffered from it. Aphrodiseus declares that the phthisical patient sends out during the expiration bad air, which, being rebreathed by a healthy person would in turn convey the disease to him.

But Aritæus the Cappadocian (50 B. C.) left a description of the consumptive which cannot be improved upon in the present day. It is here reproduced:

"Voice hoarse, neck slightly bent, tender, not flexible, somewhat extended fingers, slender, but joints thick; of the bones alone the figure remains, for the fleshy parts are wasted; the nails of the fingers crooked; the pulps are shriveled and flat, for, owing to the loss of flesh, they neither retain their tension nor rotundity; and, owing to the same cause, the nails are bent, namely, because it is the compact flesh at their points which is intended as a support to them; and the tension thereof is like that of the solids. Nose sharp, slender; cheeks prominent and red; eyes hollow, brilliant and glittering; swollen, pale or livid is the countenance; the slender parts of the jaws rest on the teeth, as if smiling, otherwise of a cadaverous aspect. So also, in all other respects, slender without flesh; the muscles of the arms imperceptible; not a vestige of the mammæ; the nipples only to be seen; one may not only count the ribs themselves, but easily trace them to their terminations, for even the articulations of the vertebræ are quite visible;

and their connections with the sternum are also manifest; the intercostal spaces are hollow and rhomboidal, agreeably to the configuration of the bone; hypochondriac region lank and retracted; the abdomen and flanks contiguous to the spine; joints clearly developed, prominent, devoid of flesh; so also with the tibia, ischium and humerus; the spine of the vertebræ, formerly hollow, now protrudes, the muscles on either side being wasted; the whole shoulder blades apparent like the wings of birds. If in these cases disorder of the bowels supervenes, they are in a hopeless state. But if a favorable change takes place, symptoms the opposite of those fatal ones occur."

The candid student of history must observe that during the darkness of the Middle Ages in which Europe was submerged, Mahommedan Arabia exhibited a wholesome and scientific enlightenment such as is hardly surpassed in our modern civilization. There was inherent in them a wonderful mental development, in which nearly all the arts and sciences were concerned; and among the brightest jewels in this intellectual crown was Saracenic medicine. We can here refer only to Avicenna, the Arabian (1037),* who, like the best observers of antiquity, had definite ideas regarding the infectivity of consumption; he referred "to many diseases which are taken from man to man like phthisis."

After the Renaissance, dissections were permitted and anatomy and pathology came to be more carefully studied throughout Europe, and in the middle of the seventeenth century tubercles or nodules were found in the lungs and first described. The connection between such tubercles and phthisis was first demonstrated by Silenius the Italian (d. 1672).

In the seventeenth century classic "The Practice of Physic by Lazarüs Riverius," published in London, the following appears: "Moreover, there are external causes (of phthisis), as contagion, which is the chiefest; for this disease is so infectious, that we may observe women to be infected by their husbands, and men by their wives, and all their children to die of the same; not only from the infection of their parents' seed, but from the company of him, that was first affected. And this contagion is more easily communicated to them, that are of kin, wherefore it is not safe for a brother or sister to enter into the chamber, for the miasmata, or vapors infective, which come from the lungs, and infect the whole air of the chamber, and being drawn in by others (especially if they are in any way disposed to the same disease) beget the same disease in their lungs."

Morton in 1689 taught that the tubercle was the pathological evidence of the disease in the lungs. And the idea of the infectivity of consumption was developed by the anatomists, especially the Italians Valsalva and Morgagni. Under the influence of the latter, laws were made concerning the spread of phthisis which reflected the spirit and understanding of the Italian people of that time. In 1754, for instance, the sanitary magistrate of Florence asked for an expert opinion from the Florentine Medical College as to what articles would be most likely to be infected from the presence of a phthisical patient, and what means could be adopted to purify them. Antonio Cocchi therefore advised that phthisical patients who lived in large airy rooms exposed to the rising or midday sun, especially during the winter months, do not require more than that their rooms should be well cleaned and always purified by opening the windows as wide as possible. But phthisical patients were not in any case to be put in stuffy rooms with doors and windows shut, for still air increases the amount of putrefaction and makes it more dangerous to others. The sick should only spit into vessels of glass or dried porcelain, which should be frequently and thoroughly cleansed. All small rooms were to be thoroughly whitewashed, but in large rooms it was sufficient to whitewash up to a little above the height of a man. This advice, which reads almost like a circular of to-day on the subject, was the basis of an edict concerning tuberculosis issued in 1757.

The spread of the popular belief in the infectivity of phthisis may be inferred from the statement of Nocard that in 1750 the property of a woman who had died from consumption, after having occupied the bed of another consumptive, was publicly and officially burned in the market place of Nancy.

The present day tendency with regard to the separation of phthisical patients in hospitals had its forerunner in 1760, when a hospital was erected in Olivuzza for the special accommodation of phthisical patients, who were moved there out of other hospitals in order that they might not spread the infection. The modern sanatorium is based upon much the same idea.

In 1782 an edict was issued at Naples ordering the isolation of consumptives and the disinfection of their furniture, books, etc. Except for its historic atmosphere, this decree is in substance quite like a circular issued by a modern health board. Thus: "The Deputies in this capital and the Governors or Locum Tenens in the Provinces should, immediately after the burial of a phthisical patient, be sure to have his rooms cleansed, the floors, wainscoting and ceiling renewed, the wooden doors and windows scrubbed and cleansed, and fresh plants introduced in order that the corrupt and infectious atmosphere may not be communicated to persons who live near; also that they should make use of any other precautions which physicians use in like cases." Again: "The Governors and Directors of the Hospital are ordered to keep apart the clothes, linen, etc., for the use of persons infected with this disease, that they shall be burnt, even in cases of cure, and that to provide new clothes shall be the business of the administration in cases of poverty."

The following penalties were imposed in this decree:

"Those who oppose the officials making their inventories, isolating or removing the clothes to the crematorium, and the cleansing of the places where the patient died, shall be sentenced to three years at the galleys or prison according to the condition of the person, and shall have three years' imprisonment and 300 ducats fine." Pity these things cannot be done nowadays to a few Christian Scientists, Dowieites and the like, without regard to personal conditions. Again: "Regarding physicians who do not reveal the nature of the illness, they shall undergo

*From the excellent book on Consumption by Dr. Hillier, to whom I am indebted for many of the data contained in this paper.

a fine of 300 ducats for the first offense, and for the second ten years' exile." Again: "Those who buy an infected robe shall have three years at the galleys, and those who sell three times the value of the robe sold, as a fine." "Those relations who refuse to send the infected person to a hospital, or remove such an one without the knowledge of the Officer of Health shall have three months' imprisonment if of low birth, or 300 ducats if noble."

In Spain and Portugal laws were also enacted providing for the disinfection of the clothes, beds, etc., of consumptives after their deaths. For instance, in 1839 George Sand wrote, in a letter, of Chopin, with whom she was traveling, and who was already consumptive, although he did not die until some ten years after, thus: "Poor Chopin, who had had a cough since we left Paris, became worse; we sent for a doctor—two doctors—three doctors—each more stupid than the other, who started to spread the news in the island that the sick man was consumptive in the last stage. As a result there was great alarm. Phthisis is rare in these climates, and is looked upon as contagious. We were regarded as plague-infested; and, furthermore, as heathens, as we did not go to the mass. The owner of the little house which we had rented turned us out brutally, and wished to bring an action against us to compel us to limewash his house, which he said we had infected. The law of the island plucked us like chickens." At Barcelona, as they were leaving the inn, the landlord demanded to be paid for the bed on which Chopin had slept, on the pretext that it was infected and that the police regulations required that it should be burned. Fortunately, the science of to-day does not countenance such radical measures.

In 1803 Chateaubriand wrote in Rome to a friend of the death of Madame de Beaumont: "I am in a great difficulty; I had hoped to get 2,000 crowns for my carriages, but, by a law of the time of the Goths, phthisis is declared in Rome a contagious disease, and as Madame de Beaumont drove two or three times in my carriages, nobody is willing to buy them."

Tuberculosis has exerted no little influence upon art; and consumptive models have furnished the inspiration of not a few great paintings. Limonetta Catanea, who sat for Botticelli, died of consumption at an early age. In his "Venus" the artist has faithfully if not intentionally reproduced the sunken cheek, the long, slender neck, the steep, sloping shoulders and the somewhat shrunken appearance of the upper part of the chest. And the model most frequently engaged by Rossetti was also a consumptive. Dr. Hillier well observes that "many of Rossetti's more famous paintings have that expression of suffering which is undoubtedly phthisical in origin. A certain sweet sadness which attaches to these pictures is due to phthisis in the models. It is the appealing sadness of disease, and not the splendid natural beauty of health, as symbolized in the Venus de Milo."

In this connection also Balestier's picture representing Chopin's death has a melancholy interest; as will this very incomplete death roll of a few of the world's great ones who have succumbed untimely to the tubercle bacillus: Maria Constantinova Bashkirtseff, Zavier Bichat, Henry Cuyler Bunner, Frederick Chopin, Stephen Crane, John Godman, John Paul Jones, John Keats, Rene Theophile Hyacinth Laennac, Sidney Lanier, Jules Bastien Le Page, Ethelbert Nevin, Henry Purcell, Elizabeth Felix Rachel, Friederick Schiller, John Sterling, Laurence Sterne, Robert Louis Stevenson, Henry Timrod, Carl Maria von Weber, Artemus Ward, Henry Kirk White, Baruch Spinoza. The Physician Laennac, who himself died of consumption in 1826, was an exhaustive student of the disease; he declared that phthisis followed upon the formation of tubercles in the lungs. Up to the time of Klencke in 1843 the views which were held concerning the infectious nature of tuberculosis were not based upon direct experiment. He injected tubercular matter into the jugular vein of a rabbit, and six months later found tuberculosis in its liver and lungs. And in 1865 Villemin also demonstrated that tuberculosis was a specific disease caused by a specific agent. By injecting tuberculous material from a phythisical patient beneath the skin behind the ears of a previously healthy rabbit, he obtained as a result the development of tuberculous nodes in this animal; while, on the other hand, if he inoculated non-tuberculous material, no signs of tubercles were produced.

But it was reserved for Robert Koch in Berlin, in 1881, to discover the bacillus which he demonstrated to be beyond peradventure the specific cause of tuberculosis. His elaborate series of experiments to this end were conducted in conformity with the following well-known laws, which he himself set down:

1.—The microorganisms must be found invariably in a given disease and in no other, their numbers and distribution conforming to the lesions of the disease.

2.—The microorganisms obtained from lesions of the disease must be capable of reproduction in pure cultures.

3.—These cultivated germs must be capable of producing the disease if inoculated on a susceptible animal.

4.—These artificial lesions contain the specific organisms.

MY EXPERIENCE WITH LIGHT THERAPY.

By JULIUS ROSENBERG, M. D.,
NEW YORK.

In the *New York Medical Journal* of April 24, 1904, I published a preliminary report of cases treated with the ultra-violet light rays. The main symptom of these cases was pain of nerve organ. Even my then limited experience justified the statement "that in light we possess a remedy of no mean order, and one which in the near future will occupy a most exalted position as a therapeutic agent."

Since then I have treated a large number of cases and various forms of disease with, in most cases, very satisfactory results, and I can truthfully state that the blue, violet and ultra-violet rays are almost a specific against pain.

In this, my second, report I publish an additional number of cases, which show that photo therapy has a wide field of usefulness.

Case I.—Mrs. L. J., aged 32 years, a neurasthenic woman, who for years has made the rounds from one physician to another. An extensive laceration of the cervix excepted, a careful physical examina-

tion shows nothing abnormal. The main source of complaint are pains in back of neck extending upward over the head and down the spine. Neither rigidity nor localized tenderness on pressure. Application of light to neck and spine keeps the woman comfortable and away from drugs. No doubt the suggestive influence should, in this case, not be underrated, but even so, is it not well to possess a remedy suitable for these troublesome cases?

Case II.—Mr. R., aged 35 years, a pronounced neurasthenic, contracted gonorrhœa five years ago. This in time involved the posterior urethra, prostatic gland and seminal vesicles, and he now suffers from a chronic catarrhal inflammation of these structures. He complains of disturbed sexual functions, premature emission and a hypersensitiveness in the posterior urethra and over the seminal vesicles. The man has had the best of care, but yet his condition grew steadily worse, and when he came to me was a perfect picture of a mental and physical wreck. The ultra-violet light rays produced considerable relief and improvement. He has gained in weight, and when seen last he was about to start on an extensive business trip. Upon his return the light treatment will be resumed, and I do not doubt but that ultimately the man will be permanently cured.

Case III.—L. B., male, 39 years old, contracted gonorrhœa four years ago. Pain in urethra and perineum; disturbed sexual functions, premature and nocturnal emissions; scanty urethral discharge always present, but most marked in the morning, containing leucocytes and a few gonococcin. Man has been treated with irrigation and local applications, but apparently the disease could not be eradicated. I discontinued all local and internal medication and applied the light over the penis and perineum for one hour daily. The gonococci disappeared from the discharge after six treatments, and now, after two months' treatment, there is no longer any urethral discharge. Patient is entirely free from pain, and his general and sexual condition are markedly improved.

Case IV.—Mr. R., aged 48 years. Specific history—Loss of patellar reflexes, disturbance of bladder and rectum control; slight ataxia of arms; eye symptoms. Romberg's symptoms and ataxic gait absent. Patient complains of sharp tightening pains, for the relief of which he consulted me. Has taken sodium iodide and morphine. The former was continued in increased doses; the latter discontinued. The various coal tar products, although extensively tried, have never, according to patient's statement, afforded relief. After the light had been used for two weeks (ten applications to the spine) a decided improvement was noticeable. The pains had disappeared, and the man's physical and mental condition was infinitely better. He has absolute hope and is firm in the belief that he will be restored to perfect health. Granted that the ultra-violet light cannot cure locomotor ataxia (which belief I share, although some writers claim cures; see *Russ. Med. Zeitsch*, 1903, page 1), these rays can and do afford relief from pain, probably caused by a meningitis, and thus their application is rational and advisable.

Case V.—Mrs. R., aged 32 years, has been suffering for thirteen months from an acute pain extending from the sacrum to the right thigh and leg; walking and sitting postures difficult and painful. Has, as she states, tried everything, without obtaining relief; pelvic organs normal. Applied light three times without much improvement, when patient discontinued the treatment. This woman belongs to that (not small) class of cases who constantly change physicians and treatment without affording either a fair trial. I now refuse to treat such chronic cases unless the patient will agree to take treatments sufficient in number to prove or disprove the value of light therapy in their particular case.

Case VI.—Mrs. L. C., aged 28 years. Last confinement two years ago; labor and puerperium perfectly normal. Since then she has suffered from leucorrhœa and irregular and profuse menstruation. Curetted one year ago without benefit. Examination shows a slightly enlarged, sensitive uterus in normal position. Left tube and ovary enlarged and and painful. Ord. cupri aluminati ℥j to one quart of water, to be used as a daily douche, and applications of light to abdomen. Rapid improvement from the outset. Decrease of discharge and lessened pain. After six treatments uterus smaller and less sensitive; also ovary and tube. The woman was under my care for six weeks, when she was discharged, cured.

Case VII.—Mrs. A. W., aged 32 years; neurotic woman, who gives a history of gonorrhœa and pelvic peritonitis. Had both ovaries removed five years ago. Complains of pelvic pain, varying in severity, but always present; uterus barely movable and sensitive; pressure over the region where the ovaries ought to be causes the woman to cry out with pain. Applied light over the abdomen, and the patient experienced almost immediate relief. After fifteen treatments the woman derived undeniable benefit from the light. The tenderness and pain are no longer complained of, and firm pressure over the parametrium is borne without discomfort.

Case VIII.—Miss R., aged 24 years. Profuse menstruation every three weeks, lasting one week. Passes clots, dysmenorrhœa, backache; colpitis, sensitive uterus. Both ovaries enlarged and painful. Advised curettage, which was declined. Ordered ℞ cupri aluminati ℥j to be dissolved in one quart of water to be used as a douche; Sitz baths; ovoferrin, dessert spoonful after meals. Application of violet rays to back and abdomen. Backache improves. Next menstruation on time, normal in character and almost without pain. Second menstruation also normal. Vaginitis no longer observable; uterus and ovaries normal and not sensitive. Discharged cured. I have treated several similar cases with the most happy results, and I consider the blue and violet light rays a specific remedy in catarrhal inflammations of the female genitals.

Case IX.—Miss R., aged 32 years. Lumbago four weeks. Massage and anti-rheumatic medication caused none or little improvement. Relief followed the first application of the light. Cured after three treatments.

Case X.—Mrs. P. L., woman 48 years of age. Has sciatica in right thigh and legs for three weeks. Pain is constant, extending from buttock to knee and foot. One hour's exposure removed for the time being all pain and discomfort. Ten treatments restored the woman to perfect health.

Case XI.—F. M., aged 36 years. Male, with a syphilitic history; has sciatica for five months. Usual treatment of no benefit. Was treated with *x*-rays, high tension currents, Roman baths, etc., but his condition grew steadily worse. When first seen by me he was in a demoralized mental and physical state. He could neither sit, walk or rest without pain and discomfort After the second application of the light rays improvement began and continued. When he had thirty-three treatments I advised him to leave the hot city and take the baths at Sharon Springs. At that time he could walk, sit and rest without pain and was on the road to complete recovery. This improvement continued uninterrupted, and he is restored to perfect health.

It should be recalled that this man had been under most efficient medical care for about five months, had used every treatment known, yet steadily grew more helpless until the light rays were employed, when improvement and recovery began. Witnessing such results, one ceases to be a skeptic and knows that the chemical light rays are a valuable therapeutic agent if properly used in suitable cases.

Case XII.—Mrs. P., 52 years old; sciatica for two weeks. Pain extends from right buttock to thigh and knee. General condition good; urine normal. Applied light for one hour and asked patient to return the following day for another treatment. She did not show up, but a few days later sent word that the pain has disappeared after the first treatment and she had no need of further light applications.

This case is but an illustration of many similar cases. In acute neuralgias and muscular pain, especially when seen in inception, relief is almost instantaneous, and the best and quickest results are obtained.

Case XIII.—Mrs. H., woman 58 years of age, with a good history. Has sciatica of left leg since three weeks, causing much pain. Walking and sitting posture difficult and painful. Had medicinal treatment, electricity and counter irritation without benefit, but grew more helpless from day to day. The first exposure to the light afforded relief and arrested the progress of the disease. Six treatments sufficed to remove every vestige of pain and restore the woman to perfect health.

Case XIV.—Mrs. R., aged 55 years. General health good; no history of neuralgia or rheumatism; urine negative; pains in right side, extending from buttock to knee, following the course of the sciatic nerve; walking painful. The pain disappeared after two applications of the light (sixty minutes each) and did not return.

Case XV.—Miss L., a nervous woman, 32 years old. Pelvic organs normal; pains starting at right sacrosciatic notch and extending down the leg. The woman states that this pain has existed for three years, and probably was caused by a fall from a bicycle. The pain is at times slight, sometimes unbearable, but always present. When she came to me she was in agony, her walk awkward and painful. Three applications of the light produced a decided improvement. Pain lessened, and the woman is able to flex and extend the leg without discomfort. After nineteen treatments, extending over a period of three weeks, she is entirely free from pain, and the course of the nerve is no longer sensitive to pressure. (This report is written two months after treatment was discontinued, and thus far there has been no recurrence.)

Case XVI.—Mrs. D., aged 65 years; nervous and gouty woman. Lacerations of perineum, descensus uteri, vaginæ et vesicæ. Enteroptosis. Complains of pain between the shoulders, extending down the spine, and aggravated through walking. I have treated this woman for years with salicylates, coal-tar products, massage, etc., without producing any effect or improvement. Her general condition not warranting an operation, the displacement was treated by a ring pessary and abdominal bandage. Although I myself did not have much faith in the efficiency of the light in her case, seven applications of the ultra-violet rays removed every vestige of pain, and for the first time in years the woman can walk with comfort and without pain.

Case XVII.—Mrs. W., aged 48 years; very corpulent. Rheumatoid arthritis of both knees. Has been ill for years; walking difficult and painful. Had five treatments without improvement; treatment discontinued. I think the failure in this case is partly due to the impatience of the woman, who expected impossibilities, and partly to fault of the apparatus. I have under construction an apparatus which enables me to throw concentrated rays over the whole body simultaneously and thus treat the joint from all sides at the same time. I believe a bath in ultra-violet light rays invaluable, not only in diseases of the joints, but also in faulty metabolism, chronic inflammatory conditions of the skin and superficial veins and gouty or rheumatic affections.

Case XVIII.—H. L., aged 42 years, contracted what he terms a heavy cold while duck hunting on a cold and windy March day. Has been in bad health for five weeks. Medication caused no improvement, and the constant desire to cough, the symptom most complained of, remained unchecked. Physical examination showed that the man was suffering from an extensive acute bronchitis, and as drugs had proved ineffective I decided to apply the light rays to his chest. The light arrested at once the copious secretion of mucous, and consequently the cough, and after seven applications the man looked, felt, and was entirely well.

Case XIX.—Mr. A. D., aged 30 years; bronchitis of two weeks' duration. Coarse and subcrepitant râles are heard all over, and his breathing is short and difficult; cough and purulent expectoration, sense of fullness over the sternum, a feeling of lassitude and weakness are the symptoms complained of. Rectal temperature (4 P. M.) 100°. Has had inhalation, guaiacol carbonate, quinine, and heroin without much benefit. One exposure to the light rays for fifty minutes relieved the man of his discomfort in the chest and cough. On his next visit, the day following, he reported decided improvement, and after one week's treatment he was well, and on my advice left the city for a few weeks' change of air.

Case XX.—R. S., aged 13 years, had an attack of influenza (pneumonia?) seven weeks ago. His mother states that his temperature for days had been around 104°, and, judging from his present appearance, the boy must have been quite ill. Cough, and expectoration (no tubercle bacillus), coarse râles

over the large bronchi, crepitant râles and friction sounds below the left scapula. Perspires at night. Rectal temperature (2 P. M.) 100.6°. Has had bitter tonics and cod liver oil. Stopped this medication and ordered massage and violet light rays. Whatever the cause, there certainly was no doubt as to the immediate improvement in the child's condition. The physical signs became less marked, and disappeared; also the cough, expectoration, and sweating. The temperature was normal after the fourth treatment, and within three weeks the boy had regained his normal weight and health.

CASE XXI.—S. B., woman, 54 years old. Well nourished and healthy appearance. Consulted me for an obstinate cough and dyspnœa. She states that she has been in bad health for years. Pulse rate normal, of high tension; heart normal; except a few bronchial râles, examination of chest negative; intestines distended; liver projects two fingers below free border of ribs; varicose veins; œdema of both ankles; urine contains a trace of albumin; chronic constipation. Ord. general massage, pill of aloes, belladonna, and podophyllin at bedtime; syr. ferri iod. after meals, ultra-violet light to chest. The woman was much benefited by this treatment, and her cough and asthma, to her the most serious symptoms, were favorably influenced through the applications of light.

CASE XXII.—Mrs. D. R., sixty years of age. Chronic pulmonary emphysema, with cough and dyspnœa. Has had much medication, but only obtains relief from a pill containing codeine, camphor, and ipecac. The patient derived much benefit from the light and is able to get along without opiates.

CASE XXIII.—Mrs. N. K., aged 24 years. Was brought to my office in a carriage, and states that a physician who had just seen her had diagnosed her case as angina pectoris. Suffers from agonizing pain over præcordium, which extends backward to the left scapula. Heart action accelerated, but regular; no murmur or friction sounds. Diagnosis, intercostal neuralgia. Application of the light rays caused immediate relief, and after the second treatment the woman was and remained free from pain.

CASE XXIV.—Miss L., aged 26 years, nervous and anæmic woman. Irregular, scanty menstruation; constipation; acne pustules over face and chest. It is for the acne the woman asks relief, as local and general treatment had been of no benefit. Ordered iron after meals, laxative pill at bedtime, ultra-violet light to face and chest. Four treatments arrested further formation of pustules, and after sixteen treatments no trace of acne was to be seen.

CASE XXV.—Mr. H., aged 40 years. Acne rosacea has existed for about four months, involving the right cheek and nose. Improvement after second application. Seven treatments sufficed to remove, a few scars excepted, every vestige of disease.

CASE XXVI.—Mr. R., aged 34 years. General health good; urine negative; furunculosis of right forearm (extensor surface) for nearly two months; boils recur in spite of local and general treatment. Applied light for two weeks; no other treatment. Furuncles have disappeared and new ones have not formed again.

CASE XXVII.—Mr. K. L., aged 46 years. Run down condition; urine negative; furunculosis of neck. This has existed without intermission for almost one year. Ord. syr. ferri iod. after meals, application of light to neck. After ten treatments no new abscesses. Continued applications for one month; no other treatment. Patient is entirely well, and, old scars excepted, the neck is normal in appearance.

In all these cases I used a 35-ampere arc with mirror reflectors and iron-carbon electrodes. I consider the length of exposure and the iron electrodes of importance. The iron-carbon arc is very rich in chemical rays, and although other rays are not without value, the ultra-violet rays have probably the greatest potency. The penetrating power of the latter is still subject to discussion, most investigators being inclined to believe that it is slight, hardly beyond the superficial skin layer. From the results obtained in affections of deeper structures I should judge that laboratory experiments are not conclusive. How are we otherwise to explain their curative influence in diseased conditions of the deeply situated nerve trunks?

My present experience with a large number and varieties of cases treated leads me to form the following conclusions:

I.—The ultra-violet light rays obtained from an iron-carbon arc of high amperage are a specific remedy in acute muscular pain, such as lumbago, torticollis, and pleurodynia.

II.—In cases of acute and chronic neuritis these rays will always relieve pain, and in most cases, especially acute forms, effect recovery.

III.—The bactericidal powers of the chemical light rays are easily demonstrated in inflammatory conditions of the skin of parasitic origin. In acne and furunculosis the curative effect is both prompt and certain.

IV.—My results in rheumatic arthritis have not been encouraging, thus differing from those reported by German authors. This may in part be due to the limited number of treatments permitted.

V.—In acute and chronic pleurisy and bronchitis the application of the ultra-violet rays is undoubtedly beneficial. I also believe that these rays could be of assistance in the treatment of pulmonary tuberculosis.

VI.—My results in gonorrhœal peritonitis and catarrhal inflammation of the deep urethra and adjacent structures are certainly encouraging, and justify further trials.

VII.—I believe that the ultra-violet light rays will be of benefit in gonorrhœal and tuberculous infections of the joints; also that the pains accompanying locomotor ataxia may be relieved and controlled.

The report of above cases and those formerly published do not represent my whole experience with ultra-violet treatment, but they are fair representatives of the various types. To report more cases would only lengthen the paper, without adding to its interest.

772 PARK AVENUE.

A New Ray.—M. di Brazza of Liège claims to have discovered a new sort of way which he calls the *i*-rays. The brain is the seat of these as it is of the hypothetical *n*-rays, but the *i*-rays differ from the *n*-rays in that they pass through moist substances.

AINHUM.—REPORT OF CASE.*

By HENRY N. BLUM, M.D.

NEW ORLEANS, LA.

Among the synonyms applied to this affection we find ayun (Yorubas); sukha pakla (Hindu); guijila, or quigila (a condition present in leprosy and confused with ainhum); gafeira (Portuguese); fadiditi (Island of Nossi-Be, near Madagascar). The Nago negroes called the disease ainhum. The Yoruba negroes call it ayun. Bordier says that the word ainhum is the negro Brazilian patois for fissure. Other authorities give the word a different origin, meaning in one case "to saw," or, according to another source, "constriction."

Ainhum is a peculiar disease, which occurs almost exclusively amongst the dark-skinned races of certain tropical and sub-tropical regions, and is characterized by a progressive constricting sclerotic ring around bases of the digits of the hand or foot, especially selecting the little toe of either or both feet, and ending in a gradual amputation of that portion of the affected member distal to constriction.

A review of the literature concerning this disease is interesting and important, showing it to be a comparatively modern condition and slowly changing in its geographical distribution. Formerly the disease was characteristic of the negro race, but it has gradually become a disorder to which other races may be subject. This is probably due to the emigration of the negro from his former home. If the members will bear with me for a little while I will cite some cases from the literature that may prove interesting to some who have not seen the disease, and particularly interesting to those who have met with similar cases in practice.

Beginning with the first recorded case of ainhum reported in a paper read by Clarke before the Epidemiological Association of London, in 1860, of a patient seen on the west coast of Africa (Clemon's "Geography of Disease"), the literature is full of cases from all parts of the world.

Da Silva Lima of Brazil (*Medical Gazette* of Bahia) was the first to recognize this condition in the Western Hemisphere. This was in 1867, and his other contributions in the *Archives of Naval Medicine* in 1867, the *Archives of Dermatology* of the same year, and the *British Medical Journal* of January 3, 1880, show him to have been a hard worker in this direction.

Dr. John Del'Orto, in a paper read before the New Orleans Medical and Surgical Association in October, 1880, referred to a strange disease called ainhum, and directed the attention of the society to a paper read before the Imperial Academy of Medicine in Brazil in 1876, by Dr. Jose Periora Guimaraes. Dr. Del'Orto gave Moncorvo credit for reporting the first case, but this was evidently a mistake, since Clarke's paper was read 16 years previous to this time. The paper of Del'Orto shows that the disease had not been recognized in New Orleans at this time. Duhring reports a case from Virginia in the *American Journal of the Medical Sciences* for January, 1884. This was in a negro of 50 years, and had been present in both little toes, the first symptoms showing at the early age of ten years. Both parents had had the same condition. Microscopical examination by Dr. Henry Wile showed a picture of inflammatory edema, the arteries being thickened and filled with blood corpuscles and the veins absolutely empty. This was about the first thorough microscopical study given ainhum.

Dr. R. H. Day, of Baton Rouge, an ex-President of the Louisiana State Medical Society, reported two cases in the *Medical News* of September 29, 1888. Dr. J. L. Deslattes, of St. James Parish, had seen four cases at that time in his locality. In the *New Orleans Medical and Surgical Journal* of February, 1889, E. D. Martin, then a student in the Charity Hospital, reported the first case of ainhum recognized in New Orleans.

We have a report from Surgeon Todd in the *British Medical Journal* of February 21, 1891, which shows the disease was not uncommon amongst the Krumen of Africa. Cecil Digby, in the same journal of June 28, 1891, refers to a case of Dr. Eyles in which the fourth toe was involved, and to another

in which the second finger was the seat of trouble. Out of twelve cases seen by Digby, two showed the condition in both feet, the left more often affected than the right. He thinks that the custom of wearing toe rings have some relation to ainhum. Eyles' investigation of the pathology shows that the connective-tissue hyperplasia strangles the epithelium by shutting off the blood supply, and finally causes it to undergo horny changes.

The first cases from Egypt were reported in *The Lancet* of July 23, 1893, by Mr. Nelton and Dr. Croswell.

A case interesting in its being reported so far north is that of Dr. F. J. Sheppard, seen in the Montreal General Hospital and reported in the *American Journal of Medical Sciences*, Vol. 93, 1887. This was in a negro of 47 years, a native of North Carolina, but a resident of Canada for 20 years. A unique case was that reported by A. E. Barrett Hine, in *The Lancet* of January 25, 1895. Patient was a Lascar of 22 years, and ainhum was present in the fourth toe of right foot and fifth of left foot.

Dr. Pothier made the first microscopical study of this condition in New Orleans. This was in a case reported by Dr. H. J. Scherck, in the service of Dr. R. Matas, in the *Medical Mirror* of May, 1997. Examination showed a connective tissue hyperplasia.

*Read at a meeting of the Orleans Parish Medical Society, July 9, 1904.

The most thorough work done was in the case of J. B. Herrick and reported in the *Philadelphia Medical Journal* of February 5, 1898. A skiagraph accompanying article shows the condition beautifully. In this case there was no sign of leprosy, nor was there any nervous manifestation. Examination by Hektoen showed no tubercle bacilli or lepra bacilli present in tissue. Spots of vitiligo were present on both feet.

In the *Tulane Phagocyte* of January, 1904, is a report of a case by Lazard of a patient seen in the Charity Hospital in Matas' service, November, 1903, and brought before the surgical class for discussion. The patient was a negro male of 33 years, a native of Ohio, but a resident of New Orleans for six years. Ainhum was present in both little toes. The disease had caused neuralgic pains for several months. Matas and Del 'Orto were the first to recognize the disease in New Orleans (Dennis' System of Surgery). The disease occurs amongst the dark-skinned races of Brazil, the Atlantic States of America, the coast of Western Africa, West Indies, Egypt, the Polynesia, Madagascar, India and China. No case has ever been reported from Europe. Dr. Sheppard's case from Canada is unusual. Matas, in the "Transactions of the American Surgical Association," 1896, quotes Bordier, who refers to Franton's and Mirault's cases, which occurred among Aryan races. Dr. Brun records a case in a Syrian woman of Symrna.

Ainhum is very insidious, the condition progressing slowly for years, in some cases lasting over a term of 20 years. On the other hand, it may have reached its last stage in the short time of three years. On account of the lack of opportunity, proper study has not been given this peculiar anomaly in its early stage. From the information given us by our patients we know that the disease is painless in its beginning, but as the constricting ring grows tighter and fissures appear at the bottom of the constricted portion pain becomes very troublesome. The affected member is usually amputated spontaneously, after complete atrophy occurs at sulcus, the toe usually dropping off while walking.

Ainhum is a local condition, there being no manifestation, except on the toes or fingers, and it never recurs at site of amputation. Its duration is sufficient to differentiate it from Reynaud's disease, even if it were not that the constricting "scleroderma" is the characteristic feature of ainhum. Leprosy is sometimes confused with ainhum, but in leprosy there are changes to be seen in other parts of the body, and the specific bacilli are to be found in the diseased tissues. Similar processes in leprosy cause no pain, because anæsthesia is present. Such is not the case in ainhum.

Although forty years have elapsed since this disease was first brought to the attention of medical men, very little has been done to search out its real cause. This is due in some measure to the fact that the cases are not seen until the process has so far advanced that permanent changes have resulted. Should a case be seen in its incipiency, before atrophic alterations have completely destroyed the tissues, some information might be obtained by a thorough microscopical study. Very rarely has the disease been seen to exist in the Caucasian, though it is sometimes present in countries where the white man reaches his highest type. This is peculiar, in view of the fact that Park deems it undoubtedly an infectious disease. In the "International Textbook of Surgery" Matas asserts that it is a tropho-neurosis, and this, to my mind, is much nearer the truth. He cites Mason on the other hand, who believes it keloidal. I have seen a keloid in the white man. Von Winckler's cases of ainhum, in which not one of his twenty patients had worn toe rings, is an argument against local infection. Guyot's case seen in utero is very probably a case of mistaken diagnosis, since in this patient the disease extended up the leg. From the information obtained by the successive histological studies, it is quite rational to believe that we have to deal here merely with trophic changes excited by trauma at seat of trouble. It is a peculiar fact that ainhum is seen usually amongst those whose feet are exposed to traumatism while walking, but, on the other hand, this would not explain the cases seen on the digits of the hand.

A. La Dantec says there are two characteristic pathological stages, sclerogenic and fatty. The tissues on further end of toe become altered in shape until a globular form is assumed. This is due to the lipoma-like process. Manson in his "Tropical Diseases," third edition, 1903, says that the absorption of bone is due to a fatty degeneration, and attributes ainhum to fibrous changes excited by traumatism, the fibrous ring being an exaggerated effort to heal.

Case.—My patient, Rebecca T., a negro woman of 65 years, came to my clinic at Touro Infirmary March 21, 1904. Owing to her being deaf and her intelligence of a very low order, it was impossible to get a satisfactory history. With the assistance of her daughter, whose lips the patient could read, I was enabled to learn that the disease had been present at least three years, for during that time she had suffered pain because of the deepening isthmus. Ainhum was present in little toe of right foot. Around the plantar fold of this toe was a very tight sclerotic ring. Spots of pigment atrophy were present on both legs, but I could learn nothing from the patient concerning this condition.

On March 23 the toe was disarticulated at the metatarso-phalangeal joint. Cocaine anæsthesia was employed. A skiagraph taken at the time shows the condition very clearly, the ends of the divided bone being seen quite distinctly. During the operation the strangled portion of the toe dropped off, and was saved for future study. Unfortunately, the proximal part was lost. I say unfortunately, because much more information could have been obtained from the pathological changes in this portion of the toe.

In due time the wound healed without any further manifestation. I saw the patient last week, and the cicatrix was in a healthy condition. The patient at this time had œdema of lower extremities, the result of an old endocarditis.

In this case the patient was living amidst civilized surroundings, and it is very probable that she wore shoes as much as is common with those of the same social status. She wore no toe rings. Whether or not the white spots to be seen on the lower legs had any connection with the trophic changes present in the toe is a matter that might be discussed with in-

terest, and I would like to have an expression on this subject from those familiar with diseases of the skin.

In conclusion I wish to state that this is the first report from New Orleans in which the patient is a female, all the other recorded cases having been seen in the male.

NOTE.—July 12. Since reading the above paper (July 9) I have found that the first case of ainhum seen in Louisiana was in a patient of Dr. A. C. Love, in 1882, in the town of Donaldsonville, and reported by Dr. Joseph Jones in his "Medical and Surgical Memoirs," Vol. II.

124 BARONNE STREET.

REPORT OF TWO FATAL CASES.*

1. HYPERTROPHIC CIRRHOSIS OF THE LIVER; TALMA'S OPERATION. 2. CANCER OF THE HEAD OF THE PANCREAS; CHOLECYSTENTEROSTOMY.

BY IRVING S. HAYNES, PH.B., M.D.,
NEW YORK.

PROFESSOR OF PRACTICAL ANATOMY, CORNELL UNIVERSITY MEDICAL COLLEGE, VISITING SURGEON TO THE HARLEM HOSPITAL, ETC.

IT is not often that we deliberately report our fatal cases—the successful ones are far more pleasant to rehearse—but I think the following cases, under my care this winter, are worthy of consideration because of the nature of the disease present and the reasons why operative interference failed to benefit.

CASE I. *Hypertrophic Cirrhosis of the Liver.*—John T., age 45, married, Irish, was admitted December 2, 1903. Family history was negative. Says he was never sick before. Has been a heavy whiskey drinker.

He first noticed an enlargement of the abdomen about one week before admission. Has had no pain; the bowels are quite loose, and the night before admission he passed some blood in the stools. Skin is slightly jaundiced; the veins radiating from the umbilicus are becoming prominent. The liver is markedly enlarged and extends about three inches below the costal margin. Abdomen contains a large amount of fluid. There were no other symptoms. Temperature 99.2°, pulse 108, respiration 24. Medical treatment was continued for ten days without benefit. Then the patient consented to an operation, which was performed on December 20, 1903.

Anæsthesia.—An incision four inches long was made parallel with the costal arch. A large amount of ascitic fluid escaped on opening the peritoneum. The liver was a large nutmeg one, extending three inches below the ribs. An interesting condition was found on examining the region, in that nature had attempted to establish measures for the relief of the portal obstruction, for the omentum, thickened and with tortuous and dilated vessels, was found adherent to the parietal peritoneum and lower edge of the liver over an area about two and one-half inches in diameter. The collateral circulation was very well established, but evidently was not sufficient to compensate for the portal interference, inasmuch as there had been no improvement in the patient's condition. It was necessary to strip up these adhesions before further progress could be made. This was followed by considerable venous oozing that yielded to hot compresses. The opposite surfaces of the liver and diaphragm were scarified with a stiff toothbrush, the omentum tucked well in between the two, and the incision in the abdomen closed by layer sutures. The first two days after the operation were uneventful.

On the evening of the third day the temperature went up to 101.8°, pulse 110, respiration 22. There was considerable abdominal pain, relieved by ice bags and morphine. The fourth day the temperature fell, but the pulse increased in frequency. On the evening of the fifth day after the operation the temperature reached 102.6°, pulse 136, and respiration 30. He died during the forenoon of the following day. No autopsy was permitted.

In the Year Book of Medicine and Surgery for 1904 are extracts from several papers on this operation. Greenough reports on 105 cases of liver cirrhosis which presented symptoms of ascites. Forty-two per cent. were improved and 58 per cent. not improved by Talma's operation or one of its modifications. The mortality within thirty days was 29½ per cent.

Arcoleo operated eight times for ascites due to cirrhosis of the liver. Three patients died shortly after the operation. Four patients were neither improved nor injured by the operation. Two of the patients were suffering from marked hypertrophic cirrhosis, and the operation in these resulted in marked temporary improvement.

Mori analyzes thirty-seven cases. Thirteen died, thirteen were cured, ten remained stationary, and one improved. Mongour places the immediate mortality at 35 per cent. and Friesch at 45 per cent.

Harris (*Journal of the American Medical Association*, October 31, 1903), reports six personal cases. 1. Male. 56. Hard drinker, atrophic liver, enlarged spleen, jaundice, ascites:—duration one year. Operation, no improvement. Died in three weeks. 2. Male. 55. Hard drinker, atrophic liver, enlarged spleen, ascites:—duration four months. Operation, no improvement. Died in two months. 3. Male. 40. Free drinker, slight jaundice, ascites, spleen enlarged, liver cirrhotic. Operation, apparent improvement, but died in less than one month. 4. Male. 43. Used tobacco and alcohol in excess. Duration, four years. Ascites, icterus present. Operation. Adhesions so universal nothing was done. Patient died six days after operation. 5. Male. 36. Used tobacco and alcohol to excess. Duration, about one year, but abdomen began to swell only three days previous to entering hospital. Jaundice, ascites. Operation. Omentum fixed behind rectus muscle. Died on second day. 6. Female. 43. Syphilitic. Abdomen began enlarging nine months ago. Ascites. No jaundice. On operation omental and visceral adhesions so extensive nothing further could be done. No improvement from operation. Death followed in some months (not stated).

Lenzman (*Journal of the American Medical Association*, December 26, 1903), advocates the operation of epiplopexy in every case of atrophic cirrhosis of the liver when the organ is not perceptibly shrunken, but the signs of congestion in the portal veins, development of ascites, etc., are noticeable. Also when the liver is somewhat shriveled and there is more or less ascites, but the liver tissue is functionating to a certain extent, as shown by the absence or slight degree of icterus. On the other hand, he thinks there is little prospect of success when the icterus is pronounced, or when there is urobilinuria, or when hemorrhages from the mucosæ, delirium, etc., indicate complete or considerable insufficiency of the liver function responsible for the production of bile. The heart action must still be good to insure the development of collateral circulation.

The operation is a serious one. The immediate mortality being very high, and the ultimate results not promising, except in a very few cases that might have lived a long time, comparatively, under medical treatment alone, we are forced to conclude that the

* Read before the Society of the Alumni of Bellevue Hospital.

operation is still under judgment, and time alone will enable the indications to be more sharply drawn.

Case II., *Cancer of the Head of the Pancreas.*—Patrick Q. Age 43, Irish, married, engineer, entered hospital October 31, 1903. Family history was negative. He was a moderate drinker and heavy smoker; denies any venereal history. He has had malaria, but no other illness is remembered.

He began in March, 1903, to have girdle pains around the abdomen, but never at any time had a distinct colic. Jaundice appeared with the pain and has persisted, varying in degree and of late becoming much worse. Has lost fifty pounds during the past eight months; his strength also has diminished and he tires easily.

The bowels are regular, the movements being clay-colored. The tongue is heavily coated, but appetite and digestion are good. He sleeps well. At times has been troubled by frequent micturition at night.

Urine: sp. gr. 1.024 alkaline; albumin, a trace; sugar negative; bile is present; microscopical examinations negative. Blood: leucocytes 8,200; no malaria plasmodium. Fæces: offensive odor; clay-colored; fluid; fat globules and crystals abundant. Temperature 100°, pulse 84, respiration 24.

Abdomen generally distended and contains fluid. Skin everywhere deeply pigmented from severe and long-standing jaundice. Slight tenderness at Robson's point. Abdomen so much distended that nothing in the shape of a tumor could be felt.

Liver apparently not enlarged—crowded up under costal arch, which was flared out—from abdominal pressure.

On the evidence of a long-continued and persistent jaundice, loss of weight, and cancerous look, and on the absence of biliary colic, the diagnosis was ventured of a malignant growth, probably implicating the head of the pancreas, as there was evidence of arrested pancreatic juice, in that free fat was found in the stools. Previous to operation, the pulse varied from 80 to 100; the temperature was around 101°; respiration 22 to 24. There was a steady loss in flesh and gradually increasing weakness. No change in jaundice. Very little pain at any time.

November 7, 1903, operation. Chloroform and ether in combination. Vertical incision in outer margin of right rectus muscle from costal margin downward for five inches. On opening the peritoneum a large quantity of bile-stained serum escaped. This colored the sponges and towels very markedly. A large gall bladder distended with fluid bile, but no calculi at once came into view. The abdominal distention and ascitic fluid prevented its recognition before the operation. The liver was enlarged and its sharp lower margin changed to a rounded, blunt one. Palpation of the duodenum and pancreatic head showed the presence of a hard nodular mass, not very large, but distinctly palpable. No attempt was made to enucleate it. By a small-sized Murphy button, the fundus of the gall bladder (after draining off the bile), was joined to the opposing transverse colon. The union between the two viscera was apparently so even and firm that no supporting sutures were added. Here is where an error of judgment occurred. The region of the anastomosis was drained by a small gauze wick on either side, with a medium-sized rubber drain placed within the gauze, and the wound closed by layer sutures.

The bowels moved freely on the second day, and the fæces were bile-stained.

On the third day the rubber drain was removed. There had been considerable escape of ascitic fluid. Diarrhœa (eight stools) appeared. On the fourth day the bowels operated seven times. On the fifth day the diarrhœa was controlled by bismuth subgallate. Temperature 99°, pulse 82, respiration 24. The condition was greatly improved as regarded the general appearance, and the jaundice was much less.

On the seventh day the gauze drains were easily removed. The wound elsewhere was united by primary union. On the ninth day the wound was dressed by the house surgeon; the drainage tract had healed. The patient complained of some pain in the abdomen, but it was not localized, and there was nothing on palpation.

On the tenth day the case was reported to me. Temperature 102.8°, pulse 120, respiration 36, stools 3. So far as we could make out, there seemed to be no localizing abdominal symptoms. The eleventh, twelfth and thirteenth days were marked by a subnormal temperature—97°, 96°, 96.4°—with gradual decline and death.

Autopsy limited to the seat of operation: Liver contained no evidences of malignant growth. The gall-bladder was also free from cancer. The head of the pancreas was the seat of a hard cancerous growth occluding the common bile and pancreatic ducts. The abdominal cavity was filled with bile-stained fluid. There were no adhesions. The cause of death was the failure of the gall-bladder and colon to unite, only one-half of the area constricted by the Murphy button had joined. The rest had simply been held in apposition by the button, and as soon as the compressed tissues had sloughed and freed the button, the two viscera fell apart. The button was free in the colon and near the attempted cholecystenterostomy. No gallstones were present in the biliary system.

Here, then, is a typical case of cancer of the head of the pancreas, in which a diagnosis of the condition was made before, and confirmed by, operation and autopsy; in which a palliative operation was undertaken for the relief of the jaundice by performing a cholecystenterostomy, and an error in judgment was made by trusting entirely to the mechanical means for holding the gall-bladder and intestine in apposition. The failure of this approximation to produce firm union allowed leakage of bile after the slough had freed the button.

Park, quoted in the Year Book, 1904, p. 202, says cancer of the pancreas is far more common in the head of the organ. The symptoms he divides into those pertaining to the pancreas itself and its functions, those pertaining to adjoining and related organs, those indicating dissemination of the cancer, and the tumor itself. Early symptoms are vague, and indicate some digestive disturbance. Fatty stools are occasionally noted. Should jaundice follow and glycosura, with pain in the epigastrium, and emaciation, pancreatic cancer is probable. Pain is a very uncertain feature, though it may appear early. Ascites may result from pressure on the portal vein. Late in the disease a tumor may be felt, which resembles a growth in the pylorus, but is deeper and more fixed. The disease runs a rapid and fatal course. Cholecystenterostomy is thought to be a better operation for the relief of symptoms than cholecystostomy.

1125 Madison Avenue.

An International Congress on Tuberculosis will be held in Paris October 2-7, 1905. The president of the Pathological section will be Dr. Lannelongue, and of the Social section, Dr. Landouzy.

AURAL REFLEX PHENOMENA.

By J. J. RICHARDSON, M. D.,
WASHINGTON, D. C.

A GREAT variety of symptoms are ascribed to the ear. Many of them on first consideration are perplexing, but a careful research into the minute anatomy and physiology of the organ enables us to account for them on purely anatomical and physiological grounds. It is not my purpose in this short paper to take up at length the subject of aural reflexes, but I simply desire to point out the necessity of a careful examination of the ears as a possible source or seat of disease in certain cases of obstinate and obscure symptoms which are usually referred to other and remote organs. A few examples of these cases which have come under my own personal observation I deem of sufficient interest and importance to bring before the notice of the profession. A great deal has been written on reflexes of nasal, laryngeal, and uterine origin, but the literature of aural reflexes is very meager. We are responsible for this ourselves. It is not that these conditions do not exist, but we fail to associate certain symptoms with the ear when they actually occur. That they are not more frequent is to be wondered at, when we consider its rich nerve supply and complex nervous anastomosis. It is so extensive that a small lesion may cause an impression to be made on several afferent nerves at the same time and set up any number or variety of symptoms. Take the meatus externus for example. The inferior maxillary division of the fifth nerve carries sensory impressions from it, including the dermal layer of the membrana tympani, to the brain. The auricular branch of the pneumogastric ramifies the cartilaginous canal. In addition to these there is a plexus of nerves composed of fibers from the fifth, glossopharyngeal and sympathetic. This very large and varied nervous supply is not the only reason why the ears should be considered as a favorable starting point for reflex disturbance. A reflex phenomenon following an irritation or stimulation of a sensory nerve is more marked the closer the irritation is applied to the nerve center. That is to say, the shorter the distance an impulse travels, the more profound or marked will be the results. As the nerves that supply the ear are cranial, it is apparent that the nerve tissue separating them from the brain is of no great length. From this we should naturally expect nervous disturbances to have their origin frequently in pathological conditions of the hearing apparatus. That many functional and spasmodic diseases have their origin here no one who daily treats aural diseases and carefully observes every symptom before and after treatment will for an instant question.

Among the diseases that have been attributed to the ear and improved or cured by directing the treatment t othis part may be mentioned epilepsy. Cases of this nature have been reported as resulting from irritation in the meatus auditorius externus and as a complication of chronic suppurative otitis media. Instances of morbid irritability, loss of memory, and melancholia are of not uncommon occurrence in chronic catarrhal and suppurative affections of the tympanum. A train of symptoms at times is observed from impacted cerumen, which careful diagnosticians have mistaken for those of incipient locomotor ataxia. In each there may be impairment of hearing, uncertainty of gait, and a feeling as if walking on a padded floor.

Persons afflicted with ear disease frequently *faint*. It occurs entirely too often to warrant us in excluding a relation of cause and effect. The phenomenon is sometimes seen in minor operations upon the ear. It differs from the ordinary syncope in that there is less anticipation, with an absence of pallor, sighing, dilated pupils and nausea. The patient will simply roll up his eyes and slide down in the chair, when unconsciousness supervenes. In the cases which I have had the degree of pain suffered has had little reference to the excitation of this reflex. It depends on the temperament of the individual, rather than the degree of discomfort experienced. Ankylosis of the ossicles and obliteration of the round window are the most prominent middle-ear etiological factors in its production. The fenestræ seem to act as a sort of safety valve, as it were, so that when their function is impaired every movement of the ossicles causes a shock or concussion of the semicircular canals which preside over the equilibrium of our bodies, and giddiness is the result. This is the most excessive form of aural vertigo, and is not to be confounded with Menière's disease. Vertigo frequently occurs in syringing the ear, and especially when the water is cold and we force the current directly against the tympanic membrane instead of along the side of the canal. The pressure against the membrane forces the ossicular chain inward, with the resulting alteration in the intratympanic pressure and irritation of the ampullary nerve filaments. The exciting causes within the external meatus may be a diffused or circumscribed otitis media, polypi, exostoses, or impacted cerumen. The latter is by far the most common one which we meet. It may or not be associated with impaired hearing. The wax may remain a long time without causing any symptoms, and then vertigo or deafness come on suddenly upon some displacement of the mass resulting from a jar, picking the ear, or getting water in it. It does not apparently occur in children as the result of lesions confined to the meatus externus and tympanum, while in adults diseases of these parts are the most prominent exciting causes. In this regard it is like tinnitus aurium. The irritation at times may be so powerful as to affect another center physiologically connected, namely, the vomiting, and in such instances the mistaken diagnosis of gastric vertigo is frequently made. An instance of this kind has recently come under my observation, and the vertigo, vomiting, and deafness disappeared after the removal of a huge mass of hard, tightly impacted cerumen.

Von Trolsch reported an interesting case as showing the similarity of the symptoms and those of traumatic cerebral irritation. It was that of a man who become suddenly deaf and attacked with vertigo after a fall. He was treated for some time for cerebral trouble, when v. Trolsch discovered and removed a large mass of cerumen from the ear, with the result of curing the deafness and causing the vertigo to disappear. The fall had displaced the wax in the meatus and caused pressure on the drum membrane, which up to that time had been unimpaired in the performance of its function.

There undoubtedly exists a relationship between the larynx, its adjacent parts and the auditory ap-

paratus. Frequently, when we have obstinate hacking coughs that have resisted all forms of treatment we may find the seat of the trouble in the ear. Singers sometimes complain of pain in the ears on excessive use of their voice, which shows some sympathy existing between the two parts. The mere introduction of an aural speculum will often set up a cough and tickling in the larynx which continues as long as the instrument remains in the ear. With the object of at least approximating the percentage of the subjects in which these reflex disturbances exist, I have examined carefully the ears of one hundred persons, and by irritating the external meatus artificially I was able to set up coughing paroxysms at will in seven, vertigo in two, and vertigo with nausea in one. Those whose ears were examined were unaware of the object of the examination.

Asthma is another disease which may be of aural reflex origin from irritation of the auricularis magnus nerve, which communicates at times with branches from the pneumogastric—thus making a nerve circuit complete from an irritation starting in the ear. A young man presented himself at my office with the earnest request that I do something to relieve him of asthmatic attacks, to which he had been subject for two years. Seldom a week would pass without two or three paroxysms. He had tried all sorts of treatment, with only temporary relief in the way of alleviating the embarrassed respiration. Knowing the disease to be a neurotic one, and in all probability the result of an irritant, I made a thorough search for the exciting cause. The hearing in one ear was impaired, and this on examination was found to result from a mass of cerumen filling the whole external auditory canal. This was removed, and there was no more asthma for nine months, when the patient passed from under my observation. I have had two other cases similar to this one, and have notes on another. I cannot find in the literature of the surgeon general's library any cases of this nature, except one reported by myself a few years ago in a paper on asthma.

1016 Fourteenth Street, N. W.

A CASE ILLUSTRATIVE OF THE UNCLASSIFIED TROUBLES OF WOMEN.

By EUGENE COLEMAN SAVIDGE, M.D.,
NEW YORK.

The writer respectfully submits a concrete case bearing on the subject of his paper in the Medical Record of May 14, 1904, as above. In this case, the specialist concentrating attention on the local organs would almost have been under a logical necessity to operate. The synthetical point of view, however, reviewing obscure factors, not classified, and generally considered out of the range of gynecology, yielded not only a restoration to health, but also an offspring—the very result an operation would have made impossible.

Three years ago, a patient from a neighboring State was sent to me by the late Dr. Tucker. An eminent surgeon had positively condemned one ovary and tube to removal, and had expressed doubt about saving the other—a view in which six other men concurred. The patient was a young woman of thirty; six years married; no pregnancies; weight 115 pounds; highly neurotic temperament; with one prominent merely local symptom, viz., her menstruation occurred twice every seven weeks, was very profuse, put her to bed, and called for the strongest anodynes, even chloroform. These spells were always accompanied by diarrhœa.

Physical examination showed an infantile uterus in sharp anteflexion with a narrow os, with both appendages large and tender—as much so relatively as might be an "inside" orchitis, or an epididymitis, or a face after a bee-sting. With these symptoms—the orthodox indications for operation—what influenced my dissent from the eminent and multiple opinion? The following well-studied reasons:

1. These large and tender masses in the parametrium are frequently analogous with an epididymitis or a bee-sting—either of which conditions would look quite abnormal if submitted to pathological section. The writer believes that no surgeon can differentiate them off-hand from a knife-requiring pyosalpinx. They require detailed study.

2. This patient furnished a striking collection of "unclassified troubles." Her vasomotor system was unstable. The relational vasomotor effects were well marked. There were three quarts of urine passed in twenty-four hours, with a sp. gr. of 1.007. There were the icy feet and congested pelvis; the congested pelvis and the diarrhœa; the diarrhœa and the rapid heart action; the rapid heart action and the swelling thyroid, all accompanied by great venous relaxation at the various significant points already reported by the writer. In other words, this patient was in the condition patients are left frequently after operation. It was in toning up postoperative cases ten years ago that the writer first conceived the idea of applying the same measures *before* an operation that may be required after.

3. This patient had a profound anæmia, and had the usual hemorrhagic tendency to aggravate it. Complete evisceration does not always cure this bleeding. I have had patients with no womb to bleed from who suffered severe monthly hemorrhages from along the line of the bowels. It was also certain, considering the small womb, that this bleeding could be controlled, and the blood count brought up, by tamponade.

The treatment consisted in rest in bed, massage, muscle wringing, resistant movements, feeding, free diuresis, and tamponage at and between menstrual epochs, iron, intestinal disinfectants, and vasomotor constrictors. In forty days the patient had gained ten pounds, the urine had become normal, the pelvic swellings and tenderness had disappeared; so that it seemed then justifiable to do a simple dilation under primary anæsthesia. Three years later the patient was delivered of a healthy child. Her weight is now 145 instead of 115 pounds, the urine is normal in quantity and of a sp. gr. of 1.020, instead of measuring three quarts with a sp. gr. of 1.007, and for the two years preceding pregnancy menstruation was painless and regular. The patient is now a fully qualified wife and mother.

It will be noted that this patient had the beginnings of a classification in several different lines. Considering the kidneys, the thyroid, the heart action, the sudden air-hunger, and pupil dilation at a mere unpleasant thought, I feel sure that she would have died under operation. I therefore feel that the dissent and method outlined have saved two lives where there would have been but a tomb.

By a coincidence, a second woman, delivered of a child almost the same day, by Dr. Brown, of Montclair, N. J., had also been referred to me by Dr. Tucker about the same time as the first case. This second patient had likewise been condemned to salpingo-oöphorectomy by every gynecological authority, but showed many collateral troubles, the removal of which left her able to conceive.

66 West Fiftieth Street

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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CHRONIC RHEUMATISM.

THE conditions lumped together under this name constitute a very puzzling group. That they bear no close relation to acute rheumatic polyarthritis is fairly evident. In the *Bulletin of the John Hopkins Hospital* for July and August, an attempt at a scientific classification from both the clinical and pathological sides is made by Drs. J. C. Goldthwait and C. F. Painter. Their study of a large number of cases of non-tuberculous joint diseases, in the earlier stages, shows that at least five distinct types exist which require essentially different treatment.

Chronic villous arthritis (dry, hyperæmic, or relaxed joint) is a purely local process, usually occurring in the knee, with crepitus or creaking, and pain and tenderness on use. The joint is usually relaxed, and there is no natural tendency for the process to extend to other joints. The hypertrophied joint fringes present all intermediates between very numerous, very soft and vascular, small roundish delicate dendrites attached to the synovial membrane by extremely delicate pedicels, to one or two irregular, coarsely lobulated, yellowish fatty masses, 4 to 6 cm. in diameter, which are often glued down to the synovial membrane; the original pedicel is, however, usually distinguishable, composed of irregularly intermixed fatty and fibrous tissue with a cortical, very vascular, round-celled zone covered by a single-celled endothelial layer. The common characteristics of all the growths is the pedicellation and the extreme vascularity. More rarely occur fatty masses without fibrous admixture, or hyaline necrotic masses or connective tissue infiltrated with bone and cartilage cells. Treatment in the early stages consists in local stimulation, relief of any joint strain, and bandaging to steady the joint and limit motion. If the villous or lipomatous change is marked, the new formations should be removed by operation.

Atrophic or rheumatoid arthritis is of unknown causation, progressive for years with marked crippling, with at the beginning swelling, and very early atrophy, more prominent as the swelling subsides, visible at first in the cartilage, but ultimately involving the bone and soft structures. The blood shows no marked change. The capsule (fibrous and synovial), the cartilages, and the bones are involved. Joint swelling is due to synovial thickening and periarticular muscular atrophy. As a rule little fluid is present. During the more active stage the whole membrane is a good deal congested, and the hypertrophied villi are well distended with blood. The cartilage is thinned over its whole extent, becomes more or less granular and streaked, with in places eroded areas, through which the cancellated bone may be visible. The bone is also thinned, the intertrabecular spaces being filled with fat. The trabeculæ are diminished in number and size, and seem not to anastomose as normally. Many vessels are endarteritic. In places there is some round celled infiltration, but no other accompaniments of active inflammation. Radiographs show satisfactorily the general shrinking of the cartilage, the diminished density of the bone, and the thickening of the capsule with the villous enlargement of the membrane. Aseptic aspiration practised in ten cases proved sterile. So far, the blood in the acute stage has shown the hæmoglobin high, no leucocytosis, and a red count appreciably above the normal, contrasting with a low hæmoglobin value, higher leucocytosis, and a slight diminution in the red cells in acute rheumatism and other infectious cases. There is a reversal of the normal calcium-magnesium ratio, twice as much calcium being excreted as ingested. The treatment is rest, improved nutrition (with forced feeding, tonics, oil, a wholesome, generous diet in which meat is an important factor), free elimination with large amounts of water, and some alkali, such as sodium phosphate. Salicylates (5 grains once or twice daily) are at times beneficial; and locally, stimulation, encouragement of use, stimulant bathing, hot air, massage, and anything tending to improve nutrition. Resulting adhesions and deformities should be overcome.

Hypertrophic (osteo-) arthritis is a local or general process, with thickening of the edges of the articular cartilages into ridges or nodes (which, upon ossifying, interfere with motion), pressure-absorption of the cartilage, and sclerosis of the periarticular bone. The symptoms result largely from the mechanical limitation of motion, or pressure on the nerves. Etiologically, cold, exposure, strains, and injuries seem important. The blood shows no special changes. Where the cartilage shades off into the synovia there is apt to be congestion, usually with a ridge along this line. The cartilage is thickened, but preserves its glistening, bright appearance, and lacks erosions, which occur only as decubitus erosions, or dimples where osteophytes have chipped off. Pieces of cartilage may be found free in the joint. Large isolated cartilaginous spurs may project into the joint and villous hypertrophy, when present to any considerable degree, occurs near these spurs. Radiographs show a broader line of cartilage than in the atrophic type. A conspicuous feature in the picture is the irregular spur-like formation. Treatment consists in fixation to prevent irritation, with internal treatment to improve body tone and secure elimination. The disease is not usually progressive, and with proper treatment subsides, leaving little except the thickened cartilage and new formed bone.

Chronic gout is much less common, and consequently is less understood. The essentials seem to be sodium-urate deposits in the soft structures around the joint, with some bone absorption around the deposists, which are soft to pressure, movable in the soft structures, and without connection with the bone. Usually only a few joints show deposits. The shaft of the bone is frequently affected, and in fingers and toes an entire phalanx may be destroyed,

a little at a time, so that when seen the destroyed portion has a sharply defined, punched-out edge.

Infectious arthritis includes most of the cases of acute, inflammatory, or chronic rheumatism, and many septic processes. The symptoms may be due to toxins, or to the microorganism itself within the joint. Many or few joints may be affected, the disease in most cases reaching its height early without the further progress always seen in the atrophic form. If the organism itself is present the capsule may be much thickened with resulting disability, or marked destruction of tissue with pus formation may occur. The few cases studied, apparently gonococcal, showed in the acute stage a considerable excess of turbid synovial fluid, and a considerable and uniform thickening of the capsule and synovial membrane, which were densely infiltrated with round cells and with more leucocytes than in other forms.

The cartilage was not generally thinned, but at times eroded; there was no osteophytic enlargement; a good part of the joint cavity was frequently obliterated by firm adhesions, resulting in practical ankylosis. The radiograph shows absence of cartilaginous or osseous change, and the thickening of the capsule is easily visible. The infiltration and the effusion obscure the picture very much, causing a peculiar, more or less characteristic, blurred appearance. Leucocytosis, diminished hæmoglobin, and anæmia, with glandular enlargements, are noted. The existent septicæmia should be combated by tonics, forced feeding, fresh air, moderate rest of the joint, local antiphlogistics. When the organism itself is in the joint, when pus has formed, and when marked capsular thickening is in evidence, the joint should be opened and flushed out.

HEREDITY AND DISEASE.

Opinions have changed considerably with reference to the connection between heredity and disease. The belief was once universally current that most diseases could be transmitted directly from parents to children, notably tuberculosis, and that a child descended from tuberculous parents would inherit the tuberculous diathesis. Not longer ago than the year 1840 textbooks taught that consumption was an hereditary disease and writers of those days scoffed at the idea of its being contagious.

Mr. Clement Lucas, in the Wightman lecture, delivered in London a short time ago, considered the question of hereditary bias and early environment in their relation to the diseases and defects of children. The lecturer, while on the whole inclined to agree with the new views as to the transmission of disease, thought perhaps that the pendulum had swung somewhat too far in that direction and that scarcely sufficient attention was paid at the present time to the influence of heredity in the causation of some diseases. For instance, he does not think that the old observations as to the tuberculous types of patients are quite valueless, and is of the opinion that the pearly sclerotics, the sharp, refined features that may be seen in any wasting disease, may be produced by the tuberculous process. This may be transmitted to the offspring, so that after a few generations sufferers from the disease would have the type occurring in a healthy individual, and merely indicating a diminution of resisting power, perhaps to all diseases.

Malaria, again, formerly described as a climatic diathesis, is now known to be due to an organism, conveyed by the agency of mosquitos. Undoubtedly syphilis can be transmitted, although it has not been conclusively proved that the disease can be handed down beyond the first generation.

In the case of cancer, Lucas holds the view that there are distinct grounds for doubting the belief in the hereditary transmission of the disease.

There is, however, in the affections and abnormalities of the nervous system, the clearest evidence of the influence of heredity in disease. Fletcher Beach has stated that of idiots 51 per cent. have a history of mental defects in the family, 20 per cent. of epilepsy, and 16 per cent. of alcoholism. Gerrish has recorded an instance in which, through five generations, paresis of the anterior tibial muscle appeared between the ages of twenty-two and twenty-six. Deafmutism, judging from statistics, would also appear to be hereditary, and a large number of external pathological manifestations are also believed to be hereditary.

Notwithstanding the fact that heredity is regarded, and rightly so, as not having the preponderating influence in the causation of disease which it was once thought to exert, it may be questioned whether hereditary influence is not now too lightly regarded as a factor in disease. Tuberculosis is not directly transmitted, but the predisposition to disease is inherited, and the descendants of tuberculous forbears are more prone to contract the disease than those whose ancestors were free from the malady. Of course, the discovery that many diseases are caused by microbes and the likelihood that most organic affections originate in the same way, has unduly shaken our belief in the influence of heredity in disease. As yet, however, the proofs that heredity exerts no influence in this direction are not sufficiently convincing to overthrow completely the old views. The theory of heredity has been modified—not overturned entirely.

REPORT OF THE MARYLAND TUBERCULOSIS COMMISSION.

This report has just been issued and contains information of an instructive nature. Of course, much of the matter is already known to all, such as the nature of the disease, its prevalence throughout the world, the general mortality, manner of infection, prophylaxis, and treatment.

Respecting the prevalence and mortality from tuberculosis in the State of Maryland and in the city of Baltimore, the report states that, owing to the fact that no returns are required by law of existing cases of tuberculosis, it is impossible to obtain exact statistics as to the number of cases occurring yearly in the State of Maryland. It is believed, however, that there are at present at least 10,000 cases of tuberculosis in the State. In Baltimore, during the year 1902, there have been reported about 2,000 cases of tuberculosis. The figures of the commission bear out general statistics, which show the greater frequency of tuberculosis in the colored race. In 1902 there occurred in the State of Maryland 2,560 deaths from tuberculosis and during the same period there were 1,392 deaths from tuberculosis in Baltimore.

As to the economic effects of tuberculosis in Maryland, it has been shown by Dr. Price that the

average individual loss to a person suffering from tuberculosis was $741.64, and the average potential loss to the community resulting from the death from tuberculosis of a wage-earning male was $8,512.52. During the year from October 1, 1902, to October 1, 1903, there were 2,509 deaths from tuberculosis in Maryland. Of these 908 were of wage-earning males. From these figures it would appear that from the deaths of wage-earning males alone there resulted in one year a potential loss to the community of over $7,500,000, while the total potential loss from the 2,509 deaths can scarcely have been under $10,000,000.

The commission recommends the general adoption of prophylactic measures similar to those in force in New York which, it is declared, are the best that have yet been devised. The commission is strongly in favor of the sanatorium treatment of consumption, and is, further, of the opinion that if the State of Maryland undertakes to build sanatoria for the treatment of tuberculosis, every step should be taken to make such sanatoria the best in existence. With these ends in view, the suggestion is made that the Governor of Maryland appoint a commission for the specific purpose of considering plans, expenses, localities, and any other questions looking to the establishment of sanatoria for the care of cases of chronic tuberculosis and others for the treatment and cure of early and favorable cases of tuberculosis.

A part of the report is taken up with a consideration of the prevalence and distribution of tuberculosis in Maryland, while by far the larger portion of the book in which the report is contained is devoted to papers dealing with the recent exposition on tuberculosis, held in Baltimore, which was described at the time in the MEDICAL RECORD. The intense interest manifested in tuberculosis in this country at the present time is a healthy sign and argues well for the success of the crusade undertaken against the disease.

CRANIOTOMY ON LIVING CHILDREN.

THE moral status of this operation and the conditions under which it becomes permissible have always been mooted points among obstetricians. Discussions of the subject have been especially frequent of late, and though not many authors adopt so radical a position as Pinard, who, in a recent gynecological congress at Amsterdam, emphatically voiced his opinion of the undesirability of the operation by saying: "L'embryotomie de l'enfant vivant a vécu," still, the universal sentiment is in favor of conservatism in the employment of this extreme measure. Merkel, in 1883, stated that sixty-four per cent. of the craniotomies were performed upon living children, but this estimate would scarcely apply to the obstetrics of to-day. Symphyseotomy and, particularly, cæsarean section, have been developed to such a degree that they have become matters of daily experience, and through the improved technique and greater boldness of the operators many infantile lives have been saved.

Veit (*Münchener medizinische Wochenschrift*, September 20, 1904) takes a most decided stand and flatly states that mutilating operations upon the living child have no longer any excuse for existence. He confirms this conviction by the fact that in eight thousand deliveries conducted under his supervision in the clinics of Leiden, Erlangen, and Leipsic, the operation has always been avoided. When bad results follow symphyseotomy or cæsarean section they are, he says, always due to avoidable causes, chief among them being ill-advised attempts at forcible delivery, or too long delay before realizing the hopelessness of any but radical measures. These conditions should be met by a general adoption of the rule to transport parturient women of all ranks to suitable institutions as soon as there is any indication of impending difficulty. He believes that a large dose of morphine will enable the patient to be conveyed to a hospital without risk in nearly all cases, and then the proper operation can be safely carried out with little danger to the mother and none to the child. In his series of eight thousand deliveries, Veit performed cæsarean section twenty times and symphyseotomy six times. Of these twenty cases two mothers and two children died, figures which for the mothers alone compare favorably with those of craniotomy.

While this author may be somewhat extreme in his views, his statements are most suggestive. Undoubtedly what is needed is an earlier recognition of conditions in which the ordinary measures of artificial delivery are likely to be unavailing, so that more radical procedures may be carried out under circumstances favorable to their success.

CANCER RESULTING FROM EXPOSURE TO THE ROENTGEN RAY.

Two cases have recently been brought to public notice of malignant disease caused by the action of the *x*-rays. Early this month, an electrical engineer, formerly an assistant in Edison's laboratory, died of cancer of both arms. The early history of his case, as given by Allen in his recently issued work on Radiotherapy, is as follows: When first seen he had been working for three years making and testing *x*-ray tubes. A year after beginning this work he suffered from a condition of his hands resembling a severe sunburn which necessitated his stopping work for a few days. He then resumed his occupation and subsequently suffered from more pronounced effects, resulting in scars and contraction. For two months before coming under observation he had an ulcer on the back of the wrist and purpura-like spots were scattered over the skin of the arms, wrists, and backs of the hands. Several operations were performed, but the disease had become systemic, and the amputation only postponed the inevitable issue. The second case, fortunately less serious in its outlook, is that of a well-known physician and *x*-ray worker in Rochester, N. Y., who has recently suffered amputation of one hand and the greater part of the second in consequence of *x*-ray injuries. The patient was an enthusiastic *x*-ray therapeutist and diagnostician and neglected to shield his hands while working. Another prominent instance of the evil effects of the Roentgen rays was that of Dr. Blacker of England, who is said to have treated Edward VII. successfully for a rodent ulcer. He had an *x*-ray burn of the hand, which was neglected until the cancer which had developed had extended up the arm and invaded the axillary glands, and then it was too late for operation to be of any avail.

Early in the history of the radiotherapy of cancer, when cases were reported of the disease attacking the hands of those engaged in administering the *x*-rays, it was thought that they furnished the proof of the contagiousness of malignant disease; but the case of Edison's laboratory assistant, above mentioned, shows that it is to the irritation produced by the bombardment of the *x*-rays rather than contagion that the disease must be ascribed in those

instances. Why the rays should act now curatively now causatively is one of the mysteries of medicine, the elucidation of which, as Allen suggests, may lead to the discovery of the pathogenesis of malignant disease. But the immediate and important point is that they may act in a causative sense, and all workers with the rays should remember that they are dealing with a tremendous force—less immediately destructive than flame, but no less surely in many cases.

Safeguarding the Water Supply of Manhattan.

The question of the proper safeguarding of the city's water supply is steadily assuming more serious proportions. While the present conditions are undoubtedly in most respects fairly satisfactory, still even in the near future radical improvements will be needed to ensure security. The Chief Engineer of the Aqueduct Board in a report to the Aqueduct Commissioners urges the immediate building of an adequate filtration plant for New York City, and recommends that work on the eastern basin of the new Jerome Park reservoir be halted until the plans can be revised, so as to adapt it to the changes in the way of roofing, etc., required for this purpose. Pending action by the commission, work on this basin has been practically stopped.

Even more important, however, for the immediate present (since filtration is a matter of years) is the guarding of the Croton watershed so as to prevent contamination, and this problem each year is growing more difficult of practical solution. Throughout the entire section of the watershed there is much building going on, a fact which points to a constant increase in the population of the district and correspondingly augmented difficulties in preserving the small streams from pollution. Dr. Darlington, Commissioner of Health, has been inspecting this territory and expresses the view that the city must eventually control the source of supply by buying up the land in the watershed wherever there are buildings near the lower levels of the valley. This would be very expensive, but must ultimately be done if the water supplied to the boroughs of Manhattan and the Bronx is to be kept clean and wholesome. Eventually, however, no matter whence the water supply is drawn or how carefully the watershed is policed by the sanitary authorities, we must come to filtration, and the sooner this is done the less it will cost and the better it will be for the residents of the city, and especially for the visitors. About the efficacy of sand filtration there is no longer discussion; the experience of many European cities and of Albany, Philadelphia, and other cities in this country has amply demonstrated its value.

Radioactivity in the Waters of the Hot Springs Reservation.

Dr. Bertram B. Boltwood of New Haven, Conn., who was authorized by the Secretary of the Interior to examine into the radioactive properties of the waters of the Hot Springs Reservation, Ark., has completed his work and made an exhaustive report. This report is prefaced by an interesting account of the present state of our knowledge concerning radioactivity in general, and by a description of a new system of standardization devised by Dr. Boltwood. The author of the report describes in detail the methods pursued by him in his investigations, which were very exhaustive and covered a period of several months. The results of the electroscopic tests were quite satisfactory and demonstrated that the waters of the Hot Springs are radioactive to a marked degree. The properties of the emanation from the waters were found to be identical with those of radium emanation, but the boiling test showed that little or no radium existed in the waters. Dr. Boltwood, therefore, concludes that the radioactivity of the waters is due to a dissolved radium emanation (a gas) and not to the presence of salts of radium or other radioactive solids. The almost complete absence of radium salts was also demonstrated by an analysis of the tufa deposit formed by some of the springs on issuing from the ground, this analysis showing that the amount of radium contained in one hundred grams of the tufa was less than one-millionth of the quantity of radium associated with an equal weight of uranium in pitchblende.

News of the Week.

Dr. Bulkley's Annual Course of Lectures.—The sixth series of clinical lectures on diseases of the skin will be given by Dr. L. Duncan Bulkley at the New York Skin and Cancer Hospital, Second avenue and Nineteenth street, during the autumn and winter, commencing November 2. The clinic is held every Wednesday afternoon at 4:15 o'clock in the Out-patient Hall of the hospital, and in past years has always been very numerously attended.

A Chinese Woman Physician, Dr. Yamei Kin, was one of the speakers at the reception recently given in this city to the European delegates to the Peace Congress. She has also spoken on several other public occasions during the past two weeks, and in every instance has carried her audience away by her eloquence, her facile employment of English, and her charming personality. Dr. Kin was a ward of the late Dr. McCarthy, for over thirty years a medical missionary in China. She was graduated in medicine from the Woman's Medical College of the New York Infirmary in the early '80s, and has practised in Kobe, Japan, in Hawaii, and in California.

A Vacancy in the Open Division of the Bellevue Hospital Staff.—Doctor George B. Fowler, for many years Visiting Physician on the Fourth Medical Division at Bellevue Hospital, has resigned his position on the Medical Board. His successor will be appointed by the Board of Trustees of Bellevue and Allied Hospitals from members of the profession unconnected with any of the medical colleges, probably before the first of November. Applicants for the position should send their names to Mr. James K. Paulding, Secretary of the Board of Trustees of Bellevue and Allied Hospitals.

Medical Inspection of Schools.—The Board of Health has issued a circular to teachers in the public schools, giving them information regarding the work of the school inspectors. The circular states that the children of the household in which any contagious disease exists must be excluded from school until the termination of the disease and fumigation of the premises by the Board of Health. This applies to all contagious diseases except smallpox, when all the children in the house in which the case exists are excluded. A completed system of medical inspection of the schools has been established. A physician is sent daily to every school and the scholars are inspected as to contagious or infectious diseases. Trained nurses are assigned to the schools in the poorer districts. Children are made to keep themselves clean, and these nurses make home inspections. They show the parents the necessity of keeping their children clean and healthy.

The Repression of Quackery.—The Medical Society of the County of New York has issued a statement, giving reasons why so few of the multitudinous advertising quacks and abortionists in this city have been apprehended and published through the action of its officers. Lack of funds is pleaded as the most serious drawback, though the society has curtailed its scientific features in order to devote its funds to the suppression of quacks. It is also hampered, it says, by the difficulty of getting victims to testify.

Methyl Whiskey.—The investigations of the Coroner and of the Health Commissioner leave little room for doubt that some at least of the suspicious deaths in the west side region, known as the "Stryker's Farm" district, were due to wood alcohol poisoning. A fact which this occurrence has brought to light, which is "important if true" and there is little question that it is true, is that a very large percentage of the whiskey drank here, whether domestic or imported, is sophisticated, even if free from amyl alcohol adulteration.

Dividing the Fee in Chicago.—The Chicago Medical Society will, it is reported, take action on the question of the consultant giving a percentage of his fee to the practitioner recommending the patient. Some time ago a well-known physician of that city sent out to more than one hundred physicians in Chicago decoy letters purporting to come from a young country physician, saying he had a wealthy patient who needed special treatment along the line of the physician's work, and asking for a commission of 25 per cent. for referring the case to the Chicagoan. Out of the hundred physicians to whom the letters were sent, eighteen accepted the proposition. It is rumored that those men are to be disciplined for their action.

Titles of Officers of the Naval Medical Corps.—In his annual report Surgeon-General Rixey of the Navy calls attention again to the absurdity of his title, which should be, he thinks, Surgeon-Admiral, since an army title has no place in the naval service. Dr. Rixey's recommendation also embraces a change in the titles of subordinates. He asks that the medical director be called "Surgeon-Captain" and the medical Inspector "Surgeon-Commander," and similar changes be instituted on down through the naval medical corps.

Episcopal Hospital, Cincinnati.—A $25,000 addition to the Episcopal Hospital for Women and Children, Cincinnati, will be dedicated on November 17, the annual donation day of the hospital. Mr. Wm. A. Procter gave $10,000 toward this addition, and the rest was raised largely by the efforts of Archdeacon Edwards.

A Hasty Surgeon.—A well-known Paris surgeon was charged recently with having caused the death of an army official by leaving a rubber drainage tube in his abdomen. The post-mortem examination showed, however, that the drainage tube had not excited inflammation and was not the cause of death, and the accused was therefore acquitted. But he was immediately served with papers in a second case, charged with the same negligence, the only difference being that the second patient did not die. He contended, however, that his recovery was retarded and that his life was even yet in danger as a consequence of the absent-mindedness of the surgeon.

Dr. C. R. Holmes, who is a graduate and professor of otology at the Miami Medical College, has been elected to the chair of laryngology, otology, and rhinology at the Ohio Medical College, a place made vacant by the death of Dr. James Hyndman.

Association of Military Surgeons of the United States.—The thirteenth annual meeting of this association was held in St. Louis last week under the presidency of Medical Director J. C. Wise, U. S. N. The Enno-Sanders prizes for the best essay on military surgery were awarded to Lieut.-Col. William Hill-Clive of the British Army Medical Corps (first prize) and Lieut.-Col. Hathaway of the India Medical Service (second prize). The following officers were elected for the coming year: *President,* Surgeon-General Walter Wyman, P. H. and M. H. S., Washington; *Vice-Presidents,* Major Albert H. Griggs, N. G. N. Y., Buffalo, Brigadier-General Robert M. O'Reilly, U. S. A., Washington, Surgeon-General P. M. Rixey, U. S. N., Washington; *Secretary,* Major James E. Pitcher, U. S. V., Carlisle, Penn.; *Treasurer,* Major Herbert A. Arnold, N. G. Penn., Ardmore, Penn. The next annual meeting will be held at Detroit, Mich.

Mississippi Valley Medical Association.—The thirtieth annual meeting of this society was held last week in Cincinnati. Indianapolis was selected as the meeting place in 1905. The following officers were elected: *President,* Dr. Bransford Lewis of St. Louis; *Vice-Presidents,* Drs. Frank Parsons Norbury of Jacksonville, Ill., and J. H. Carstens of Detroit; *Treasurer,* Dr. S. C. Stanton of Chicago; *Secretary,* Dr. Henry Enos Tuley of Louisville.

Association of Erie Railroad Surgeons.—The thirteenth annual meeting of this association was held at the Colonial Hotel, Cleveland, Ohio, October 11 and 12, Dr. S. B. Hiner of Lima, Ohio, presiding. The following officers were elected for the coming year: *President,* Dr. F. A. Goodwin, Susquehanna, Pa.; *Vice-President,* Dr. M. S. Cramer, Ohio City, Ohio; *Secretary and Treasurer,* Dr. J. A. Allis, Montclair, N. J. The next annual meeting will be held in New York City.

The National Association of Colored Physicians.—This association, meeting in Lexington, Ky., closed its annual meeting Oct. 14 by selecting Richmond, Va., as the next meeting place and electing the following officers: *President,* Dr. John E. Hunter, Lexington, Ky.; *Vice-President,* Dr. R. E. Jones, Richmond, Va.; *Secretary,* Dr. John A. Kenney, Tuskegee, Ala.; *Treasurer,* Dr. A. L. Thompson, Memphis, Tenn.

Alcoholism from Patent Medicines.—Speaking at a banquet of the Catholic Total Abstinence Union of America in Hartford last week, the Rev. Father Walter J. Shanley, rector of the cathedral there, attributed the growth of intemperance among women to the presence of alcohol in patent medicines. He referred to the very high percentage of alcohol in a large number of patent medicines, and warned his hearers against the use of them. It is now in order for the religious paper to refuse the advertisements of these alcoholic poisons.

Telephones in Isolation Hospitals.—Dr. Edward Martin, director of the Department of Public Health and Charities of Philadelphia, has completed arrangements whereby a complete telephone system is to be installed in the Municipal Hospital for contagious diseases, with telephones in each ward, so that direct communication between without and within may be had. Hitherto the hospital, entrance to which is forbidden to even the nearest relatives of patients, has been connected with the world by a single wire, and communication was irregular and slow. With an exchange on each floor inquiries regarding the condition of patients can be answered speedily and satisfactorily.

Fire in a Hospital.—Fire was discovered in the dead room at All Souls Hospital, Morristown, N. J.,

one night last week. The Sister Superior was awakened at 2 o'clock by smoke which was pouring through the corridors, and found that several cots which had been put in the dead room were ablaze. The fire was quickly extinguished without alarming the patients, and the building was not injured.

Bright's Disease in Chicago.—According to the weekly bulletin of the Health Department, the first death from this affection in Chicago was recorded in May, 1864, but it was not until 1868 that deaths from the malady were reported in sufficient number to compute rates. In the annual report of the Commissioner for 1894, it was shown that the rate had increased 84 per cent. in twenty years, that is, in the decade 1885-1894, compared with that of the decade 1868-1877, and it was then said, speaking of the group of steadily increasing diseases, that the sanitary administration could do little to prevent the increase of Bright's disease and of diseases of the nervous system. The high tension of modern life with its besetting temptations to irregular habits and to excesses of various kinds is something the relief and remedy of which can come only through saner views and modes of life. The death rate of Bright's disease has increased upward of another 80 per cent. in less than a decade—that is, from 5 in the 10,000 of population in 1894 to 9.09 in 1903, or 81.8 per cent. in nine years.

Mortality in Michigan During September.—There were 2,635 deaths registered in Michigan during the month of September, representing a death rate of 12.7 per 1,000 population according to the State census of 1904. This shows a slight increase over the preceding month, which had a death rate of only 12.1, but is lower than the rate for September, 1903, which was 13.4. By ages, there were 608 deaths of infants under 1 year of age; 208 deaths of children aged 1 to 4 years; and 704 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis of lungs, 155; other forms of tuberculosis, 37; typhoid fever, 63; diphtheria and croup, 36; scarlet fever, 6; measles, 4; whooping-cough, 4; pneumonia, including both lobar and catarrhal forms, 74; diarrhœa and enteritis of infants under 2 years of age, 318; cancer, 163; accidents and violence, 158. Smallpox caused 3 deaths during the month, 1 each in the cities of Petoskey, Jackson, and Flint. Two deaths were reported from tetanus.

More Hospitals Needed for the Navy.—Surgeon General Rixey, of the Navy, in his annual report, states that the future needs of the service will require hospitals at Charleston, S. C., Guantanamo, Cuba, and Olongapo, P. I. The failure of the navy medical service to obtain good and ambitious surgeons is attributed in part to the fact that assistant surgeons receive fifteen per cent. less pay when on shore than do those in the army. The naval hospital corps is reported to be in excellent condition, and it is recommended that it should be recruited to a strength of 1,000. It is also recommended that the number of pharmacists in the medical corps be increased to fifty.

"**The American Journal of Urology**" is the title of a new journal published by the Grafton Press, under the editorial management of Dr. Henry G. Spooner of this city. As the name of the paper indicates, it will be concerned exclusively with matters of medical import pertaining to the genito-urinary apparatus in both sexes. The first number, dated October, 1904, contains articles by Cathelin of Paris, Howard Kelly of Baltimore, and Winfield Ayres of this city, and a number of abstracts of recently published papers in American and European journals. The journal is very neat in appearance, and if the character of the contributed articles is maintained at the high level of those in the first issue, it is assured of a long and useful existence.

Purity of Food Products.—The Secretary of Agriculture will soon proclaim another series of standards for food products. The work of investigation and determination of what constitutes purity and adulteration in such products is being conducted by a committee representing the association of official agricultural chemists of the United States. The secretary of the committee is Chief Chemist Wiley of the Department of Agriculture. Two or three years more will probably be required to complete the list, as the work is so extensive that in spite of nearly two years constant work standards have been established for only comparatively few articles. The standards proclaimed last winter comprised meats and their products, milk and its products, sugar and its products, and spices and condiments. The additions now made to the list include meat extracts, ice-cream, grain products, fruits and vegetables, vinegar, fruit juices, fruit extracts, salad oils, salt, honey, tea, coffee, and root beer. Malt and spirituous liquors and carbonated waters were to have been included in the forthcoming proclamation, but so much difficulty has arisen over the dividing line between the purity and adulteration of these three subjects that they will be further investigated and proclaimed in the third installment, to be issued next spring.

An African Patron of Medicine.—Mr. R. R. Blaize, who died a few weeks ago in Lagos, was rescued as a child from a slaver, which had been captured by a British cruiser, and was brought up by the missionaries in Sierra Leone. He engaged in the Manchester trade and soon made a large fortune. He was liberal in all plans looking to the improvement of his race and was especially lavish in his gifts to the medical school, and it is believed that the bulk of his property has been left to promote the study of medicine in Sierra Leone and to aid students who might profit by a year of study in Europe.

A Faulty Diagnosis.—A young woman was seized with faintness in the street a few days since, and an ambulance was called to her relief. The surgeon promptly made a diagnosis of "drunk," and the unfortunate woman was taken to the police station. There the sergeant on duty took a little more pains than the young surgeon, and, finding the patient was perfectly sober, sent her to her home. She was on the way to her physician's office, when overcome. Ambulance surgeons have so much experience with "drunks," that they sometimes forget that a man with a fractured skull is a possible find, and that even young women who lose consciousness in the street are not necessarily intoxicated.

Dr. Wm. H. Taylor has been elected president of the Board of Trustees of the Children's Home, Cincinnati, to succeed Mr. Stetinius, who died some months ago. Dr. Taylor is professor of obstetrics in the Miami Medical College and on the obstetric staff at the Cincinnati Hospital.

Vaccination Decisions.—On October 10, Charles M. Rifer of Barberton, O., obtained an alternative writ of mandamus against the local Board of Education to compel the members to permit his four children to attend school. They had been barred, because they had not been vaccinated in accordance with a rule of the board.

On October 18, the Court of Appeals in this State upheld the constitutionality of the law which provides that a child who is not vaccinated shall not be

permitted to attend the public schools. The decision was in the case of Edward C. Viermeister, the court sustaining the decision of a lower court, to which Viermeister applied for a writ of mandamus to compel the Brooklyn school authorities to permit the attendance of his ten-year-old son. Viermeister attacked the law on the ground that it was in violation of that provision of the Constitution which provides that every child in the State shall be afforded an opportunity to have a common school education.

To Test a Cancer Serum.—The French Surgical Congress, in session this week in Paris, has voted to appoint a commission to determine the therapeutic value of Doyen's cancer serum. This action was taken after a heated controversy, and was accepted by Dr. Doyen on condition that the committee should not be one of investigation, but similar to that examining Pasteur's discoveries. Dr. Doyen is the surgeon whom Mr. Crocker is suing to recover a fee of 100,000 francs which he paid for the treatment of his wife by this serum.

The Pneumonia Commission of the New York Board of Health met for the first time on Tuesday evening of this week. Dr. Edward G. Janeway of New York was elected President and Dr. T. Mitchell Prudden of New York, Secretary. After a general discussion the commission decided to make a systematic study of pneumonia in New York, taking into consideration the frequency and variation of occurrence, evidence of communicability, mouth infection, seasonal relations, collection of statistics, and geographical relations. The commission was subdivided into a clinical committee and a bacteriological committee. The former is composed of Drs. Janeway, Osler, Musser, Billings, and Holt; the latter of Drs. Welch, Prudden, and Smith. Dr. Biggs will serve on both committees.

Raid on a Home for Epileptics.—An alleged "home for epileptics" was raided by the Chicago police a few days ago, and the books of the institution and the uniforms of women solicitors were seized. The raid was the result of an investigation made by Secretary J. A. Egan of the State Board of Health, who reported to the Chief of Police that the "home" was a fraud. The "home" employs twelve women solicitors. In making their rounds they dress in green and white gowns cut after the fashion of the costume of Sisters of Charity. The twelve solicitors are said to have collected from $150 to $200 a day.

A Practical Test of Food Adulterants.—Dr. Wiley, the chief chemist of the Agricultural Department, will resume his experiments on the effects of adulterated food with a class of twelve on Nov. 1. The experiments will continue eight months, during which time the twelve men will be fed at Government expense, with food in which at stated intervals adulterants will be secreted. A new lot of adulterants will be tried on this winter's class. They have not all been decided upon yet, but will include formalin, mostly used in preserving milk; two of the aniline dyes used in coloring food products, notably that employed to give the yellow tint of butter; sacharin, and copper, to which certain canned vegetables are indebted for their bright green color.

Dr. Albert A. Tennant has been appointed house surgeon to the Richmond, Va., Hospital.

Dr. J. G. Alcorn of Gallipolis has been appointed second assistant physician at the Ohio Penitentiary.

Hamilton, Ohio, Hospital.—Hamilton's new $125,000 "Mercy Hospital" will be formally thrown open to the medical profession October 19. All doctors in this and surrounding counties will be invited to a banquet in the new building. Drs. Zinke and Wolfstein, of Cincinnati, will be the chief speakers.

The Health Department of New York Awarded the Prize.—The announcement is made that the exhibit of the Health Department of this city at the St. Louis fair has been awarded the grand prize which is the highest honor in that class of exhibits.

Smallpox on the Canadian Border.—Reports received from Malone say that a serious outbreak of smallpox has occurred in the French Canadian settlement of that village.

Illness of the Dowager Empress of Russia.—The mother of the Tsar is reported to be ill in Copenhagen, her strength having been spent in many hours daily labor in fitting up Red Cross expeditions for Manchuria.

Home for Lame Children.—The directors of the New York Home for Destitute Crippled Children have empowered the president, Mrs. A. L. Erlanger, to purchase property on West Sixty-first street for the home. It is expected that the home will be opened about the end of this month.

Tuberculosis of the Nervous System.—Julius Grinker believes that tuberculosis of the nervous system is almost always secondary to tuberculous disease in some other organ. Brain tuberculosis occurs either as an affection of the membranes, or in the form of the so-called solitary tubercle—a misnomer, for tubercle appears multiple in many cases. The dura is but seldom the seat of tuberculosis and only when a disease process extends thither from the overlying bone or from the underlying soft membranes. The symptoms of tuberculous meningitis may be divided into general symptoms, caused by pressure, and focal symptoms, caused by direct implication of nerve-tissue. Headache is a very common symptom and may be caused either by direct pressure of the exudate upon the nerve filaments of the dura, or else indirectly by the fluid from within the ventricles. Experiment has shown that pressure in the brain of 70-80 mm. Hg., gives rise to pain, while a pressure of 80-100 mm. Hg. regularly gives rise to convulsions. Anæmia of the motor areas is probably the cause of these. The convulsions occur before the pulse becomes slow. A still greater rise of brain pressure causes a retardation of the pulse, which is probably due to stimulation of the vagus centre in the medulla. Under still greater pressure the pulse becomes rapid and irregular, due to paralysis of the vagus centre. This is usually of fatal omen. Respiration loses its regular rhythm rather early in the course of the disease. Other symptoms mentioned are clouding of the sensorium, pupillary anomalies, optic nerve derangements, rigidity of the neck muscles, trismus, grinding of the teeth, scaphoid abdomen, hyperæsthesia of the skin and muscles, exaggerated reflexes (in the beginning of the disease), the Kernig sign, and vasomotor disturbances. Most important of the focal symptoms is the cranial nerve paralysis. The typical cases are usually easy to diagnose, but the atypical cases are sometimes very difficult to diagnose. In such cases, Quincke's lumbar puncture is most useful. The fluid is cloudy in purulent meningitis. It may also be cloudy in the tuberculous variety. In the latter form the lymphocytes predominate. Streptococci and staphylococci may be found in purulent meningitis, pneumococci and the meningococcus intracellularis of Weichselbaum in epidemic cerebrospinal meningitis, and tubercle bacilli in tuberculous meningitis, and especially in the flocculi. As to the blood examination, it is said that there is a leucocytosis in the purulent variety and only slight increase of leucocytes, if any, in tuberculosis. In caries of the spine, if the spinal dura becomes affected at all, the tuberculous deposit occurs between bone and dura mater, producing a pachymeningitis.—*Illinois Medical Journal.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

FRENCH VISITORS—LUNACY IN IRELAND—BORDERLAND AND SUICIDE—HEALTH EXHIBITION—MIDWIVES' BOARD—FINSEN'S DEATH—A CASE OF PLAGUE—OBITUARY NOTES.

LONDON, SEPTEMBER 30, 1904.

THE long vacation closes to-day and next week the winter session opens. Several of the schools will maintain the tradition of the Introductory Lecture, but an increasing number are joining those which substitute other forms of celebrating the occasion, and some are content to set to work without any ceremony. The following week we are to have a visit from 140 to 150 representative French confrères—professors of the Paris faculty, physicians and surgeons to the Paris hospitals, and similar representatives of the Provincial schools of France. Visits to our chief institutions will be made and many lighter entertainments are being arranged. Of course, we could not omit a dinner to our guests, and this will be given at the Hotel Cecil. Private hospitality will be to the fore and I doubt not our confrères will feel they have done something to emphasize the *entente cordiale*.

The report of the Inspectors of Lunacy in Ireland, following closely that of the English commissioners, was circulated on Wednesday. There was an increase of 656 during the year, as against 508 in the previous year. The total increase for the year is 104 above the average of the last ten years, which was 552. The report is not pleasant reading, for it contains charges that at various institutions there were inefficient assistants, deficiencies in the staff, overcrowding, etc. Here is an example: The inspector of one district asylum regrets to find no improvement since his last report, in which he pointed out the overcrowding and deficient accommodation. Now he finds the same conditions. The floors of the sanitary blocks remain as before—full of holes and saturated with wet; the windows of the single rooms are boarded to prevent breakage, as no shutters have been provided; the walls are stained and dirty for want of paint and whitewash, or in other cases they are unplastered, and in others the plaster has fallen off; the furniture is deficient and many of the comforts usually found in our asylums absent. The overcrowding is manifest in the fact that there are 131 men and 25 women in excess of the number for which the institution is adapted. And yet the reporter remarks that "no steps appear as yet to have been taken to meet the pressing wants of the insane of the district, nor does it appear that the subject is under consideration." It is to be hoped that the attention of the Lord Lieutenant will be emphatically called to this report, for it is not the sort of thing to consign to a pigeon-hole in the office.

The difficulty of dealing with "borderland" cases was illustrated at an inquest yesterday, on a lady of independent means, aged 51. She had been a resident patient in a doctor's house for the last eight months, and had never threatened suicide. On Monday evening she went down to dinner, but was disagreeable, and went back to her own room, where she dined alone. Later a witness went to see her, but was ordered to leave the room. Still later the witness returned and found her crying and ill. The doctor then went and she told him that she had taken oxalic acid and was sorry for it. He thought from her remarks she did not intend to take her life, but only to make a commotion in the house. The coroner (Dr. D. Thomas) made some interesting remarks on such cases, which were much more difficult to manage than those which could be certified and put under restraint. He once held an inquest on a servant who killed herself to spite the other servants, after a quarrel about making the beds. In another case a lady said she felt impelled to throw herself under a motor car, and a friend took her home, where, as soon as left alone, she threw herself from a top window. In another case a young lady was convinced that angels were coming from heaven for her and took poison to assist. In the case before the jury, though the testimony was that she did not intend to commit suicide, the fact remained that she did so, though a short time previously she may not have thought of such a thing. It was stated that the chemist who sold the poison had no recollection of her, but he said he often sold 20 or 30 similar packets a day to persons who used it to clean hats or take stains out of clothes.

The Institute of Hygiene has determined to establish a permanent health exhibition, to form part of a scheme of popular teaching. Medical experts are to be in control and every exhibit is to be inquired into by a committee before being shown. Most of the spaces have been taken by well-known firms. The exhibition, which is to be opened to-day by Sir Joseph Fayrer, K.C.S.I., is to remain open daily throughout the year. No charge is to be made for entrance or for information supplied by the expert staff. The objects are officially said to be: to supply medical practitioners with the means of acquiring authoritative information on new products and appliances, and afford them a channel by which they may keep in touch with the advances made in all that relates to personal and domestic hygiene; to supply nurses with useful knowledge as to products and appliances for invalids; to supply the public, especially those interested in dietetics, clothing, appliances, and articles co-related with the health of the person or the home, with authoritative information as to their value and use.

The action of the Central Midwives Board continues to excite dissatisfaction and certain medical members are roundly denounced as traitors to the profession, while the desire of the women to control everything and to ignore medical men displays an animus equal to the ignorance which has been prominent. The Council of the Incorporated Medical Practitioners' Association, at its first meeting after vacation, has expressed the prevailing opinion in a resolution, protesting against the Central Board's decision to appoint non-medical women as examiners, thereby raising them so far as possible to the level of qualified registered practitioners. Perhaps other bodies may be roused from their apathy, though there is little hope of protests having any effect.

Inspector-General Duncan Hilston, C.B., M.D., who joined the service in 1860 and retired in 1897, has been appointed Honorary Physician to the King, *vice* Inspector-General McEwan, whose decease I mentioned a fortnight ago.

Professor Finsen's early death will be known to you as soon as to us and you know all about his achievements. Besides, the event scarcely comes within the purview of your London correspondent, but you may permit me to remark that it has unusual significance here on account of the interest of Queen Alexandra in his work, while the courage and cheerful fortitude with which he persevered in spite of illness inspired admiration and sympathy.

A case of plague was reported on Wednesday on a vessel which reached the Tyne from Hamburg, where dead rats were found during the discharge of cargo. The patient was removed to the floating hospital and the ship disinfected and allowed to leave, no other case having occurred.

Dr. Francis Bossey died on the 27th, at the ripe old age of 95. He took his first diploma in 1830 and his M.D., Glas., in 1832.

Another aged practitioner was Dr. Croker, of Belfast, who passed away on the 22d, within six weeks of attaining his 90th year.

Dr. T. Chaplin, who died last week, aged 74, formerly of Jerusalem, will be remembered by some of your traveled readers. He was physician to the leper hospital and held other important posts in Jerusalem, was on the committee of the Palestine Exploration fund, and had written on the local fevers. He took his M.D., St. And., 1858.

Dr. Archibald Hamilton, J.P., of Windermere, died on the 26th inst., aged 64. He was educated at Edinburgh University, and took his M.D. in 1861, in which year he also took the College of Surgeons license. He contributed to the *Edinburgh Medical Journal* some cases of amputation in which acupressure was employed.

Surgeon Henry Edward Raper has been cut off at the early age of 30. He died at the Royal Naval Hospital, Malta, of Mediterranean fever, on the 27th inst. He only qualified in 1897.

I regret to record the death of Edward D. Roberts, of Chester, L.R.C.P., & S., Edinburgh. He was found dead in bed yesterday at a Liverpool hotel, in which he had taken a room the previous night. His father, also a medical man, was mayor of Chester last year.

A CASE OF MENSTRUAL PRECOCITY.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: At the meeting of the Omaha-Douglas County Medical Society, on September 27, Dr. M. J. Ford of this city presented to the Society a child of two years and four months with the following unique history: The parents are 33 and 32 years old and entirely normal. The mother says that she was sick all the time of her pregnancy with the child. She noticed at the time of the birth of the child, in 1902, that the genitalia were swollen. Her physician told her that it was simple swelling and would soon pass away. The child cried practically all its waking hours till it was six months old. On that day it began to menstruate, upon which it ceased crying and fell into its first peaceful sleep. It has menstruated regularly every 28 days since, except for two periods, when a cold was present. Warm drinks soon started it again. Exposure of the child to the Society showed a pretty child of normal face, but of unduly large limbs, and hips as well. There was an abundance of hair upon the pubes. The genitalia were very large; the mammæ were well developed. The mother said that the flow lasted from three to four days and was of fair quantity. The parents are well known to Dr. Ford and consulted him by reason of a pin having lodged in the child's throat. There is no suspicion of fraud.

Omaha, Neb. R. M. STONE, M.D.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Oct. 13, 1904.

A Case of Malignant Endocarditis.—J. F. Alleyne Adams believes that although malignant endocarditis most commonly occurs as a secondary infection, as in acute rheumatism, pneumonia, or septicæmia, it is recognized as sometimes occurring as a primary disease. Such a case is described in this paper. At any rate, the writer has not been able to discover any antecedent septic condition. All of the lesions found were apparently secondary to the endocarditis, with the possible exception of a nephritis. But of this there had been no symptoms, for the urine two months before the illness, and also at the beginning of the attack, was normal. There was a small abscess in the left kidney, but this was probably metastatic. If these renal conditions are considered secondary, as they doubtless should be, the case ought to be called one of primary malignant endocarditis. The writer adds that perhaps it would be better to describe it as a case of septic endocarditis, in which the origin of the infection was not discovered.

Examination of Pleural Fluids with Reference to Their Etiology and Diagnostic Value.—Percy Musgrave thinks that as a result of the study of a series of cases, he is justified in concluding that routine and systematic examination of pleural fluids will aid greatly in diagnosis and in determining the etiology of pleurisy. He speaks of various methods, of which cytodiagnosis is the only one that can be easily employed clinically, for the reason that animal inoculation, inoscopy, and culture methods can be employed in the laboratory only. The writer believes that cytodiagnosis is sufficiently accurate, especially when taken in conjunction with the history and bedside examination, and the physical and chemical properties of the fluid itself, to justify its use as a routine procedure. In some cases it has been not only of more than probable diagnostic value, but has given positive and signal results. The writer concludes that routine examination of pleural fluids will permit of the study of pleurisy with effusion with reference to etiology and diagnosis, as well as establish a basis upon which accurate prognostic statistics can afterwards be based.

New York Medical Journal, Oct. 15, 1904.

When to Operate for Appendicitis.—The rules which should govern the decision of this question are, according to S. C. Stremmel, the following: (1) The safest and best time to operate for appendicitis is during the interval. (2) The very early operation in the great majority of cases is the same as the interval operation. (3) If all cases were operated upon early or during the interval, there would be practically no mortality, if the operations were done by experienced surgeons. (4) When cases are not seen until late, or refuse operation, the Ochsner treatment should be given. (5) If, however, the patient gradually or rapidly gets worse, operation should be urged and such operation advised as will give the patient the best chance for his life at the time. (6) It is a serious reflection on the doctor who is caught with a moribund patient on his hands without having advised early operation. (7) In view of the fact that the mortality of late cases is from 14 to 20 per cent., and that the mortality of interval cases is from $^1/_5$ to $^1/_{10}$ per cent., it is self-evident that the interval operation should be the operation of choice.

Diffuse Dilatation of the Œsophagus Due to Cardiospasm.—This question is discussed in a paper by J. Tyson, E. Martin, and J. S. Evans, Jr. They refer to previous articles on the subject, and report two cases coming under their personal observation. In each instance a diagnosis was made of diffuse dilatation of the œsophagus with a spastic contraction of the cardiac orifice of the stomach. One case was practically cured by treatment, and the other partially relieved. The general symptoms pointing to the condition are the running out of food from the mouth when the patient is in a horizontal position, a varying dysphagia, regurgitation of food last taken; the introduction of an œsophageal bougie into the stomach without much difficulty, the suddenness with which the tube enters the stomach when the resistance gives way, the negative Rumpel's double-tube test, the inability to vomit, the absence of the second sound heard in swallowing, and the ability of the patient to overcome the difficulty by mechanical means. Not all of these symptoms were present in the second case, in which certain symptoms suggested a diverticulum or sacculation of the œsophagus. The cause of the trouble is to be found in lack of inhibition of the nerve force, which normally allows the cardia to open on the approach of food, and this may be due to vagus degeneration or reflex influences from distant areas. Of the cases mentioned, one (man) had a floating kidney, and the other (woman) had her dysphagia come on coincident with the cessation of menstruation. The rational treatment is the repeated overstretching of the cardia, in order to destroy its tonicity. Prognosis as to complete restoration of function is bad, but the cases are long, and death usually comes from intercurrent disease.

Medical News, Oct. 15, 1904.

The Mechanism of Exophthalmos.—W. G. MacCallum and W. B. Cornell have attempted to determine experimentally the mechanism of exophthalmos in cases of exophthalmic goiter. In these observations they have confined themselves to the study of the phenomenon produced in animals by disturbance of the circulation or by the stimulation of the cervical sympathetic, realizing, however, that it has not been conclusively proved that exophthalmic goiter is the expression of the continual stimulation of the cervical sympathetic. They conclude that: Obstruction to the outflow of blood from the veins of the orbit produces at once exophthalmos, which is relieved by the establishment of a collateral circulation. This process, however, is completed so slowly that in the meantime the orbital tissues, as well as the tissue of the face, become very œdematous, thus adding to the exophthalmos. Entirely independent of any circulatory changes is the exophthalmos produced directly by the stimulation of the cervical sympathetic nerve. This protrusion is due to the peristaltic contraction of the orbital muscle. The writers declare that although no certain conclusions can be drawn from these experiments as to the mechanism of the exophthalmos in Graves' disease, the possibilities are perhaps more closely defined.

A Factor in the Causation of Emaciation in Tuberculosis of the Lungs.—Harold M. Hays, in a series of experiments, has studied the activities of the digestive glands of tuberculosis patients, comparing them with the activity of the digestive glands of normal persons, and with the glands of patients suffering with malignant disease. It seems feasible, the writer believes, to take the salivary digestion as an index of the activity of the other glands of the gastrointestinal canal, first, because the secretory centers of the whole digestive system are so closely associated, and secondly, because a pathological state of the saliva means a profound alteration of the digestive system, for it shows less change in impaired digestion than does the gastric or pancreatic secretion. The writer has proved definitely that the saliva of patients suffering from pulmonary tuberculosis is greatly impaired in digestive power. Although the presence of a specific toxin of tuberculosis has not yet been proved to exist, still the alteration in metabolism in this disease appears to be due to the effects of some toxic agent which is either the specific toxin of tuberculosis or else is the result of the febrile process. All of the tuberculous cases examined had some fever. There was no fever present in the healthy persons examined or in the patients with malignant tumors. The writer suggests the possibility, therefore, that the diminution in digestive power is due to the presence of this febrile process. If absorption and assimilation of food do take place under the increased feeding in tuberculosis, it is probable that the digestive system of the patient accustoms itself to the increased toil and secretes more fluid, but fluid of a poorer quality. The alkalinity is greater than in the normal cases, but digestion is better when the saliva approaches the neutral point. In the patients suffering with malignant disease, the digestion was found to be better than normal, and none of these cases was an ulcerative one. As digestion is impaired in these tuberculous patients, it is comparatively simple to explain the loss of flesh and strength. As digestion is not so good, assimilation of food is more difficult. The metabolism of the body is altered and the organism has to draw on its own supply of fats, carbohydrates, and proteids. In the more chronic cases, the organism has become accustomed to the altered condition, and so the digestion is better than in the early cases.

American Medicine, Oct. 15, 1904.

Dust Disease.—Robert Kingman gives a very interesting note in regard to this affection. Some years ago he began to keep a medical scrapbook. The book which he used for this purpose was an old ledger that had been stored for various periods in several dusty attics and cellars. The writer handled the book only now and then, when he had the leisure to paste in the scraps. The intervening intervals might be several months, or even sometimes years. After such work he invariably experienced a train of symptoms, as described in Hessler's recent article on this subject. The dusty, musty odor of the book caused an immediate irritation of the nares and a bitter taste in the posterior pharyngeal wall. About 18 hours later began a subacute rhinitis, with furred tongue and a biting irritation of the nasopharynx; at the same time there were anorexia, fleeting nausea, flushing of the face, and an elevation of temperature of 1° or 2°, but with the sensation of considerable fever. General muscular soreness and marked depression also developed. These symptoms were at their height in the course of from two to four days, and then gradually subsided within the six or eight days following. After several attacks of this kind had been noticed, the writer learned to

anticipate one after the handling of the book, and he never was disappointed. Finally, he exposed the book to the sunlight for some time, after thoroughly beating it out and wiping the covers, binding, etc., with a mercuric bichloride solution, since which time it has been handled with impunity and without a single succeeding attack.

The Iodine Treatment of Suppuration.—Winfield S. Pugh calls attention to the excellent results obtained by the use of iodine in the treatment of suppuration. He reviews several classes of cases in which he has had gratifying success in the use of iodine. Scalp wounds, when first seen, are apt to be very dirty. The writer first cleanses the wound by means of a physiological saline solution, then thoroughly dries it. It is then swabbed with pure iodine, and the entire wound closed. In most of his cases he has succeeded in obtaining union by first intention. In cases of ulcer of the leg, at least 100 patients have been treated by the writer, by the iodine method. Many of these ulcers were exceedingly foul, being at times filled with pus and vermin, and in all cases one application was, as a rule, sufficient to rid the area of pus. Iodine acts not only as a germicide, but also as a deodorant. It also stimulates the formation of granulations considerably. Many large ulcers have been healed by this method, combined with rest in bed. In cases of inguinal adenitis, the area is opened up thoroughly, swabbed clean by means of dry sponges, and the iodine carefully applied to every part of the wound. In many of the writer's cases, union by first intention took place with but one application. Iodine exerts a most favorable influence upon vaginal discharges, particularly those produced by the gonococci of Neisser. In many cases the discharge ceases after a few swabbings of the cervix. Iodine has been applied to the uterine mucosa in the early stages of puerperal sepsis with excellent results. In the treatment of surgical tuberculosis, iodine is one of the very few remedies of value. The writer strongly advises its trial in all cases of suppuration.

The Molecular Concentration of the Blood and of the Urine, in Pregnancy, in the Puerperium, and in Eclampsia.—Ralph Waldo Lobenstine gives the following summary of his examinations: There is a marked diminution in the molecular concentration of the blood in pregnancy, the average freezing-point being 51° C. There is likewise a diminution in the concentration of the blood in the puerperium, the average freezing-point being 53°, but a rise over that of pregnancy. In eclampsia, the molecular concentration of the blood is not increased, the average freezing-point being 55°, the freezing-point of normal blood being 55° to 57° C. The urine shows no marked change in its freezing-point, either in pregnancy, the puerperium, or in eclampsia. The writer concludes that from cryoscopic findings there is no evidence of renal inactivity, nor of renal retention in eclampsia, *i.e.*, retention of the urinary products ordinarily supposed to be the cause of the disease, the products in question being crystalloidal in type. If there is renal retention, it must be a retention of either colloidal substances, which may come from either fœtus or mother, or of crystalline substances, too small in amount to affect the molecular concentration of the blood. Inasmuch, then, as the kidneys may be, negatively at least, ruled out as the primary etiological factor in eclampsia, and as a free interchange may take place between the fœtal and maternal blood, it would seem, both from clinical facts and experimental research, that eclampsia is an intoxication in which both mother and fœtus have a share, the pathological findings in both being due to the formation of multiple thrombi, with subsequent necroses. As yet it is not known what these substances are that give rise to the intoxication, nor what part the syncytium plays in their formation.

Journal of the American Medical Association, Oct. 15, 1904.

Spontaneous Tonsillar Hemorrhage.—L. S. Somers reports the case of a woman of seventy-five years, who, two days after the spontaneous opening of a peritonsillar abscess, had a severe bleeding from the tonsillar area. Pressure was made on the carotid artery of the same side. Pressure with two fingers of the unengaged hand was made over the tonsil, compressing the pillars, and a saturated tannic acid solution was poured into the mouth. Strychnine and ergot were given internally, and in about half an hour the bleeding ceased. Examination next day led to the belief that the main portion of the blood had come from the artery of the anterior faucial pillar, which had been eroded by the suppurative process.

The Relation of Cholelithiasis to Disease of the Pancreas.—E. L. Opie reports the case of a man of thirty-seven years suffering from lithiasis, accompanied by acute pancreatitis of the gangrenous type. Symptoms began seven months before admission to hospital, with pain in the epigastrium, accompanied by vomiting, which lasted two days. The pain disappeared and the patient was well for four months. A second attack began two weeks before admission, with epigastric pain, vomiting, and constipation; chills occurred. Exploratory laparotomy was followed by death four days later. Perforations were found in the transverse colon, posterior stomach wall and the duodenum, the latter perforations communicating with an abscess in the pancreas. Nine stones were found in the gall-bladder. In a second case, that of a man aged forty-seven years, symptoms began with sudden pain in the upper abdomen. A few hours later evidences of collapse set in, on the third day the temperature rose to 104° and death ensued. At autopsy, the pancreas was found much enlarged, and, save for scattered patches of relatively normal tissue, had a nearly uniform reddish-black color. The omentum was studded with foci of fat necrosis. The gall-bladder contained a single large calculus, about 2 centimeters in diameter. Opie lays down the general law that whenever a stone passes into the duodenum through the diverticulum of Vater, the pancreas is liable to injury in proportion to the size and character of the stone and the duration of its impaction.

A Simple Method of Cystoscopy.—The instrument described by M. C. Millet of Rochester is essentially an air-dilating cystoscope, in which water is used as the dilating agent. By attaching a fountain syringe filled with sterile saline solution to an instrument of this character one secures the advantages of water inflation, together with the possibility of quickly evacuating the fluid in case it becomes clouded, and replacing it with clear. The only interruption to the inspection is the few seconds required to empty the bladder. As soon as the clear fluid is again allowed to flow in, the examination can be resumed, the inflowing fluid transmitting the light as readily as if it were stationary. The stream is entirely under control; by means of the stopcock with which all air instruments are supplied, it is stopped or started; by raising or lowering the irrigator, its force is increased or decreased. Under the guidance of the eye the stream can be directed toward the suspected areas; blood clots and clinging mucus or pus may be dislodged, and the margins of ulcers thus clearly exposed. Tumors which appear as flat elevations on the bladder walls may be demonstrated to be villous by directing the stream against them or around their edges. Cloudy urine discharging from a ureter may obscure the field in that part of the bladder, but a single jet of clear fluid will clear that neighborhood, and the ureteral opening may be located before the next discharge of urine occurs.

Lithæmic Nasopharyngitis Due to Systemic Disturbance.—According to J. A. Stucky, many cases of nasopharyngitis are due to lithæmic conditions, and he considers the presence of indican, with uric acid excess in the urine, as an index of the condition. Treatment should therefore be directed to the constitutional state. Special attention should be given to clearing out the gastroenteric tract, and the author has found colon flushing with water and oil to be of special service. If there is much muscular tenderness or general malaise, strontium salicylate is given in ten-grain doses every two hours. Much meat, sweets, and salads must be avoided, alcohol given up, water taken freely between meals, the skin kept active, and exercise insisted on.

Experimentally Produced Genuine Epithelial Metaplasia in the Stomach.—G. Fütterer discusses the results of his experiments on rabbits, and as well the relations of epithelial metaplasia to carcinoma, as demonstrated by cases reported in literature. A lesion was produced in the stomach wall and the animals killed at varying periods thereafter. Five animals out of twenty-five survived the operation sufficiently long to allow of examination of the metaplastic formations; the other twenty survived more than one week, but sixty-nine other animals died within one week of operation. Concerning these five cases, the author makes the following statements: (1) All cases represented genuine epithelial metaplasias, as an ingrowth, an implantation, and a development from a germinal deposit could be excluded. There was no fistula in any of the cases. (2) In all the cases the metaplasia was at once followed by a down-growth. (3) This down-growth occurred under considerable growth pressure, as shown by the invagination of the muscularis mucosæ through the greater part of the hyperthrophic muscularis propria, and the invagination of the rest of that layer for quite a distance outside of the organ. (4) The metaplasia was followed by what we may call a practically unlimited proliferation of the squamous cells. (5) Such a down-growth and such an unlimited proliferation of cells are two principal characteristics of carcinoma. (6) We can here use the term metaplasia only for the metamorprosis of the columnar to the squamous cells, for there was no more metaplasia going on in the pegs, the products of metaplasia. (7) The epithelial cells nowhere broke through the muscularis mucosa, and the most characteristic peculiarity of carcinoma, the ingrowth into connective tissue, was absent. (8) What would have become of the strands, filled to the very end with squamous epithelial cells, if the animals had lived longer, cannot be said, and only further experiments can show it. (9) These are the first

cases of epithelial metaplasia, produced by experiment, on record, if we except a metaplasia in the bladder, which Lubarsch mentions, without describing it. It is to be remembered that structures considered to be characteristic of the ectoderm have been produced from ectodermal tissues, a fact which would make it impossible to uphold a sharp division of the germinal layers.

The Lancet, October 8, 1904.

Exclusion of the Intestine.—By this term B. G. A. Moynehan refers to the rendering inactive any part of the intestinal canal by surgical means. When entero-anastomosis is performed the length of intestine which lies between the two openings is "excluded." When the intestine is cut across, the distal end closed and the proximal end united to the side of the distal, the part of the gut which lies between the two points dealt with is "excluded." When, finally, the intestine is divided at two points and the proximal end of the upper and distal end of the lower are closed, left open, or united, the intervening portion is "excluded." The following varieties are recognized: (1) Entero-anastomosis; (2) the same with constriction by suture of the part distal to the upper opening; (3) unilateral exclusion in which the bowel is completely divided and the proximal end is implanted into the side of the distal, and (4) bilateral exclusion in which the bowel is divided in two places and the intestinal channel is restored, a segment of the bowel being left detached. Of this segment one end may be left open and stitched to the skin or both ends may be closed when a fistula exists in the bowel lying between them. The methods are described in full, illustrations being added. The general indications for these operations are as follows: chronic inflammatory disease; probably tuberculous, involving the bowel and leading to external fistulæ; in cases of inoperable carcinoma of any part of the large intestine, especially of the cæcum and ascending colon; and in rebellious cases of muco-membranous colitis. It will be recognized that unilateral exclusion, save in cases of disease affecting the lower end of the ileum, offers no advantages over lateral anastomosis, and that bilateral exclusion affords the best means of dealing with certain diseases, chiefly tuberculous and malignant, in the cæcum and colon, and with fistulæ between the small intestine and the bladder or vagina.

A Case of Pneumococcic Pyæmia with Recovery.—A. T. Davies and W. L. Brown report the case of a girl of eight years with pneumonia in whom there supervened: empyema, peritonitis, arthritis, and vulvitis. A rib was resected, the abdomen opened, and also the right knee joint. Pus from these two latter cavities contained diplococci of similar character to those found in the pus from the chest. The vulvitis came on only after the abdomen and it is assumed that some of the abdominal pus must have accidentally run down into the vulva. This latter complication yielded to simple antiseptic lotions. The child made a good recovery except for ankylosis of the knee joint. The authors give a statistical table of cases of multiple pneumococcus infection and analyze the statistics of the various metastases presented by the case.

A Case of Quadruplets.—A. C. Gowdey's patient was a woman of thirty-six years, a VI-para. None of her previous pregnancies were multiple. In two of them there had been seven hemorrhages. The first child was a female, weighed one pound and thirteen ounces and lived thirteen hours. Within twenty minutes after its expulsion two male and one other female children were still-born. The first presentation was transverse in the dorso-anterior position with hand prolapsed. It could not be replaced and forceps were applied to the breech. Of the three later presentations one was a breech, one transverse with hand prolapsed and the last a vertex. All were about the size of the first. Twenty minutes later the placentæ were delivered, the last one manually. Two were quite separate; the remaining two had their margins united, each having a separate chorion. The patient aborted after a pregnancy of five and a half months. There were no complications, and recovery occurred in a normal manner. The author quotes Fothergill as stating that quadruplets occur once in 387,000 deliveries.

British Medical Journal, October 8, 1904.

The Huxley Lecture on the Function of the Cæcum and Appendix.—Sir William Macewen states that the digestion in carnivorous birds and animals takes place principally in the stomach and small intestine, the cæca being rudimentary or absent; while in the herbivora the cæcum is enormously developed, and in the solipeds the cæcum is the chief digestive organ, the stomach occupying a secondary place. Man, if not an omnivorous animal, is at least a carnivorous and herbivorous one; therefore, by analogy, one would expect man to possess not only a stomach and small intestine, but also a cæcum—just as he has. As the vegetable food which he consumes is generally of the more tender and nutritive varieties, the cæcum is of moderate size only. The writer then cites cases which illustrate the fact that the arrest of the function of the cæcum results in disturbed digestion manifested in diarrhœa and in lowering of the strength, though these results may be modified by special diet. Certain movements have been noted in the cæcum, some of which originate in the appendix, the undulation running upward from the appendix, and causing the contraction of the cæcum. The writer believes that at the ileo cæcal valve there is a controlling reflex agency regulating the flow of partly digested food into the cæcum. It regulates the flow of material at a rate which enables the cæcum and its juices to deal with it. When this agency is interfered with, cæcal indigestion occurs, generally ending in diarrhœa of partly digested matter, but it occasionally leads to the massing of matter in the cæcum which causes constipation, with subsequent fermentive action of a kind which is apt to result in irritation of the mucous membrane and appendix. The exudation of the appendix and cæcum is augmented and diminished under certain circumstances. In the first part of the large intestine, and especially in the cæcum and appendix, the lymphatic follicles and the glands of Lieberkühn are very numerous and well developed. The succus entericus from the surface of the cæcum and appendix is a powerful aid to diges ion. Another element in the final disintegration of pabulum poured into the cæcum, is the micro-organisms. There is in the cæcum and appendix abundance of alkaline medium in which they can grow, and pabulum in the chyme for their development. They undoubtedly perform a part in disintegrating compounds which have resisted the action of the gastric and intestinal exudations. As to appendicitis, the disturbances of digestion are pre-eminent in its etiology. If stasis occurs in the contents of the cæcum, constipation which is so often a feature of appendicitis ensues. Later, fermentation of the fæcal contents with absorption of toxins and damage to the wall of the parts is apt to follow. Doubtless the appendix and cæcum are affected together. The writer shows how the standing lunch eaten against time while the mind is preoccupied is one of the surest ways of causing indigestion, and of finally causing cæcal and appendicular mischief.

On a Disseminated Form of Croupous Pneumonia in Children, or Primary Bronchopneumonia.—Samuel West declares that acute pneumococcal inflammation in the child often occurs in a disseminated form. The massive consolidation is the type seen in the adult; it often comes on without previous illness and is called idiopathic or primary. The patchy or disseminated form is the type in the child. It usually follows bronchitis, and is called secondary consecutive pneumonia, or more commonly bronchopneumonia. But a considerable number of the cases of bronchopneumonia occur without antecedent bronchitis. Post mortem shows, however, not massive consolidation but disseminated patches. There are, then, 2 types of bronchopneumonia in children. In the one the disease is of gradual onset, and preceded by some affection of the air tubes. The temperature is hectic in character, the course prolonged and interrupted by frequent relapses. The termination is by lysis. The mortality is high. In the other form the affection is of sudden onset and short duration, without any tendency to relapse. There is no antecedent bronchitis. The temperature is persistently high. The termination is by crisis, and the mortality is low. These two forms, the writer says, may be called primary and secondary bronchopneumonia, respectively. The secondary stands in close relation with bronchitis, the primary with lobar pneumonia. As to the bacteriology, Holt cites 19 primary cases, and the pneumococcus was present in all but 2; in 8 alone, and in 9 others in association with other bacteria. In 14 secondary cases, the pneumococcus was found alone in 2 only, and associated with other bacteria in 9. Pneumococcal inflammation is almost as common in the child as in the adult.

Functional Albuminuria.—Henry George Armstrong gives the following clinical picture of this condition: A boy or young man, the son of neurotic parents or parent, himself probably neurotic, gradually becomes slack and apathetic, his heart subject to intermittent attacks of dilatation and violent impulse, pulse frequent and varying in rapidity and tension, albumen in the urine during the day when in the upright position, but absent when in the recumbent position, urine of good specific gravity and without tube casts. The tonicity of the nervous system is upset. The inhibitory influence of the vasomotor system is interfered with, and the heart and arteries easily dilate. The arterioles of the Malpighian bodies are stretched and thinned and permit the percolation through them of a certain amount of serum. The most important point in the treatment is to persuade the boy and his parents that he has nothing serious the matter with him. Good air, good food, and good healthy exercise are the important factors. The prognosis is favorable.

Berliner klinische Wochenschrift, Sept. 26, 1904.

Does an Increase in the Molecular Concentration of the Blood Always Indicate Disease of Both Kidneys?—Loeb and Adrian report a case of carcinoma of the left kidney, in which the right kidney was practically normal, although the freezing point of the blood had been —.635° C. They ascribe the molecular concentration of the blood, in spite of the efficiency of the right kidney, as being caused by the suddenness with which the extra work was thrown upon it through the rapid growth of the tumor. They therefore conclude that unilateral kidney disease (excluding other causes and excessive size of the affected kidney) can exist together with increased molecular concentration of the blood, and that it is not justifiable in cases in which a lesion of one kidney can be proved, to conclude that the other organ is also diseased because the molecular concentration of the blood is raised.

Thermopalpatory Observations on the Temperature of the External Auditory Meatus.—Sommer says that the first author to report systematic temperature observations on the external ear was Winternitz. His figures showed that there was a regular afternoon rise in its temperature, which at night falls again. The author's own observations were made, not with the sluggishly acting mercurial thermometer, but with the new and very sensitive thermopalpatory apparatus of Herz. This shows only relative values, but is exceedingly delicate, and by its means the author was able to determine that the curve described by Winternitz does not regularly exist, but that there is a constant difference between the temperatures of the two ears, the left being invariably warmer. This fact is of interest in connection with the well-known greater activity of the left half of the brain, and speaks for a more energetic circulation of this side. The author believes that an extension of these observations will be found of use in the localization of introcranial lesions.

Münchener medizinische Wochenschrift, Sept. 27, 1904.

A Contribution to the Study of Acute Leukæmia.—Pfannkuch describes a case of this disease in which the blood picture was somewhat unusual. The patient, a man of twenty-three, died after an illness of acute onset lasting less than three weeks and characterized by vomiting, diarrhœa, cough, palpitation, general œdema, prostration, apathy, jaundice, dyspnœa, and albuminuria. The spleen was greatly enlarged, the liver less so, there was moderate swelling of the superficial lymph glands. On autopsy a general glandular enlargement was found, together with petechial hemorrhages in various organs. Microscopical examination showed a diffuse infiltration of many of the internal organs with lymphocytes, which were present in such numbers as to obscure the ordinary appearance of the tissue. The red cells numbered two and a half million, and the leucocytes one million. Smears showed a large preponderance of large lymphocytes (76.5 per cent), neutrophile myelocytes (10.6 per cent.), and polynuclear neutrophiles (12.2 per cent). There were no small lymphocytes nor eosinophiles. Many degenerated forms of lymphocytes were present, showing swollen or broken-up nuclei, and in some cases even not exhibiting any structure whatever. The case is very remarkable in presenting the lesions of an acute lymphatic anæmia (increase in the lymphocytes), together with those of a chronic myelogenous form (presence of large number of myelocytes), and the author considers it as possibly representing a primary mixed leukæmia.

Subjective Kakosmia.—Killian says that the condition of perceiving bad odors which do not exist in the surrounding air deserves the name kakosmia only so long as the course of the condition remains unexplained. Newer methods of rhinological examination have cleared up many of the formerly mysterious cases, and by detecting unsuspected suppurations, etc., about the nasal antrum, and sinuses, have restricted the field of purely subjective kakosmia chiefly to instances in which nervous lesions exist. The author reports two cases of patients complaining of the constant sense of a fetid smell, although no odor was noticeable to the breath exhaled through either the nose or mouth. Examination of nose, nasopharynx and mouth was entirely negative, but finally it was discovered that in each case the fossa of Rosenmüller on one side was the seat of the deformity known as Pertik's diverticulum. In the one case, this pocket was 2 cm. deep, and in both patients it contained a quantity of fetid necrotic material of the same sort as that composing the plugs occurring in the tonsillar crypts. Wiping out the diverticulum thoroughly with a cotton-tipped probe was sufficient to cure the disease.

Bronchoscopy.—Newmayer warmly commends Killian's method of bronchoscopy, which he has applied with success in ten cases. He makes the examination with the patient in the recumbent position, as this is not only more comfortable for the patient, but is also in many respects more agreeable for the operator. The head is allowed to hang over the end of the table and is supported and moved by an assistant in conformity with the operator's directions. The author first makes the attempt to introduce the instrument under cocaine anæsthesia, and resorts to a general anæsthetic only in cases where the local anæsthesia is found insufficient. If the procedure fails through difficulty in introducing the instrument through the larynx, lower bronchoscopy, performed through a tracheotomy wound, must be done. In none of the author's cases has the procedure given rise to any undesirable after-effects, though superficial abrasions of the mucus membrane do occur. His list of patients comprises three infants, of nine months, thirteen months, and two years, respectively, but the examination could be carried out without any especial difficulties. The author believes the method to be a most useful one for the removal of foreign bodies from the air passages, as it surpasses the ordinary means of physical examination and also skiagraphy in reliability, and at the same time affords the means of carrying out the removal of the object.

Deutsche medizinische Wochenschrift, Sept. 29, 1904.

Direct Bronchoscopy for the Extraction of Swelling Foreign Bodies.—Nehrkorn reports three cases in which beans were aspirated by children at play and became lodged in the air passages. In one immediate tracheotomy was necessary as soon as the child was seen, owing to the asphyxia caused by the increase in size of the foreign body; in the other two, bronchoscopy through the larynx was done, and the object removed by this means, though the patient had to be kept under general anæsthesia three hours in each instance before all particles could be gotten out. The author says that in such cases, after the initial irritation caused by the presence of the foreign body has subsided, a period of quiet without symptoms usually supervenes and lulls the observers into a sense of false security, which is followed twelve to fourteen hours after the entrance of the foreign substance, according to the rapidity with which it swells, by renewed asphytic symptoms,which steadily increase as the obstruction becomes greater and greater. Owing to the length of time required for the removal through the long and narrow tubes necessary for upper bronchoscopy in small children, the author counsels the immediate resort to tracheotomy and the use of the bronchoscope through the wound. Bronchoscopy should be carried out even in cases in which there is only suspicion of the presence of such foreign bodies as beans, etc., as they are sure to give rise to serious trouble and are rarely expelled spontaneously.

Suturing and Suture Material.—Mikulicz discusses the question of the purely technical aspects of surgery which have been allowed to fall somewhat into neglect in the last few years, during which the horizon of the surgeon has broadened in so many other directions, such as pathology, bacteriology, physiology, etc. One of the most important features in a good technique consists in the art of suturing properly, and this, of course, involves the proper choice of suture material. Silk and vegetable fibers are the most prone to give rise to infection in regions where the entire absence of germs from the wound cannot be guaranteed; wire of various metals is strong, antiseptic and lasting, and silk-worm gut also has these properties, but these materials are not always suitable for buried sutures. Catgut and other animal material, such as reindeer sinew, by careful preparation can be made perfectly aseptic, and in many ways they are an ideal suture material, but their rapid absorbability unfits them for many uses. Under the author's direction, tanned catgut has been prepared by winding the threads on glass plates and immersing these for twenty-four hours in a 5 per cent. aqueous infusion of quebracho bark and then sterilizing them by Hofmeister's method. Treated in this way, the material gains somewhat in tensile strength, and its absorption is delayed so that it remains in the tissues unchanged for at least four weeks, and is not wholly absorbed until from eighty to ninety days. The author has used this material in a number of cases for abdominal suture, particularly after gastric and intestinal operations, and has found it very satisfactory, though it is too early to express a final opinion on its merits.

Observations on the Effect of Radium on Embryonal and Regenerative Development.—Schaper exposed the ova and embryos of frogs and other animals to the rays and emanations of radium. It was found that the effect of this agent was to inhibit cell division as well as embryonal differentiation and growth, and that regenerative processes were similarly affected. These effects became manifest after a latent period varying in duration according to the intensity of the rays and the degree of development of the animal.

French and Italian Journals.

The Development of Hysteria in Childhood.—Benjamin Weill declares that hysteria in childhood is not rare, but it increases in frequency with the approach to puberty. The most generally admitted predisposing cause is "hereditary taint." In most cases there are disturbances of nutrition.

These disturbances are not characteristic of hysteria alone, but are also observed in other neuroses. There is noted, for example, an increase in uric acid and of the xanthin compounds, and of urobilin, on examination of the urine. In the cases of hereditary hysteria of childhood, there are two elements, the somatic—non-specific—showing itself in a general or localized excitability, and the psychical element, characteristic of hysteria. The same manifestations, provoked first by causes purely somatic, may be prolonged or recalled by a psychical cause. In the absence of heredity as a factor, hysteria can appear as an isolated phenomenon, generally of epidemic origin, and in a condition of weak resistance, such as the age of puberty. In these rare cases, an intense emotion may provoke this condition. This condition is the more serious, as the age at which it appears is more advanced, and thus the mental state of the patient is more complex and more coördinated. Early symptomatic treatment in this condition is necessary, as well as attention to external and alimentary hygiene, and to psychical conditions.—*Revue Française de Médecine et de Chirurgie,* September 12, 1904.

Abscess of the Liver in Typhoid Fever.—A. Guinard calls attention to the rare occurrence of large liver abscesses in the course of typhoid fever. He gives the history of a patient who developed typhoid after eating oysters. The patient was forty-three years old, and had always been in the best of health. On October 21, 1902, he took to his bed with typhoid fever. Hemorrhages appeared within a week. About the middle of November abdominal and precordial pain developed, with nausea and vimiting. On the first of December, the liver was noticed to be increased in size. Three weeks later the patient had cold sweats and the face expressed great pain. On the eighty-first day of the illness, an exploratory puncture was made. Pus was found. On the next day laparotomy was performed. With the thermo-cautery about 2 cm. of thickness of the hepatic tissue was incised, and thick pus flowed out of the wound in abundance. On the days following, the found did well, but on the seventh day, the patient began to fail rapidly and death supervened. The pus from the abscess revealed the presence of the typhoid bacillus. The writer believes that if intervention takes place before the liver is profoundly involved, that there will be a chance for the patient.—*Revue Française de Médecine et de Chirurgie,* September 12, 1904.

Syphilis of the Circulatory System.—Pétrini de Galatz believes that syphilis of the circulatory system is far more common than is generally thought. Many cases of cardiopathy, of aortitis, of hemiplegia, considered by the physician to be of rheumatic nature, ought to be treated with syphilitic remedies. In these cases syphilis ought always to be thought of. It is among syphilitic cases who have not been properly treated that these circulatory affections are encountered; mercurial inunctions have not been persevered in. The writer declares that injections of mercury will cause these cases to be more rare in the future. Intravenous injections of sublimate in severe cases of syphilis are preferable, especially when vascular alterations are determined. The writer then refers to his personal experience in the treatment of such cases.—*La Presse Médicale,* September 21, 1904.

The Way by which the Virus of Rabies Reaches the Salivary Glands of the Dog.—Bertarelli believes that the virus of rabies must reach the salivary glands by either the blood, the lymphatics, or the nerves, and the last method he considers to be the most probable. He has shown that if the nervous path is interrupted the submaxillary gland never is virulent; if the blood vessels are interrupted and the nerve paths are not, the glands are always virulent. Hence the virus must come through the nerves. At the same time, the injection of the virus into the salivary glands does not give rabies to the dog, and that from a salivary gland of a rabid dog injected into the gland of a healthy dog does not make him rabid. He suggests that in some animals the salivary secretion counteracts the virus.—*Rivista Critica di Clinica Medica,* September 3, 1904.

Contribution to the Study of Chyluria.—Umberto Gabbi writes of non-parasitic chyluria: The symptoms are milky urine, albuminous and capable of coagulation, through containing the materials of fibrin, with a sediment containing leucocytes and fat. The fat is not the result of fatty degeneration. It does not come from a lymphatic cyst. The patient whose case he describes had had several attacks of abdominal and lumbar pain, with swelling of the abdomen and presence of milky urine, which formed coagula after it was passed. The urine contained fat, white blood corpuscles, albumin, albumose and peptone. The fat was present in fine emulsion and in considerable quantity; the urine coagulated both within the bladder and after emission. Cystoscopy showed the mucous membrane of the bladder and ureters to be normal. The right kidney was enlarged and tender, and the anthor believes that the chyluria was of renal origin.—*Il Policlinico,* September, 1904.

Glycogen in the Treatment of Hyperacidity of the Stomach, and Dyspepsia.—Léon Meunier, in his investigations along these lines, has observed that the digestion of amylaceous foods—their transformation into dextrose, is very imperfect in patients afflicted with hyperacidity of the stomach. Meunier has also been struck with the fact that the emaciation in these patients seems to increase proportionally as the amount of sugar in the gastric juice decreases, and he has tried to combat this emaciation by the employment of some form of sugar to be given in the food. After numerous experiments, he has concluded that glycogen, of all the substances that he has employed for this purpose, gives the best results. He cites various cases in which the emaciation continued, in spite of the fact that the patient was taking 4 liters of milk a day, the amount of lactose in this quantity of milk being about 150 grammes. But these same patients, after having the identical diet, except the glycogen, which was added, have begun to increase in weight. About thirty patients have been treated by this method, and the increase in weight has been observed in each case. These results have been tested by other physicians. Glycogen, besides having a favorable influence upon nutrition, also acts as an antiferment in these cases, and is especially valuable in cases of hyperacidity with stasis. It also seems to have a direct action upon the secretion of pepsin.—*Revue Française de Médecine et de Chirurgie,* September 26, 1904.

Artificial Dilatation of the Cervix in Obstetrics.—Réne Koenig reviews very briefly several cases of eclampsia in which dilatation was employed. In one case only was the dilatation complete, for he feared the results of this maneuver. The writer emphasizes the danger of this proceeding, and declares that it is in such cases that multiple lacerations occur. He concludes by saying that it is premature to formulate a definite opinion concerning a method for which the operative indications are not yet clearly established. Nevertheless, in respect to very rapid dilatation, he believes that the modified dilator of Bossi has a place in the outfit of an obstetrical clinic, or in that of a specialist in obstetrics; but he does not believe that it ought to be found among the instruments of a general practitioner. When the cervix is effaced and slightly resistant, the Champetier bag may be used, or the method of unilateral dilatation. If the cervix is still of almost normal length, anterior vaginal hysterotomy will be preferable. The writer believes that rapid dilatation should be employed only when the life of the mother of the child is in immediate danger.—*Revue Médicale de la Suisse Romande,* September 20, 1904.

Contribution to the Study of Suppurative Monoarthritis of Puerperal Origin.—N. Pasturel calls attention to the fact that, as a rule, streptococcic septicæmia is the cause of suppurative arthritis which develops during the puerperium. The uterus is the point of departure, and the joint troubles are caused by metastases. But besides this class of cases, in which septicæmia gives rise to multiple suppurative foci in the joints and in the various organs, suppurative monoarthritis may develop as a local affection. The etiological and pathological conditions in these cases are the same as those of puerperal infection in general. Suppurative monoarthritis can be compared with suppurative pleurisy of puerperal origin. The knee, especially, is most often affected. The symptoms, course, and prognosis, vary according to the case. Death may take place from septicæmia, or from complications to which the articular focus has given rise. If recovery takes place, ankylosis should be guarded against. Aside from the general therapeutic indications of puerperal infection, arthrotomy, practised at an early period is justifiable in cases of suppurative monoarthritis. Recovery is common when the infection is localized. A satisfactory restoration of the movements of the joint may also be hoped for.—*Gazette des Hôpitaux Civils et Militaires,* September 24, 1904.

Contribution to the Pathological Histology of the Gasserian Ganglion.—Rocco Caminiti has examined a considerable number of cases of trigeminal neuralgia and other nerve lesions, with reference to the changes in the Gasserian ganglion and other parts of the nervous system. The patients were all over thirty-five years of age. He noted great variety in the form and size of the cells; difference in the depth of staining; partial destruction of the cell body and chromatic substance; changes of the body into tiny granules; thickening of the chromatic substance in some cells around the nucleus and at the periphery; displacement of the nuclei from the center of the cells; a large amount of yellow pigment; some empty cell capsules. The author concludes that the many changes in the Gasserian ganglion are in no way characteristic of trigeminal neuralgia. Many of them are found in senile cases in normal subjects, as well as in other nervous diseases. At the same time the neuralgia seems to result from a sclerosis of the ganglion.—*Giornale della Associazione Neapolitana di Medici e Naturalisti,* March-April, 1904.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Twenty-first Annual Meeting Held in New York City, October 17-20, 1904.

WILLIAM H. THORNTON, M.D., OF BUFFALO, PRESIDENT, IN THE CHAIR.

MONDAY, OCTOBER 17—FIRST DAY.

Meeting of Council and Fellows.—The meeting of the governing body of this association convened in the New York Academy of Medicine at 1:45 P. M.

President's Address.—Dr. THORNTON of Buffalo made the request that the standing committee be more active and energetic in assisting the Chairman, and also that the officers of the various county associations be more careful in seeing that the annual dues were collected. The financial condition of the Association was better than it had been for a number of years past. When considering the various questions that would be presented at this meeting, he asked that the gentlemen would bear in mind the honor of the Association and the good of the entire profession of the state. He asked the influence and aid of the publishing committee. He pleaded that each member would do all in his power to increase the membership and to make all reasonable effort to promote and preserve harmony in the Association.

Treasurer's Report.—The total expenditure during the past year had been $11,717.20, of which $744.05 had been for legal expenses. The balance on hand showed $4,073.16, a most encouraging report.

Committee on Legislation.—Dr. E. ELIOT HARRIS said that there had been four important bills that had occupied the attention of this committee, three in this State and one in Washington, D. C.

Report of Committee on Conference.—Dr. E. ELIOT HARRIS, Chairman of this committee, briefly outlined the history of the attempt at amalgamation of the New York State Medical Association and the Medical Society of the State of New York, and said that they started out with the idea of mandatory legislation, and an impartial lawyer had been employed, who told them that this was out of the question, but that a permissive act might be obtained. Several conferences followed with the idea of union in view. What the State Association stood for mainly was always clean medical literature, clean advertising, and reliable data regarding physicians. The question of sentiment they were willing to waive in order that they might obtain the principles the Association had worked out and fought for. The agreement was ratified at a special meeting. The plan of union was defeated because the lawyers called attention to the fact that it would be an illegal meeting, unless each member received a personal notice, as required under the present by-laws. The present by-laws did not provide for giving notice of any meeting at which action might be taken interfering with the members' rights; therefore, in issuing a call for such meeting a personal notice must be served on each member. Of course, such a thing was out of the question. Therefore, the attorney started to draw up a modification of the by-laws so that a legal meeting might be held. No consolidation of the two societies could take place until that was done.

After strong opposition on the part of some members, and heated argument in favor of it by others, it was moved, seconded and passed that the whole matter be left on the table for another year.

Officers Elected.—*President*, Dr. J. Riddle Goffe of New York; *Vice-President*, Allen Arthur Jones of Buffalo; *Treasurer*, Dr. F. A. Baldwin of New York City; *Secretary*, Dr. Charles I. Redfield of Middletown.

SECOND DAY—TUESDAY, OCTOBER 18.

Conservatism Versus Early Intervention in Simple Dystocia.—Dr. WILLIAM J. MEYER of White Plains read this paper. He confined his remarks to observations of such cases as were frequently encountered, cases of dystocia which resulted from inadequate expellent forces. There were two primary conditions to be considered, those in which the expellent forces were deficient, and those where the resistance offered was abnormal and, therefore, pathological. The first class was due to uterine inertia. He believed that we were all too eager to avail ourselves of the conservative treatment of such cases, and that now was the time for some one to champion early interference. Many permitted themselves to overlook the significance of a late labor. Uterine inertia, as well as cervical rigidity, may exist for days, and these conditions were allowed to exist because physicians refrained from the use of forceps. He condemned the indiscriminate use of forceps, but he did not believe that we were justified in condemning their use because of the ignorance of a few. In his experience, the careful application of forceps was not followed necessarily by perineal lacerations. He did not know of any physiological reason why one should not interfere with the obstetrical forceps in such cases. What he claimed for the practical application for the forceps was based upon an experience with 186 cases of simple dystocia, which occurred in his practice during the last five years. Among these cases he had had no laceration of the perineum or postpartum hemorrhage. An appreciation of the use of antisepsis was very necessary. In cases of rigid cervical canal, he advocated the manual dilatation of the os, and this had been the treatment that he had employed during the past five years, and his results convinced him of the wisdom of it. He never allowed his cases to remain in labor beyond seven hours without interference; when early interference was made complications became much less. He claimed that the social, mental and moral conditions of later life were often due to stupid conservatism in obstetrics.

Dr. EVERARD D. FERGUSON of Troy commended the paper which made the principal point of manual dilatation in those cases in which there was failure of the cervical canal to open under contractions of the uterine body. The interference should be manual and not instrumental. Of all instruments of terror, the mechanical dilators made of metal, such as Pozzi's, were most to be deprecated. With the finger one could estimate and determine exactly what progress was being made. With clean hands and a clean vulva, the risks of manual interference were reduced to a minimum. In cases calling for interference, such as placenta prævia, he had never resorted to any instrument further than his own hand to aid in delivery. In fact, the hand might take the place of other instruments as, for instance, preliminary to dismemberment of the child.

Dr. BERNARD COHEN of Buffalo for many years had made use of manual dilatation in rigid cervix; this also gave him information as to why such a condition existed. If careful, one could preserve the bag of waters. After having dilated the cervix he believed that the head would exgage, and therefore, it would not be necessary to apply the forceps; the head would come down if left alone. Morphine and quinine as an oxytocic might be given. The general practitioner should become more acquainted with the axis traction forceps. He did not agree that one should interfere after two or three hours, but after six hours of labor. He emphasized the importance of the judgment of time in the use of forceps, i. e., the "obstetrical moment" or the right time of applying forceps. In his experience with 2,500 cases, he found that he had torn one out of every seven perineums, and one out of every five cervices.

Dr. JOSEPH B. COOKE believed that with the aid we have from aseptic and antiseptic methods, we should become something more than mere midwives, and he agreed in the main with the reader of the paper. He never used the forceps to dilate the cervix, but invariably used the fingers until it was completely dilated or paralyzed. When forceps were applied, the patients were always anæsthetized to the surgical degree. The "obstetrical moment," he believed to be very important; there was such a time. After

that moment had passed the tissues became infiltrated and would not heal so well. He deprecated the removal of the forceps when the head was on the perineum or partly through the vulva; they should not be removed, but allowed to fall off after expulsion of the head.

Dr. Benjamin W. Stearns of Binghamton advocated the administration of six grains of chloral hydrate, one-half a drachm of viburnum compound, and two grains of quinine, given every twenty minutes, to relax a rigid cervix. The giving of chloral did not contraindicate the administration of chloroform later.

Dr. Meyer said that his paper was written entirely in reference to cases of delayed labor.

Asthma and Its Relation to Environment from Blood Etiological Standpoint.—Dr. George N. Jack of Buffalo said that he had demonstrated in previous papers that asthma or the asthmatic dyspnœa was not a disease by itself, but only a symptom, or an abnormal biochemical and complex pathological process, usually originating in the intestinal canal, through a long-standing toxæmia, with faulty absorption and metabolism producing lymphogenous chyle, that generates an unstable blood, characterized by its extremely varied, numerous and alarming paroxysmal, morphological changes often alternating between a lymphocytosis, an intestinal toxemic leucocytosis or an anæmatosis; accompanied anatomically by a hyperplasia of the lymphatic and glandular structures and clinically by dyspnœa. The anatomical construction of the air tubes was such that they could not contract spasmodically to interfere with the ingress or egress of air in the lungs; consequently we are compelled to regard the ancient spasm theory as a deception, and thus a new proposition confronted us, namely, asthma and its relation to environments from a blood etiological standpoint. Asthma was the outcome of a well defined pathological process that had been developing for months, years or generations. The asthmatic was always prepared for an attack, and the conditions above mentioned produced a variety of circumstances that individualized each asthmatic and rendered him susceptible to a certain environment. He stated that the asthmatic was a human barometer and thermometer, which, together with his actinic, hydraulic and magnetic properties, rendered him susceptible to and affected by every conceivable environment. He stated that there were, therefore, two classes of environments as regarded the asthmatic, the favorable and the unfavorable. All environments came under these, climatic, thermic, actinic, meteoric, humidity, altitude, telluric, topographic, latitude, longitude, rest or jarring, dust and fumes. The asthmatic was so sensitive that he was hourly elated or depressed by them. He related the case of a man with the usual pathological conditions who was put on correct diet and appropriate treatment several weeks before his customary attack appeared, who soon showed remarkable improvement. However, two days before the date of his usual attack, which had been appearing for the past twenty years, he presented himself with a coated tongue, urine loaded with indican, almost black, blood loaded with leucocytes and eosinophiles, abdomen distended with gas, water bags under his eyes, swollen fingers, and evidences of general lymph stagnation. Most rigid prophylactic measures were instituted and won the day; the patient escaped the asthmatic attack which had appeared every August for twenty years, and had continued until the following May or June. The depression and disturbed digestive functions due to prolonged heat, together with its relaxing influence upon the blood and lymph vessels of the skin and mucous membranes, were conditions which encouraged stagnation of lymph throughout the whole body. The effect of the heat on ingested food and water were also etiological factors. When the subject thus affected by the heat was exposed to the opposite environment of a cold, damp autumn night, the tissues and capillaries being relaxed, the blood, missing the effect of sunlight, resulted in an increased accumulation of products to be gotten rid of. In the recumbent position, gravity aided the flow of blood to the lungs and glands in the air tubes, and as a result the attack of asthma came on. Dust and fumes were at most only aggravators, and never causes, of this condition. The pollen dust asthmatic was rarely met with. Damp, swampy and illy-drained districts afforded unfavorable environment for the asthmatic, as the blood, lymph and digestive ferments would undergo precipitation and disintegration. Altitude exerted a favorable influence, owing to diminished humidity, higher diathermance, and its increased corpuscular count. The jolting movement sometimes had exerted gratifying results. The average modern city provided a favorable environment for some asthmatics. The vast majority of all asthmatics could be permanently cured in almost any locality favorable to animal life, under proper hygienic, dietetic and medicinal treatment, though the highest possible altitude, evenest temperature, most sunshine, and best drainage furnished the most favorable surroundings.

An Old Specialty.—Dr. Jane Lincoln Greeley of Jamestown read this paper. She pleaded for the old family doctor in maintaining the physical welfare of his clientele. Others may render more conspicuous service, but the family physician stands nearest to the daily life of the people. He gives of the stores that have accumulated. Other men concentrate their powers in the acquisition of special knowledge, but to the family doctor falls the dissemination of knowledge. The family practice had a definite field, and of work in this field no man need be ashamed. His work began with the beginning of the family. The family doctor was not primarily an obstetrician, although he had the medical supervision during pregnancy, and this implied more than the usual test for albumin. To him belonged the securing of proper nutrition, fresh air, nervous toning, which favored the development of an individual without physical handicap. The family physician was the guardian of the future. Any mismanagement during the first few days of life gave work to the pediatrist. The gynecologists state that much of their work arises from faulty conditions at birth. It is the family doctor to whom we must look for the prevention of such conditions by attention paid to inflammations of the genital tract. He not only treats acute disorders, but also the conditions so easily overlooked, which might result in a not too strong child. He should foresee disorders of the spine, throat, eye and ear, and even the teeth. The sanitary conditions of the house and vicinity are investigated by him, and he looks for possible dangers to the community at large as well. The family doctor is a public-spirited man, because the interests of the families are the interests of the community. No other man dealt so much with the beginning of things. The successful carrying on of such a practice involved certain preparations and a certain expenditure. He should have a good general education and he should be familiar with other things besides medicine; he should be interested in education, in labor, and in diversions. He really needed the equipment and discipline required of medical men to-day in taking up technical studies. He should be especially well read. His work called for the study of human nature, but an absolute requirement was character.

An Atypical Case of Appendicitis Presenting Some Unusual Features, Found at Operation.—Dr. W. B. Reid of Rome reported the history of a patient, forty-nine years old, whose general health had always been good with the exception of chronic indigestion, associated with pains in the side. After walking or standing for some time the ankles would swell. On February 17 the patient was thrown from a sleigh and, that night, pain developed in the hypochondriac region. On the morning of the second day the pain was in the left lumbar and iliac region. The abdomen became sore and tender. When examined by the doctor the patient had an umbilical hernia, associated with a general tympanites. There was marked tenderness over McBurney's point, and a board-like rigidity. Pulse was

110, temperature 101°, respirations 24. The bowels had not moved for three days. Examination of urine revealed a large number of pus cells and granular and hyaline casts. The diagnosis of a traumatic appendicitis was made. Because of the condition of fatty heart and bad kidneys, operation was deferred. Operation under cocaine anæsthesia was not thought of. On March 11, he again saw the patient, who was much worse. The abdomen was generally tender, with some localized pain in the right side. A tumor was noted about the size of an apple. The previous diagnosis was confirmed. Operation was performed, and a pus cavity was found with a gangrenous appendix sticking up. The interesting features of the case were as follows: 1. The case was one of appendicitis of long standing, as shown by the history of pain in the side and chronic indigestion. 2. The history of traumatism was purely coincident. 3. The acute attack was followed by the invasion of the colon bacillus and abscess formation. 4. The acute nephritis was caused by an infectious toxæmia, as the post-operative examination proved the urine to be free from albumin and casts. 5. The associated diabetic condition furnished a sufficient amount of sugar in the culture media contained in the abscess cavity for the production of gas formation. He asked if they had a double infection of the bacillus coli communis and the bacillus lactis aerogenes, or was the infection a single one of the bacillus coli communis, which under peculiar conditions produced what was ordinarily called "involution forms," which resulted in gas formation.

Nephroptosis, Its Gynecological Importance.—Dr. A. H. Goelet of New York read this paper (see page 641).

The Value of Transillumination of the Stomach as an Aid to Diagnosis. A New Method with Fluorescent Media.—Dr. Robert Coleman Kemp of New York presented this communication. He referred to the nature of the substance used and his method of using it. When fluorescin had been given by the mouth no deleterious effects had resulted, as shown by an examination of the urine. Dr. Valentine had used this substance to test the permeability of the kidneys, and with good results. Transillumination of the stomach was an aid in investigation of mucous colic. Gastroptosis was one of the chief etiological factors in mucous colic. Mucous colic was present in many cases of Glénard's disease. It was an established fact that neurasthenia was an accompaniment of all cases of mucous colic. Dr. Kemp had been able to demonstrate gastroptosis as an etiological factor in this condition, which was due to abnormal positions and not to inflammations. Transillumination was of aid in differentiating between dilatation of the stomach and gastroptosis; it also told of the degree of dilatation and prognosis. Dr. Kemp demonstrated the use of the abdominal belt of Dr. Rose, which was of such great importance in the treatment of gastroptosis and dilatation of the stomach. The standard width of this strap was seven inches, and it could be worn for weeks. It should not come higher than the umbilicus, and was best applied with the patient in the Trendelenburg position. The value of transillumination was in exploration of the anterior wall and the greater curvature of the stomach of tumors, and of thickenings, and of explorations at or beneath the dostal arch. It was also of value in differentiating carcinoma or other tumors in various parts of the gastro-intestinal tract. By its means one was able to differentiate gall bladder disease from dilatation of the stomach, and determine the positions of contractions and of adhesions. Dr. Kemp said that there was no other method which could take the place of transillumination, especially in making a diagnosis of tumors at the pylorus or anterior wall of the stomach. When the light was introduced, one could not only see the entire contour of the greater curvature, but also the lateral margins of the stomach and the pyloric end. In cases of gastroptosis, where the stomach was vertical, one might be led astray. In such cases, when you inflate this organ with air, you might also force some intestines over the lesser curvature.

A Substitute for Rubber Gloves in Surgery.—Dr. Frederick Holme Wiggin of New York said there were a great many annoying features in connection with the use of rubber gloves in operative work. Attention was called to a substitute which had given him the greatest satisfaction. In the hospital the following was prepared: 49½ ounces alcohol (96 per cent.), 49½ ounces of ether, ½ ounce of celloidine and 1 ounce of castor oil. The hands of the operator were sterilized and then dipped in this solution. This gave a thick, firm, dry, elastic coating that did not crack and which was not soluble in water or ordinary alcohol. It could be removed by washing in equal parts of alcohol and ether.

Salivary Calculi.—Dr. Herman Jarecky of New York reported three such cases. The first calculus was situated in Wharton's duct, and at the same time one was situated in Blandin's gland. Only two such cases were found in a search of medical literature. The one in Wharton's duct weighed four grains, the one in Blandin's gland one-half a grain. In the other two cases reported, the stones were found in the submaxillary ducts. The fact that two calculi could occur in two different glands formed the basis of his paper.

Dr. Wolff Freudenthal of New York said that it was quite remarkable how many people could stand the presence of large calculi in these ducts for many years without noticing them. He did not believe that these calculi were as rare as generally believed.

Dr. G. Lenox Curtis of New York said he had operated upon at least twenty cases similar to the ones reported, and did not consider the condition at all rare.

Ten Years' Experience with a Radical Operation for Carcinoma of the Breast.—Dr. Willy Meyer outlined the technique of this operation, which has already been reported. In this operation no ligatures were applied until its completion, drainage was instituted, blood vessels ligated, and immediate grafting was done and dressings applied. The average time of operation was about two hours. The surgeon works from the axilla downwards to enable him to secure the vessels near the trunk; the procedure is quite bloodless and recovery is rapid. In ten years' experience with this operation he had only once been called upon to give intravenous injections during operations; in no other case was hypodermoclysis required. Eighty cases had been operated upon, and only two of these had died from conditions connected with the operation. One of these was a diabetic, and the other had recurrence of the carcinoma. The total removal of the pectoralis major muscle did not take away the free movement of the arm. With regard to statistics, he was unable to present any accurate data as yet regarding the duration of cure, or recurrences, local or general, because, in large cities, it was almost impossible to keep track of your patients. He hoped to present definite and full statistics regarding these cases at some future date.

Prolonged Fasting as a Factor in the Treatment of Acute Diseases, with Special Reference to Affections of the Alimentary Canal.—Dr. Norton Jerome Sands of Port Chester read this paper. He summarized by stating that in acute illnesses in general, but especially of the alimentary canal, when of great severity, food should not be given, because the assimilative powers of the patients were greatly impaired. In affections of the alimentary canal, in particular, all nourishment should be withheld until the tongue was clean, the bowels regular and the temperature normal. He said that it was quite possible for patients to fast three or four weeks without the development of any pronounced weakness.

Dr. Frederick H. Wiggin of New York said that, in surgical sepsis, he relied upon castor oil and glycerin by the mouth, and the giving of saline solution by the bowels, two or three quarts a day. As the temperature receded, he gave plenty of water by the mouth, and finally resumed feeding by the mouth.

Resolution.—Dr. Bernard Cohen of Buffalo said that the unfortunate delay in the amalgamation of the New York State Medical Association and the Medical Society of the State of New York was not due to any fault of either body, and was a source of disappointment to the Association, and he offered a resolution to the effect that it was the unqualified desire of medical men that good fellowship should prevail and that the Association pledge itself to aid in securing a union of the two organizations.

Concerning the Suppression of the Acetone Bodies in Diabetics.—Dr. Heinrich Stern presented this communication, and said, in diabetes, the acetone substances always indicated a state of under-nutrition. This may be due to a too long continued one-sided diet, but it might also supervene when sufficient proteids and moderate quantities of carbohydrate substances are contained in the diet. He further stated that the production of acetone substances would not occur as long as one can manage the diabetic to be in a fair state of nutrition. Von Norden's "oat-meal cure," he thought, was not commensurate with the rationale of acidosis therapy, as the large amounts of butter which entered into the composition of the oat-meal soup certainly would yield a very considerable additional quantity of acotone substances. Furthermore, the patients soon became tired of the monotonous regimen, and it did not uphold the claims of its author. Oatmeal was not better tolerated by the diabetic exhibiting acetonuria than other amyloid substances, as buckwheat or rice. If we wish to successfully combat acidosis without aggravating the diabetic condition, we can neither add carbohydrates to the diet for any length of time, nor can we, in most cases, augment the amount of proteid ingesta. There was nothing left but to return to fatty substances, that is, to such fatty material which did not yield the forerunners of the acetone bodies, viz., the low fatty acids. Butter and cream yielded very large amounts of these low fatty acids. The only fatty article of food which he found of good use in the diabetic during acidosis was the yolk of the hen's egg. He had never observed an increase of acetone after the administration of what he called the "yolk cure." Partaken of in the raw or semi-raw states, fresh yolks might be consumed in almost any quantity without calling forth satiation or fullness. The rationale of the "yolk cure" he based on the following four factors: (1) Palmitin, stearin, olein, the fat substances of yolk yielded no or little butyric acid; (2) the large amount of lecithin supplied to the organism, restored the nerve force and ameliorated the wasting condition; (3) the occurrence in the yolk of a diastatic ferment aided in starch-conversion; (4) the stimulating action of yolks on the gastric secretion. The yolk-cure consisted in the ingestion of from ten to forty yolks a day, together with a small amount of proteids and some carbohydrates. Its technique was simple. The old diet was to be discontinued at once. Intestinal tract should be evacuated. In grave cases, a yolk-diet had to be continued for some time, in less severe cases, one or two "yolk-days" a week, together with proteid-fat (yolk) days, sufficed. The alkalies exert a mere local and limited influence. They may be administered together with the "yolk-cure," but they had no influence whatsoever on the catabolic acidosis. He gave a "yolk menu" full of variety. He also appended a number of cooking receipts for "yolk-dishes." He presented a boy, sixteen years old, who came to him in March last, weighing 98½ pounds, and excreted almost 400 grammes of sugar a day. His urine contained very large amounts of acetone and diacetic acid. After everything had failed, he tried his "yolk-cure," with the result that the sugar excretion had entirely ceased and that he did not produce acetone or diacetic acid for a number of months. His weight in October 15 amounted to 122½ pounds.

The Brief Story of a Smallpox Epidemic.—Dr. Edward Munson of Medina gave a brief history of this epidemic, which presented the following points of interest: The epidemic was undoubtedly smallpox; it was variola, uniformly of mild variety; the vesicles were unilocular; secondary fever occurred only in two or three cases; the exceptionally mild character of the disease made it almost impossible to properly quarantine; the value of vaccination in stamping out the disease was demonstrated.

Some Ocular Reflexes and Their Influence on General Health.—Dr. S. W. S. Toms of Nyack read this paper. He had examined one thousand eyes as part of his routine work, and had been convinced that many patients would have gone on unrelieved had such examinations not been made. His paper did not relate to patients with organic diseases which gave eye symptoms. Slight visual defects might produce profound disturbances. Hysterical emotions may be produced by uncorrected eye troubles. Astigmatism was very productive of reflexes. Muscular unbalancing was potent. The more frequent and common symptoms of ocular reflexes were the different types of headache, vertigo, nausea, vomiting, nervous disturbances, cardiac neuroses, nervous spells, etc. A report of cases followed.

THIRD DAY, OCTOBER 19, 1904.

Report of Twenty-Five Cases of Pernicious Anæmia.—Dr. A. E. Woehnert of Buffalo reported 25 cases of pernicious anæmia from the standpoint of the hæmatologist. The clinical features of these cases had already been considered by Dr. Charles G. Stockton of Buffalo at the June meeting of the American Medical Association. Not only was the diagnostic importance of the blood taken up, but also the prognostic. In these cases, when the blood was withdrawn from the finger, it was found to be less viscid and darker than normal. When the blood was much impoverished it looked more like water than blood. The microscopical examination showed differences in size of the cells, especially of the red cells; they were increased in diameter and this was a marked feature. Of the cases reported it was found that the number of erythrocytes varied from 628,000 to 2,440,000 to the c.m. The leucocytes varied from 2,400 to 12,344. The differential count of the white cells showed an average of polymorphonuclears 61 per cent., of lymphocytes 33 per cent., large mononuclears 4 per cent. and eosinophiles 2 per cent. The specific gravity of the blood taken in 11 cases was from 1,037 to 1,051. The hæmoglobin ranged from 23 per cent. to 65 per cent. Pernicious anæmia was characterized by a high hæmoglobin index, the average being 122 per cent. The increased size of the red cells accounted for this in part. Macrocystotis was the rule in all cases. Another feature noted was the irregular contour of surface of the cells, many of the cells losing their bi-concavity. In some cells the nucleus took a stain and was separated from the rest of the cell by a light zone. In summing up the findings he stated that pernicious anæmia was a symptom complex showing itself by characteristic disturbances in the blood, and that it was the action of toxic material that caused these disturbances. This toxæmia showed itself by a granular degeneration of the cells. The blood destruction showed itself by the peculiar tint of the skin and the increase of iron in the internal organs.

Dr. J. J. Walsh of New York said that many of the rarer diseases, of which pernicious anæmia was one of the most pronounced, were now found to be much more frequent than was formerly thought. For instance in diabetes there was a curious discrepancy regarding it. Formerly it was thought that only one half as great a number of these cases existed in America as in Europe, but the statistics to-day showed comparatively the same number here as in Europe. In other words, the disease was being discovered, and the same seemed to be true regarding pernicious anæmia. The question of etiology was an interesting problem that confronted us. He referred to what a distinguished English physician claimed to have found that pernicious anæmia was often due to bad teeth; that in the presence of carious teeth cocci were swallowed and septic conditions set up in the digestive tract, etc. Since that time Dr. Walsh had examined the teeth in five cases, but in two the patients had the best teeth he had ever seen. Hunter

had suggested the use of the antistreptococcic serum in pernicious aæmia, but Dr. Walsh had been disappointed in its use. He had tried this serum in one case with clean teeth for a period of eight weeks; by the tenth week the patient was dead. In Europe many people still believed in Hunter's theory.

Dr. B. W. Stearns of Binghampton spoke of the structure of the blood being similar to the structure of other tissues. As the red cells increased the leucocytes decreased, as shown in the paper. In malignant growths it was noted that the malignant cells took the place of the normal cells. In the same way in pernicious anæmia the abnormal cells might take the place of the normal.

Dr. Woehnert said that the teeth in all cases had been most carefully examined, and he had noted that the worst cases in the list he presented had the best teeth. Dr. Stearns evidently had misunderstood him, for the point he made was that in the majority of cases as the red cells decrease the white cells decrease also.

Some Occupations and So-called Rheumatic Pains.—Dr. James J. Walsh of New York read this paper and stated that in dispensary and office work nothing was more frequent than to have patients complain of pains, especially on rainy days, which they believed to be rheumatic. Chronic rheumatism was supposed to be one of the most frequent diseases, and the explanation has been made that the circulation was too passive. As a consequence, there was nervous irritability and the blood was not nutritious. During the past five years there had occurred a decided reaction regarding the so-called uric acid diathesis; at the present time very few scientific men considered uric acid of any etiological importance in the production of pathological conditions of the body, except possibly gout. In all these cases, when the causation had been determined, treatment was made easy. In many of the so-called rheumatic patients pains in the shoulder were not infrequent. He had three such cases in one day, one being a motorman. The second man had an occupation in which he used the deltoid muscle, using a hammer. The third man complained of pain in the left hand and forearm, especially on the ulnar side; he constantly used the muscles supplied by this nerve. In all these three cases in all probability a neuritis had been set up for which he could not give a satisfactory reason. It was possible that the ingestion of alcohol might prove the cause. Lumbago was quite common among tailors, as well as among iron workers and molders. So-called rheumatic pains were noted among those who suffered from lead, alcohol, diabetic, syphilitic, etc., poisons which exercise an influence upon the nerves. Sciatica was quite common in those who bent the body at the hips, as in shovelers. Motormen, who were accustomed to stand on one foot, suffered from lumbago. Also dentists in using the old engines were found to limp. Those occupations which caused people to stand upon the foot would have pain referred to the same leg, which would be worse on rainy days. These pains that were worse on rainy days were probably due to the wearing of old shoes, which failed to give the foot proper support. Dampness and rheumatism seemed to be associated in all minds. Sciatica was often found in those who sat in awkward positions.

Dr. William M. Bemis of Jamestown had had a similar experience, and had been puzzled a great deal regarding these so-called rheumatic pains. He had had a great many cases of cramps in the legs and feet and had been at a loss to know how to account for them. He finally found that supporting the instep would relieve these cramps. He had seen cases of general neurasthenia due to pain in the back, and the probabilities were that some pressure upon the nerve low down at the sacro-iliac junction had been present, and this was relieved by support and holding up the upper portion of the body, thus relieving pressure upon the tender nerves.

The Alexander Operation. Its Results, Immediate and Remote.—Dr. James E. King of Buffalo considered a few of the clinical features resulting from operation. This operation had been much criticised, but the results of the operation had placed it upon a firm basis. Successful results were only possible when the indications for it had been carefully considered. It should never be undertaken unless its complications, such as of the uterus and adnexa, were treated at the same time. The indications for this operation were simple, uncomplicated retroversion, and this implied a very careful diagnosis. In dealing with retroversions, one should remember that the condition was not pathological, but mechanical. Where relapses occurred, they were due to suppurations or small ligaments, and failures should not be charged to the operation. When relapses did occur, they were from the patient's view, rather than from lack of mechanical support. One of the most unpleasant sequella was pain, usually unilateral, extending up about three inches on the abdominal wall. Any pressure brought it on. They often remained for four or five months with gradual improvement, until they finally disappeared. When very severe, the patients were unable to wear corsets. The cause of this pain seemed to be injury to the ilio-inguinal nerve. This nerve, as it passed through the inguinal canal to its cutaneous distribution, had an anatomical relation to the round ligament. Great care should be observed in avoiding handling this nerve, and it should not be sewn in with the fascia. As a rule, little could be done for its relief. Another result of the operation sometimes seen was the failure to correct the retroversion and relieve all symptoms. In some cases of retroversion the symptoms seemed to be due to the condition of the utero-sacral ligaments; in two cases that he reported the symptoms were due to a relaxation of these ligaments, and prompt relief was afforded by operation. Hernia following operation was usually due to faulty technique or suppuration. He stated that the operation was admitted to have no influence on pregnancy or labor, and no recurrences had followed labor.

Dr. Henry O. Marcy of Boston said that when the operation came into vogue he was very enthusiastic about it, and he did many operations with varying results. That he had now ceased to do the operation might be considered an adverse verdict. However, opening the abdomen now was attended by comparatively little danger, and he preferred so doing because it enabled him to deal with the conditions as found. He believed there was a limited field for the operation, but far less than he had at first thought.

Dr. J. Riddle Goffe of New York had had the same experience with the Alexander operation as had had Dr. Marcy. He found it sometimes impossible to locate the ligament and sometimes, when he did find it, it was not sufficiently strong to do the work required of it. He had, therefore, discontinued doing the Alexander operation. The field for this operation was very limited. He had followed up all cases that he had submitted to operative procedure for retroversion of the uterus, and had found that 80 per cent. were complicated by disease of the appendages, that reduced the operation to only 20 per cent. of all cases of retroversion, and this was an extremely limited field. In regard to using the round ligaments for supporting the uterus, he believed they were not designed for this purpose. He had reduced his observation to the following: When the bladder filled, especially to extreme degree, the fundus was raised to the promontory of the sacrum. When the bladder was emptied, the round ligaments drew the fundus back to an anteverted position. Consequently, he believed the function of the round ligaments to be, during gestation, to keep the fundus against the anterior abdominal wall. In cases of tumors or pregnancy, when the intestines got in front of the fundus, they may become strangulated. The proper supports of the uterus lay in the utero-sacral ligament. If they retained their tone they would keep the cervix in the hollow of the sacrum and prevent retroversion. In case of procidentia, he shortened these ligaments with the most satisfactory result. He said that Nature's plan was to support all organs of the body from the bony framework by ligaments; there was no other organ of the

body that had so many ligaments as the uterus; notwithstanding, some stated that it was supported by the perineum. As a matter of fact, when the perineum was ruptured absolutely, no possible support could be obtained from it, yet the uterus remained in place. The ligaments were the proper structures to use for supporting the uterus.

Dr. James E. King of Buffalo said that he did not intend to advocate the Alexander operation to the exclusion of other methods for the treatment of retroversion. He believed it had its place. One argument in favor of its performance was that many refused abdominal section. He wished to emphasize the fact that the Alexander operation was only indicated in persons without complicating diseases of the uterus or adnexa, and a careful diagnosis implied many examinations and a study of the symptoms accompanying the condition.

Iodine in the Treatment of Post-Operative Sepsis.—Dr. James Hawley Burtenshaw of New York said that this treatment was first proposed in 1883 and to Dr. William R. Pryor of New York belonged the credit of placing this method of treatment on a scientific basis. Dr. Pryor published his paper on this subject in the *New York Medical Journal*, January 23, 1904, when he reported 27 cases. Iodine had a pronounced affinity for protoplasm as had been demonstrated many times. In the majority of cases the infection spread from the uterus through the lymphatics. In post-operative sepsis the blood vessels played as important a rôle as the lymphatics in the dissemination of the toxins. Dr. Pryor showed that if the pelvis was packed with iodoform gauze the absorption of iodine was rapid, the growth of the germs was inhibited and the course of the infection greatly shortened. Dr. Burtenshaw's experience with iodine in such cases had been disappointing. During the past year he had treated three cases of post-operative sepsis with two fatal results. It had been claimed that iodoform was not an antiseptic for all bacteria, but it was also well known that when broken up iodine was liberated. He referred to the use of equal parts of iodoform and cod liver oil in the treatment of tubercular peritonitis; when this was applied to the skin of the abdomen every day good results had been obtained.

President's Address.—Dr. William Harvey Thornton of Buffalo took as his subject "Medical Fellowship." He said that the best men in the profession were those who were active in medical societies and they appreciated the value of cooperation and organization. In medical organization many failed to appreciate active membership in a live working body. As citizens they appreciated local, state, and national government, but they failed to apply the same principles to themselves as physicians in national and state organizations. He spoke of the importance of maintaining the honor of the noble profession, and this did not rest upon contention and jealousy. Fellowship begets friendship and destroys petty jealousy. The first step in harmonizing the profession was membership in some society. He said that much had been done in this state by the state officers visiting the various county and district societies. The county association should be made interesting scientifically. Good papers should be obtained and good leaders should be had to open discussions. The social features added greatly to the interest and promoted a feeling of harmony which was so much desired. The point that he wished to emphasize which was of vital importance to any society was to reach and interest and hold every man within its jurisdiction, and to make him an active worker. Out of 1,800 members in this society he was glad to report that 1,000 were members of the American Medical Association. The national charter would secure to this organization much power and usefulness. There was a demand for unity of the profession in the State of New York, and nothing could stop such a want. He asked for continuous efforts to make the Association nearer the ideal that they had striven to attain.

How and When to Use Antitoxin in Diphtheria.—Dr. Charles Gilmer Kerley of New York read this paper. He desired to call attention to certain points pertaining to the use of antitoxin. Diphtheria antitoxin should be used in every case of acute illness in which a pseudomembrane appeared in the throat or nose. Even when in doubt whether the exudate is diphtheritic or not give antitoxin and then take a culture; do not wait for the culture diagnosis before giving antitoxin. The earlier the antitoxin is given the less amount will be required. He had treated 66 cases of diphtheria in private practice with antitoxin. The ages ranged from nine months to ten years. Sixteen of the cases had been intubated; 14 received the antitoxin on the first day of illness; in 13 only one injection was necessary. In one it was only necessary to repeat the serum on the second day of illness. There were twenty-four non-operative second-day cases; in 19 only one injection was required; in 4 it was necessary to repeat the injection on the third day; one received four injections, getting a total of 14,500 units. One case that he saw on the sixth day required five injections or 14,000 units to control the disease. He emphasized the fact that antitoxin should be given in laryngeal persistent stenosis. Again in those cases which did not respond to emesis it should be given at once. Especially should it be given where there was obstruction to inspiration and expiration. Of the laryngeal operative cases, 16 in number, 13 recovered and 3 died, the latter receiving the antitoxin too late. The antitoxin should be given in immunizing doses to every child exposed. Patients seen on the second day of disease should receive 3,000 units regardless of the age; after the third day 5,000 units should be given as the initial dose, to be repeated in twelve hours if the improvement was not positive. The abdomen was selected as the point of injection. Twenty per cent. of the patients developed urticaria. In 5 cases that did not have diphtheria no bad results followed the injection. Nephritis did not develop in any of the cases. In 4 there was a diphtheritic paralysis of mild degree. He said that in diphtheria we were dealing with a poison, and the antitoxin was a specific antidote. He said that we should make the dose fit the case, and the dosage was determined by the severity of the infection when first seen.

Dr. Everard D. Ferguson of Troy said that before the introduction of antitoxin he had had seventy-five intubations without a single recovery. Immediately after the introduction of antitoxin he treated successfully five cases of primary laryngeal diphtheria.

Dr. Louis Curtis Ager of Brooklyn did not think the dose of antitoxin diphtheria should ever be less than 3,000 units.

Dr. Francis J. Quinlan of New York said that since the introduction of antitoxin the danger from diphtheria had been reduced almost to a minimum. Before the antitoxin was discovered, in one year he did one hundred and sixteen intubations; shortly after that the general use of antitoxin took its place. The timely use of antitoxin eliminated all bad symptoms, especially in the laryngeal and tracheal form of the disease.

Dr. Bernard Cohen of Buffalo had given 28,000 units in two days. This large dosage was called for because of distressing symptoms, especially the cardiac weakness.

Dr. Louis Fischer of New York said that in severe cases of diphtheria he did not think that we should ever give less than 5,000 to 10,000 units as the initial dose. He had given 20,000 units to a child in four days. In laryngeal cases the initial dose should be 10,000 units. He said that we should not rely upon antitoxin only. When antitoxin was thrown into the system it neutralized the toxins, and so arrested the development of complications which might arise.

The Result of 1,400 Operations for the Radical Cure of Hernia in Children, Performed at the Hospital for the Ruptured, and Crippled, from 1891 to 1904.—This paper, by Dr. William T. Bull and Dr. William B. Coley of New York, was read by the latter. From 1890 to 1903, 49,974 patients were treated for inguinal and femoral hernias, and more than one-third, 14,218, occurred in chil-

dren under fourteen years of age. Operation was seldom advised in cases under four. The results of operation were quite uniform, and the mortality was practically eliminated, and, therefore, operation was advised in children over four years of age. It was important to know the proportion of cases that were curable by truss treatment. This was very difficult to tell. Of 709 cases carefully examined, it was shown that the sac was congenital in 284 cases, and of the acquired type, 425. There were twenty-seven cases of femoral hernia under the age of fourteen. Since 1890, 2,179 cases of femoral hernia had been observed, sixty-nine being under fourteen years of age, and thirteen of these under ten years. High ligation of the hernial sac was performed without a single relapse. There were 229 operations for inguinal hernia on 222 patients. The operation performed was practically a Bassini. The veins of the cord were not excised; this he considered unnecessary in children. The purse-string method was used in femoral hernias. In 108 operations, the cord was not transplanted, but brought out at the lower end of the wound. The Bassini method, without transplantation of the cord, had been strongly recommended. Thirteen cases of hernia of the cæcum and appendix were reported. When the normal appendix was adherent to a hernial sac, it was thought best to remove it. There were two cases of sigmoid hernia, which was very rare in children. There were twelve cases of strangulation in children under fourteen years of age. The strangulation, in all cases, was the result of tight constriction at the external ring.

Dr. Henry O. Marcy of Boston referred to his first operations with buried suture for the cure of hernia, which were published by him in 1870.

Dr. Frederick H. Wiggin of New York strongly advocated the use of kangaroo tendon as sutures in adbominal wounds.

Dr. William B. De Garmo of New York only operated upon those who were over four years of age. He had operated 228 times on 182 children, without any relapses, and with but one death, and this from acute syphilitic meningitis. He said that congenital hernia could be cured by truss, but that it was more difficult than in the acquired form.

Dr. William B. Coley of New York said that there were many cases of congenital hernia that could be cured by means of the truss, and that it was impossible to say whether the hernia was congenital or acquired until we had operated.

A Group of Cases of Tumor of the Orbit, with Conclusions as to the Treatment of Such Cases.—Dr. Charles Stedman Bull of New York presented this paper, which was read by title.

Infant Mortality in New York City.—Dr. Louis Curtis Ager of Brooklyn presented this, mainly a statistical paper. He stated that in New York, since 1898, there had practically been no improvement in infant mortality. Diarrhœal diseases in children under five years of age for seventeen summer weeks showed the following number of deaths: In 1902, 3,201; in 1903, 2,735; in 1904, 3,810. The number of deaths from diarrhœal diseases in children under five years of age per 100,000 of total population for the year 1898 were 224 for Brooklyn, and 191 for Manhattan; in 1899, 180 for Brooklyn, 102 for Manhattan; in 1900, 196 for Brooklyn, 160 for Manhattan; in 1901, 194 for Brooklyn, 161 for Manhattan. The death rate per 100,000 of population of diarrhœal diseases of all ages showed for New York County, 170; for Kings County, 200; for Queens County, 216, and for Richmond County, 228. The population of Brooklyn in 1902 was 1,166,582; of Manhattan, 1,850,093. The population under five years of age showed 28,961 for Brooklyn, and 46,796 for Manhattan. The percentage under five years of age was 2.48 for Brooklyn and 2.53 for Manhattan. The ratio showing the use of condensed milk and fresh milk for Manhattan was 1.4; for Brooklyn, 3.1. The amount of fat, casein, milk and cane sugar were shown by percentages in condensed milk mixtures and human milk.

Dr. Louis Fischer of New York said that the high or low mortality depended upon the absence or presence of breast milk. There was very little summer complaint among children of the breast-fed. The importance of cleanliness and proper education of the mother was emphasized.

Dr. Charles G. Kerley of New York said that the education of the mother was the solution of the problem of the tremendous mortality among children.

Prostatectomy in Emergency Cases.—Dr. John F. Erdmann of New York called attention to the advantages of doing this operation in every instance possible when the prostate was in part the cause of obstruction in cases coming under the head of emergency drainage of the bladder. The first case was one of impassable urethra, due to stricture, with rupture and gangrene of the entire scrotum and perineum. The second case was one of retrograde hemorrhage, the bladder being full of clots and bloody urine, with malignancy of the prostate. The third case was one in which there were false passages, retrograde hemorrhage and suprapubic aspiration, with infiltration of the abdominal wall extending to the thorax and to the gluteal regions. The fourth case was one of acute obstruction, due to exposure to cold and wet, with inability to catheterize, and trauma of the urethra. The fifth was one of trauma of the urethra, in which catheterization had been performed for three days, with retrograde hemorrhage and large prostatic obstruction. The sixth case was one of deep stricture of the urethra, with obstruction and cystitis with absorption. The seventh and eighth cases were obstructions, with slight trauma, to the urethra, in which it was advisable to operate, both because of trauma and for drainage. This emergency operative procedure was recommended, because only a few minutes more were required to remove the gland, and the hemorrhage, as a rule, was not excessive, and the operative procedure itself did not increase the shock to any degree. The removal of the prostate gave proper exit to the urinary outflow and admitted of easy drainage. Washing the bladder was much facilitated. The perineal route in emergency operations was recommended, because the opening was practically at the lowest point of the bladder, and complicated devises for drainage, such as were required in suprapubic sections, were not necessary. The old, being irritable and feeble, and requiring to be moved frequently, the drainage in the suprapubic method was constantly interfered with, while in the perineal method it was readily controlled. The after-soiling, when the tube was removed, was slight and easily controlled, in the perineal method, as compared with the suprapubic. The bladder irrigations were more readily done, with less soiling of the bed, by this method.

Clinical Observations in Scarlet Fever with Special Reference to the Heart and Other Complications.—Dr. Louis Fischer of New York said that in this disease more attention should be paid to the heart and less to the temperature. Some important questions arose for consideration, as follows: (1) Was the temperature a positive indication of the condition of the patient? A moderate rise of temperature was often encountered in the most malignant forms of the disease, and, on the other hand, the mildest forms of scarlet fever sometimes begin with a temperature of 102° to 105° F. Therefore, one could not say that very high fever was any guide to the severity of a given case. (2) Does fever invariably indicate disease? No. This was a fact that he had frequently verified. He had operated on cases of empyema in which there had been a normal temperature for days, and he had seen other suppurative complications without any fever. He was convinced that too much stress was laid on the fever, and the temperature curve was given far more credit during convalescence than it deserved. (3) Was the decline of temperature always a favorable sign? A drop of several degrees in the temperature did not indicate improvement in all cases. Frequently a complication will be detected

when the temperature indicated improvement. He believed the toxins of scarlet fever inhibited the proper action of the thermic center in the brain, because the most malignant form of this disease frequently showed no rise, or only a slight rise above the normal. (4) By which symptom should we be guided in determining a favorable or unfavorable termination? The greatest attention should be bestowed on the condition of the heart. The pulse, its character, its frequency, and its tension were the most important guides. The necessity for immediate support of the system was apparent if the heart and pulse rate were studied. Experience had taught him that he was facing a danger point when feeble or muffled heart-sounds were noted or a bruit was heard, when, during this same time, a normal temperature would have been a misleading factor. The mortality in private practice was high, and he accounted for it simply by the one fact, that children were not kept in bed long enough to permit the toxæmia to be modified. Every case of scarlet fever was kept in bed at least four weeks. The temperature of the room should be between 68° and 70°, and ventilated frequently. The temperature was no guide as to the time when the child should be permitted out of bed. The heart and the pulse should be the true determining guide as to the prognosis and the condition of the patient. The diet should be liquid, principally of milk and alkaline waters. The emunctories should be stimulated. A hot saline colon flushing, one or two quarts, at a temperature of 115° to 120° F. should be given once a day after the first week, regardless of the necessity of the same. It stimulated diuresis, cleansed the bowel, and nourished the blood.

THE SEVENTY-SIXTH CONGRESS OF GERMAN NATURALISTS AND PHYSICIANS.

Held at Breslau, September 18-24, 1904.

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The Colorless Cells of the Blood and Their Clinical Significance.—Dr. Grawitz of Charlottenburg read a paper on this subject. At present three varieties of cells are distinguished: the small mononuclear cells, the polynuclear neutrophiles, and the easinophiles. Although Ehrlich attaches much importance to the minute differentiation of the cells, Arnold as well as others, points out that the staining methods are not always reliable and that in a single cell, for example, differently stained granules may be found. It must also be remembered that the various forms of leucocytes indicate only different stages of development. It therefore follows that laying stress on the different types is out of place and that progress in this direction is not likely. For not only do defensive and phagocytic (Metchnikoff) properties come into play but also assimilating, and as has been proved for fat, iron, and albumin, absorbing functions. In addition there must be ascribed to them an ozonizing and fermentative coagulating activity. Clinically there are observed increased and diminished numbers of leucocytes, changes in their relative proportions, and pathological forms. Hyperleucocytosis occurs after meals, during labor, accompanying the action of heat, cold, etc., and in suppurative processes. High leucocyte counts indicate a favorable prognosis in appendicitis and peritonitis. Typhoid fever shows hypoleucocytosis, pneumonia a hyperleucocytosis. In carcinoma the conditions are uncertain, and in leukæmia atypical forms occur.

Origin and Destiny of the White Blood Cells.—Dr. Askanazy of Königsberg said that concerning an understanding of their origin there were, among others, two difficulties, the defectiveness of our knowledge of their development and the uncertainty of the question whether the leucocytes are or are not an organ by themselves. In the embryo the liver, spleen, lymph glands, bone marrow, and thymus produce leucocytes. In extrauterine life the bone marrow is most actively concerned in blood formation, and then come the lymph glands, while the spleen comes in question but little or not at all. The speaker had found that the red marrow of the ossified laryngeal cartilages produces leucocytes. The formation of granular cells takes place only in the bone marrow, and they are descendants of non-granular forms. Leucocytosis depends on chemotaxis and not on a simple passive washing out of leucocytes, for in this case all constituents would be washed out also. Neumann's old theory of leukæmia, ascribing a myelogenous origin to every case, is opposed to Ehrlich's view to the effect that myelogenous and lymphatic cases must be strictly differentiated. The speaker agreed with Neumann. The leucocytes are phagocytes and, in contrast to other stationary tissue cells possessing this property, are wandering phagocytes. Metchnikoff's view that leucocytes can heal disease through phagocytosis of bacteria is not tenable, but on the other hand these cells take part in the production of defensive bodies in the blood. Outside of the blood stream the leucocytes purify the inhaled air by taking up dust in the lungs, and are also active in the intestine in an as yet unexplained manner. Injured tissue is disposed of through the digestive powers of leucocytes, and the dead bodies of leucocytes themselves serve as building material for younger cells.

The Present Standpoint in Regard to the Eosinophile Cells.—Dr. Ehrlich of Frankfurt presented a communication with this title. He first defended the specificity of the eosinophiles against Arnold and other observers. Young eosinophile cells give different colors, and the neutrophiles, when heated, take up acid dyes. Eosinophiles occur in the bone marrow, but not in normal lymph glands. In myelogenous leukæmia, many easinophiles are found in the blood, but in lymphatic leukæmia there is only one per cent. of these cells. Furthermore, eosinophiles occur in asthmatic sputum and, as American observers particularly have shown, in trichinosis. They are of assistance in diagnosticating early cases of typhoid, and are found in some skin diseases. Eosinophiles have been found in great numbers in hemorrhagic exudates, and such fluids are very toxic for experiment animals. The injection of pilocarpine may change a pseudoleukæmia into a genuine one. Detailed differentiation of the various types of cells is very important.

Dr. Müller of Basle said that he agreed with Ehrlich's views regarding the differentiation of the leucocytes, although functional variations were also observed in leukæmia.

The Origin of Pulmonary Tuberculosis.—Dr. Aufrecht of Magdeburg showed some very interesting specimens, by means of which he endeavored to prove that pulmonary tuberculosis is of hematogenous origin. First the vessel wall is attacked, then a thrombus forms, and this becomes altered into a cheesy nodule.

Ultramicroscopic Objects.—Dr. Rählmann of Weimar demonstrated trachoma bacilli and leucocytes under the "ultramicroscope." In spite of the efforts of the observers, however, but few were able to adapt themselves sufficiently to the unaccustomed instrument to distinguish the various rods, spherules, and granules which were, according to the demonstrator, made visible only through their motions. It was only when a dead bacterium was carefully focused upon that they were able to make out its contours distinctly and to perceive that its length appeared twice as great as when viewed by ordinary methods. The interior of the leucocytes seemed to be made up of a confused mass of interwoven threads. As the speaker said, patience is necessary to acquire this new technique.

The Formation of Fat from Carbohydrates.—Dr. Rosenfeld of Breslau spoke on this subject. It is certain that fat can be formed from carbohydrates, but the question is, where? Organs such as the liver, muscle, and heart, which contain both fat and carbohydrates, never have shown an increase in the amount of fat after even forced sugar feeding. The same is true for the kidney, pancreas, and thyroid. As the fat originating in carbohydrates is deposited in the subcutaneous connective tissue, the blood flowing toward this region from an inner organ, the site of the transformation of sugar into fat, should contain an increased proportion of fat. As this is not the case, the fat must be pro-

duced in the place where it is deposited, i. e. in the cells of the subcutaneous connective tissue.

The Nature of Gout.—Dr. Falkenstein of Gross Lichtenfelde read this paper. Two factors are concerned in the disease, the defective secretion of hydrochloric acid by the gastric glands, and the diminished oxidizing power of the tissue cells. From these causes intermediate oxidation products arise which are most readily deposited in spots where the circulation is impeded. The other disorders of metabolism, diabetes and obesity, are to be explained on similar grounds. With these maladies it is not the disease which is hereditary, but the disposition to a metabolic irregularity. The interrelationship of these conditions is shown in that children of gouty parents develop diabetes or obesity instead of gout. Restriction of diet never cures disorders of metabolism, but a proper occupation is of great importance. Bodily exercise causing profuse perspiration is most essential, but must be instituted early; and in childhood migraine, constipation, and insomnia should be investigated. The speaker cited the case of the son of a gouty professional man, who remained free from gout by taking up agriculture, but whose son, again a professional man, became gouty. Women, on account of their housewifely activities, are less inclined to gout than men. The frequency of gout in England is due to the excess of nitrogenous food consumed, and the diminished perspiration caused by the damp climate. Through the aid of physiological investigations we are becoming better acquainted with the bodily forces, and in time even disorders of metabolism will be permanently cured.

Some Experiences with Hydrotherapy in Nervous Disorders.—Dr. Brieger of Berlin spoke on this subject, and stated that he was not in favor of the view that psychical treatment is the all-important thing in neurasthenia. Permanent results are to be achieved only by hydrotherapeutic procedures, carefully gauged by physiological laws and the powers of reaction. In neurasthenia, hysteria, migraine, and cardiac and sexual neuroses, he has had good results, and also in true psychical disorders, such as melancholia, mania, and beginning general paralysis. Hydrotherapy is also of great value in neuralgia, and though it is not a cure-all, should find more general application at the hands of the practitioner.

Tendon Operations in Infantile Paralysis.—Dr. Bade of Hanover read a paper in the Section of Surgery on this topic. He said that even though the cause of the deformity were central and incurable, still its results, such as club foot, and anomalies of position in the knee, elbow, and wrist joints, could be avoided. By lengthening, shortening, or transplanting certain muscles, the author had enabled children from eleven to nineteen years of age to acquire sufficient command over the hand to write, though this had previously been impossible.

Renal Calculi.—Dr. Löwenhardt of Breslau presented two patients. The first was a man whose kidney he had explored two years previously on account of unilateral renal pain, but as no stone was present he had only stripped off the capsule. The pain recurred and he then loosened the ureter as far down as the bladder. Although the kidney was hemorrhagic, twice the normal size, and nephritic, as was shown by ureteral catheterization, the patient has remained cured. The other patient had no tubercle bacilli in the urine, but on extirpating the kidney for the copious hemorrhages, it was found to be the seat of an ulcerating tuberculosis of the papillæ. In other cases the author has found tubercle bacilli in the urine, but no tubercles in the kidney, so that there was no reason for surgical intervention. The presence or absence of tubercle bacilli, by itself, is, therefore, not a safe criterion to follow.

Sciatic Hernia.—Dr. von Eiselberg of Vienna spoke of the unsatisfactoriness of operations for sciatic hernia. He had operated twice on a patient of this kind, and had finally been obliged to recommend a truss. He also presented a hair ball of the stomach which had extended into the duodenum and weighed 550 grams. The hysterical patient was operated on two years after first acquiring the habit of hair swallowing.

Gunshot Wounds.—Dr. Schmidt of Breslau discussed the infections following these wounds. The wads are responsible for most of the trouble, particularly those of paper, whereas those of felt are usually sterile. The paper wads are not subjected to any sterilizing process at any stage of manufacture, and of twenty guinea pigs infected with these, over one-half died of tetanus. The surgeon called to attend a gunshot wound should, if possible, at once examined the cartridge used, and if paper wads are found the wound should be incised and antitoxin injected. This would have good results, as the incubation period of tetanus is from five to ten days.

The Borderline of the Sexes.—In the Section of Anatomy and Physiology Dr. Magnus Hirschfeld of Charlottenburg read an interesting paper on this subject. In every organism, in addition to the characteristics of the one sex, those of the other are present to a variable degree, and the individual's mental and physical personality depends on the extent of this admixture. The author presented a case of mistaken sex in a woman who had masculine characteristics and internal sexual organs. Formerly, such people were styled hermaphrodites, but to-day it is recognized that they represent only extreme grades of sexual admixtures which exist in less pronounced form, both bodily and mentally, in great numbers of persons.

Chromatic Changes in the Iris.—Dr. Exner of Vienna described the modification of the color of the iris produced by alterations of light. Yellow-green eyes become grayish-blue in coming from a dark room into the light. Observations on a large number of school-children showed that as a rule the color of brown or blue irides becomes lighter. Dilatation of the pupil causes a rearrangement of the stroma cells, and the tissues become darker through the tension.

The Blood Circulation.—Dr. Hürthle of Breslau discussed the present status of the doctrine of the circulation and its problems. The course and direction of the circulation are known as well as its motive power, the heart; but the rate of the flow, the resistance encountered, and the force expended are not yet determined. In a series of observations on dogs the relations between pressure and capacity of the aorta have been determined, and the groundwork for future investigations has been laid.

The Blood Ferments.—Dr. Jolles of Vienna described his discovery of ferments in the blood whose property it is to separate oxygen from oxyhemoglobin, and which he calls katalases. In health the quantity of these bodies present is large, but in tuberculosis, nephritis, and carcinoma, it is greatly diminished. Different animals show parallel relations between the amount of katalases and the intensity of oxidation.

The Human Stomach.—Dr. Hasse of Breslau read a paper on this organ, in which he described the form, position, and method of closure of the human stomach, and discussed the anatomical factors explaining regurgitation in children, the difficulty of vomiting in adults, and the direction of the food currents in the full and the empty stomach.

Fowl Tuberculosis.—Dr. Lydia Rabinowitsch of Berlin read a paper in the Section on Hygiene, discussing the relations of this disease to mammalian tuberculosis. After Koch's statement of the non-identity of human and bovine tuberculosis, it was in order to determine whether avian tuberculosis were also independent. The resources of the Berlin Zoological Garden were employed, and of over two hundred birds of different species it was found that twenty-five per cent. had tuberculosis, mostly of the abdominal organs, but, to a greater extent than is usually supposed, of the lung also. Infection usually occurred through the fæces, or through devouring rats or mice affected with avian tuberculosis. Avian tuberculosis, therefore, may be found among mammals, and, on the other hand, it was found that two eagles had died of mammalian tuberculosis. The cultural and pathogenic properties of the separate varieties are different, but transitional forms

may be observed, and the author believes that they are all only varieties of a single species, and that reciprocal infections between birds and mammals take place oftener than is supposed.

Acute Respiratory Diseases, Especially in Childhood.—Dr. Ascher of Königsberg read this paper and called attention to the fact that the deaths from this cause are increasing among infants and the aged. Variations of temperature, especially on successive days, are of great importance. Also the general employment of hard coal as fuel, for smoke even more than soot is injurious to the respiratory organs, especially in damp weather. Ventilation of dwellings is of great prophylactic importance.

Orleans Parish Medical Society.

At the regular semi-monthly meeting of this Society, held July 9, 1904, Dr. Henry N. Blum read a paper, entitled "Ainhum, Report of a Case, with Radiograph." (See page 651.)

Dr. E. L. McGehee, Sr., read a paper on "An Unusual Case of Tuberculous Meningitis." The location of the tubercles rendered the diagnosis very difficult. They were not upon the base of the brain, as usual, but upon the convex surface. They were chiefly upon the inferior or third frontal sinus, the speech centre, which rendered the patient absolutely speechless for days before other symptoms were manifest. As the case progressed the disease invaded the superior portion of the cerebral convolutions, causing contraction, first of the toe, foot, ankle, and knee, and then of the wrist and elbow. The facial muscles were never influenced. There was partial hemiplegia of the left side, yet these muscles would respond to touch. The right arm and leg were constantly in motion, in a state of clonic contraction. At the beginning it was hoped that the cause that produced those unusual symptoms was excentric. Various possible exciters of reflexes, such as adherent prepuce, swollen gums, and alimentary disturbances, all received attention, without result. At one time all the symptoms improved, which gave the friends great hope for a favorable termination, but a relapse soon occurred. As far as could be ascertained the little patient was exempt from any hereditary tendency to tuberculosis. He was strong and vigorous up to the onset of the fatal attack. His nurse had pulmonary tuberculosis; she was fond of the little fellow and kept him in her lap a great deal, and in the opinion of the writer she was the source of infection. Certainly it is no mere coincidence that a child previously healthy, without hereditary tendency to consumption, having been constantly in contact with a tuberculous adult, should die of the disease. This should prove a warning to parents to employ none but physically sound nurses.

Dr. A. Jacoby read a paper, entitled "Treatment of Tetanus." He said that there were five methods of treatment. The result of any treatment should be judged by its effect in acute cases. He felt that, judging by the results, as indicated in the report of successful cases by the intraspinal method, this was the one which was to be preferred. The only question involved was what could be done with those patients whom the family would not permit to be removed to a sanatorium or a hospital. He felt, however, that in those cases one was justified in following this procedure, even under adverse conditions in a private home.

Chicago Medical Society.

At a meeting of this society, held May 11, 1904, a number of cases were presented by Drs. Emil Ries, Frank S. Churchill, and Robert B. Preble. Dr. Geo. Rubin read a paper entitled "A Chief Predisposing Cause of Appendicitis; Preliminary Note, with a Few Laboratory Experiments." After reporting a case of this disease, he detailed some experimental work. The technique was as follows: Portions of bowel, about 50 cm. long, including cæcum and appendix, were resected from subjects dead of other diseases than what would affect that part of the intestinal tract. Specimens from very recent post-mortems were more desirable, but were not always obtainable. After cleansing the piece of bowel, the colon end was ligated; shot, peas, and beans were introduced through the ileum end and the bowel was manipulated so as to indicate more or less peristalsis. The rolling of those bodies was often done with more vigor than normal peristalsis would do. It was observed that none of the contents entered the cavity, although the appendix was held at the most dependent point. Then the bowel was inflated, still containing those substances, the same process of rolling again gone through, with the result that in all the experiments, with one exception, in which only one small shot entered, owing to a highly hypertrophied appendix wall and constricted lumen, the appendical cavity was filled with shot and in two cases peas of medium size gained entrance there. Ten such experiments were carried out. The appendix was readily ballooned during the process of inflation. It is reasonable to suppose, said the author, that similar phenomena might occur in the living. Fitz recorded nineteen out of 267 cases of appendicitis which were supposed to be due to indirect violence. Such cases can only be explained by the fact that a larger mass of fecal matter is forced through the cecoappendicular orifice than the appendix is able to expel, and then trauma to the mucosa, with subsequent infection, takes place. It is not improbable that heavy labor, such as lifting, may operate in a similar manner, *i.e.*, by the increasing intra-abdominal pressure produced by tension of the abdominal wall. These considerations help to explain the marked disproportion in the sexes. Regarding the size of the obstructing mass, no definite statement can be made. The calibers of appendices vary very much. What would be an insignificant particle for one may completely obstruct another. As to the rôle the valve of Gerlach plays in preventing matter from entering the appendix, little could be said, as in all the specimens of bowel the author had examined, in only one was there a lengthening of the mucosa that might have been called a valve. Under ordinary circumstances, the mucous lining itself is sufficient to act as such. The author quoted Van Zwalenberg, of California, who has recently published several series of experiments in which he showed that obstruction is the chief factor in the production of appendicitis, but he considers the subsequent distortion of the appendix with fluid, which impedes the circulation, to be the essential cause. It seems that the circulation of the appendix might be more readily interfered with from an inflammation of the lymphoid tissue in which the appendix is especially rich. Distention of the appendical cavity with fluid takes place rather gradually, and symptoms of that disease do not come on very abruptly; furthermore, cysts of the appendix are not very uncommon and are seldom associated with inflammation of that organ. The author found one in the course of several experiments where the distal half of the appendix contained a considerable amount of fluid, with no other abnormal changes. He did not attach much importance to Clado's discovery of a special peritoneal fold connecting the ovary and appendix, which is supposed to contain an extra blood supply, to explain the disproportion in the sexes. Even if that were a constant anatomical structure, it would not at all explain it, first, because the main trunk of the blood supply is seldom primarily affected; usually the smaller branches and the capillaries are first affected by the inflammatory process within the appendix wall. Second, the rarity of the disease in male infants and very young boys and in old men can hardly be explained by an appendico-ovarian ligament. Before the question is definitely settled, the author believes that experiments on living animals will have to be tried.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 15, 1904:

	Cases.	Deaths.
Measles	52	6
Diphtheria and Croup	275	26
Scarlet Fever	109	8
Small Pox	1	.....
Chicken Pox	26	.....
Tuberculosis	320	157
Typhoid Fever	140	26
Cerebro-Spinal Meningitis	.....	13
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	923	236

The Use of Electricity in Skin-Grafting.—John D. Rushmore, from a study of seven cases, is convinced that we have in this method of grafting a fairly certain way of fixing the grafts. It certainly coagulates the blood and secures the graft in its new position. He doubts the benefit of the secondary application of the Roentgen rays, and is not convinced that the healing process goes on any more rapidly than with any other treatment after fixation of the graft.

A Study of Electrical Injuries.—H. L. Staples divides electrical injuries into three classes: (1) Burns of greater or less severity; (2) Almost instant death; (3) Psychical or functional disorders. The location of burns is most often on the hands; next the wrists, forearms, feet, and legs. The burns are always more severe than apparent on first examination. A slight blister may develop sloughing to the bone. The character of the burns is first dry, aseptic, and indolent, later oozing, while symptoms of moist gangrene may appear. There is often severe pain. The burns should be washed with hydrogen peroxide or some other weak antiseptic, and dressed with protective rubber-tissue strips and cotton. Lard or vaselin ointments are not to be used at first. Skin-grafting, or even amputation may be necessary. A blister should be opened at once. A direct current burns more severely, especially at the positive pole. Extensive burns increase the resistance and are probably a protection. The writer has never seen permanent injury in the case of flash burns or injuries to the eyes by exposure to intense light. The treatment should consist of cocaine, boric acid, and smoked glasses. The severity of the burn is influenced by the completeness and length of contact, the resistance of the body, and the strength and direction of the current. Currents through the thorax, or from head to thorax, are most dangerous. The nervous system does not generally show any pathognomonic post-mortem evidence. Currents of great intensity may cause death by producing a heat coagulation of the cellular constituents. Apparent death should be treated by plenty of air, strychnine, and artificial respiration. Rhythmical traction of the tongue should be kept up. Massage over the heart is indicated. It is well to surround the body with hot water bottles. Efforts should he continued for hours. Electric currents are very apt to induce functional nervous disorders from fright, but it is not probable that they cause organic disease. The effect of confidence, encouragement, suggestion, and isolation is powerful and the only way to promote speedy recovery. A patient cannot get well while litigation is progressing. The older the patient the greater the danger of chronicity. In some cases the neurosis may continue in spite of the best environment and medical care, but these are very rare.—*Northwestern Lancet*

The Trophic Disturbances of the Fifth Pair of Nerves.—Harold N. Moyer advocates the use of castor oil in cases of this kind. The group of cases in which there is vasomotor disturbances includes the greater number of cases, and it is these which especially show the good effects of castor oil. The writer believes that two-thirds of the cases will be benefited, and of this number one-half will be almost cured. At any rate, they will go from 3 to 8 months without a return of the pain. When the pain does return, the same treatment will often result in further relief. A reasonably perfect cure is effected in about one-third of the cases. The explanation of the success of this eliminative treatment is that there is a condition of autointoxication, the presence of some substance in the blood, which this persistent and copious catharsis gets rid of. The writer does not reject the neuritic theory. He believes that there is a certain group of these cases in which the disease starts in the peripheral ending of the nerve, traveling up as a neuritis, and ultimately involving the ganglion. These cases are alone remedied by the surgical removal of the ganglion, or by section of the nerve roots. The writer finally declares that he believes that a large share of the disorders, both trophic and painful, of the fifth nerve have their origin in the teeth. He urges dentists, who see the teeth first, to broaden their clinical investigation of cases, and to look carefully for trophic disturbances about the face, which may be due to the conditions that are taking place in the mouth.—*Medicine.*

Health Report.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General Public Health and Marine Hospital Service during the week ended October 15, 1904:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
Arkansas, Fort Smith	Aug.	20–27	3	..
Illinois, Chicago	Oct.	1–8	3	..
Indiana, Evansville	Oct.	10	20	..
Massachusetts, North Adams	Oct.	1–8	1	..
Michigan, at 89 places	Sept.	24–Oct. 1	(Present.)	
Minnesota, Hennepin County	Sept.	27–Oct. 3	23	..
Washington County	Sept.	7–Oct. 3	1	..
Missouri, Saint Louis	Sept.	24–Oct. 10	20	1
New York, Buffalo	Oct.	1–8	1	..
New York	Oct.	1–8	..	1
Ohio, Cincinnati	Sept.	30–Oct. 7	1	..
Toledo	Oct.	1–8	1	..
Tennessee, Nashville	Oct.	1–8	3	..
Texas, San Antonio	Sept.	1–30	1	..
Wisconsin, Milwaukee	Oct.	1–8	1	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Aug.	13–20	1	2

SMALLPOX—FOREIGN.

Africa, Cape Town	Aug.	20–27	1	..
Belgium, Brussels	Sept.	17–24	..	1
France, Paris	Sept.	17–24	10	2
Great Britain, Bristol	Sept.	17–24	1	..
Glasgow	Sept.	23–30	1	..
Leeds	Sept.	10–17	5	..
Manchester	Sept.	17–24	2	..
Newcastle-on-Tyne	Sept.	17–24	7	..
Nottingham	Sept.	17–24	4	..
India, Bombay	Sept.	6–13	..	1
Karachi	Sept.	4–11	..	1
Italy, Catania	Sept.	23–29	..	1
Palermo	Sept.	17–24	9	2
Mexico, City of Mexico	Sept.	17–24	2	..
Russia, Moscow	Sept.	10–17	6	1
St. Petersburg	Sept.	10–17	9	1
Warsaw	Oct.	13–20	..	20
Turkey, Alexandretta	Sept.	17–24	(Present.)	
Beirut	Sept.	17–24	(Present.)	
Constantinople	Sept.	18–24	..	19

YELLOW FEVER.

Mexico, Coatzacoalcos	Sept.	17–24	15	4
Merida	Sept.	25–Oct. 10	1	..
Tehuantepec	Sept.	25–Oct. 10	1	1

CHOLERA.

India, Bombay	Sept.	6–13	..	4
Calcutta	Aug.	26–Sept. 10	..	10
Russia, Trans Caspian Territory and Central Asia, Askabad	Aug.	19	1	1
Bairam Ali	Aug.	14–17	8	4
Kaahka	Aug.	12–19	12	5
Merv	Aug.	18–19	29	16
New Bokhara	Aug.	16	1	1
Tejend	Aug.	12	1	1
Trans Caucasia, Baku	Sept.	11	5	..

PLAGUE—INSULAR.

Philippine Islands, Manila	Aug.	13–20	1	1

PLAGUE—FOREIGN.

Egypt, Alexandria	Sept.	3–9	9	8
Tukh	Sept.	3–9	6	4
India, Bombay	Sept.	6–13	..	62
Calcutta	Aug.	26–Sept. 3	..	7
Karachi	Sept.	4–11	6	2
Japan, Formosa	Aug.	20–27	7	9

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Original Articles.

SURGICAL REFLECTIONS ON THE DIAGNOSIS OF CANCER OF THE STOMACH.*

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IN observing the phases of the process by which new fields of useful activity are conquered to modern surgery, we find a certain regularity in the sequence of events. A study of this process may serve as an introduction to the consideration of the subject proper of this paper.

We find, that as to the abdominal contents and their maladies, the definitive settlement of the diagnostic problems bearing upon and determining actual practice, has very often been accomplished by surgical exploration of the field of disease, that is, by what has been aptly characterized as the "autopsy on the living subject."

What the ultimate or fatal lesions of any serious disorder are, we have been abundantly taught by the findings on the post-mortem table. These findings have generally served adequately to explain the clinical symptoms preceding more or less immediately the fatal issue. These well-known and easily interpreted symptoms, however, do not, as a rule, present themselves in their full significance, until the life of the patient is so irrevocably compromised that surgical interference has become nearly or entirely hopeless.

What the practitioner needs is a recognition and sound interpretation of the symptoms to be observed during the *initial stages of the disorder,* by the aid of which the enterprising, but conscientious, surgeon may be enabled to take the active measures at a time when the inherent conditions are still, and in an overwhelmingly hopeful manner, favoring curative success.

There is nothing that has done more for the elucidation of the pathological bases of the early symptoms of a number of important maladies than exploratory incision. It has enabled us to study pathological fact and physical symptom, as it were, together, and by the exploratory incisions of the early practitioners of the antiseptic method, a more important advance has been achieved in the diagnostics of certain maladies, than by any other known means.

As an invariable result of these explorations in vivo, we have seen to follow such an enrichment of our diagnostic apparatus, such an increase in precision of diagnosis, that the steady diminution of the necessity for the "autopsia in vivo" is, in consequence, becoming more and more apparent.

*Read by invitation before the Harlem Medical Society, June 1, 1904.

All this was, and could be, brought about only by the priceless immunity that was bestowed on surgery by the antiseptic method.

Now let us illustrate these statements by historical facts.

The genius and daring of Richard Volkmann shed the first rays of useful light upon the early phases of the various forms of osteomyclitis and of arthritis, and this by means of bold exploration.

Not a few of you will, perhaps, remember the din and noise caused, about twenty years ago, by the disputations of the gynecologists about the proper significance and treatment of what then was called pelvic peritonitis. The tumult and confusion was only stopped by the many exploratory incisions of such men as Lawson Tait, Noeggerath, and others, who demonstrated the tubal or ovarian origin of the infection of the pelvic peritoneum. Likewise, the causation of pelvic hæmatoma was cleared up by the same means. Nowadays even the tyro will not fail early and properly to diagnosticate tubal and ovarian suppuration, or extrauterine pregnancy.

An exactly similar history can be told of the disorders of the appendix vermiformis, the nosology and diagnostics of which were firmly placed on a workable basis by the efforts of Sands, Weir, and McBurney.

Another group of cognate disorders, those of the biliary tract, owe the highly developed state of their diagnostics and surgical therapy mainly, if not entirely, to the exploratory work of such men as Courvoisier, Riedel, Langenbach and last, but not least, to Kehr. Here, too, early and frequent bloody exploration laid the foundations of present diagnostic possibilities, led to the acquisition of therapeutically useful knowledge, that is, to the logical interpretation of hidden pathological fact by the observation of clinical phenomena.

Let us now turn to a field, the proper subject of this paper, the cultivation of which is certainly full of great promise.

Here, too, the main impediment to substantial progress is the uncertainty of diagnosis. With the hands of the diagnostician strengthened, little difficulty would be encountered by the surgeon to induce patients afflicted with cancer of the stomach to submit to an early operation. For, while on the one hand the malady means inexorable death, on the other we know that the chances of a radical operation, if taken early, are to-day not only not bad, but very good indeed. And though this refers in the main to the chances of immediate recovery from the operation, it must undeniably influence the prognosis of recurrence also.

The limit of the time at our disposal forbids bringing forward statistics to prove the first proposition. Be it sufficient to say, that the mortality of

the operation for pyloric, the most common form of cancer, has, ever since the operation was first done by Billroth in 1880, steadily declined. At first it was over 50 per cent.; to-day, for instance, in the case of Mayo, it has reached a fraction more than 18 per cent. This improvement is due not only to the development of a simple and safe technique, in which the saving of blood, of time, and the security from infection are the main factors, but also to the increasing inclination of surgeons to operate early, and of patients to submit more readily to an operation.

Billroth and his immediate followers did not operate except upon patients in whom the presence of a gastric tumor interpreted the clinical symptoms as those of cancer. A great proportion of these cases is, as we know, very far gone. It is far gone, both as to deterioration of the general health, and as to the involvement of adjacent parts. Originally these operations demanded between two and a half to three and a half hours' time, were invariably followed by a deep shock, and by a high mortality. How matters have improved in this respect, let me illustrate by a quotation from William J. Mayo (*Annals of Surgery,* March, 1904, p. 330). He says: "If the patient is in good condition, there is practically no shock, because there is no blood loss, and little exposure of abdominal contents, the operation proceeds systematically, and can be done, in a suitable case, by the average operator, from the beginning of the abdominal incision, until it is closed, in from fifty minutes to one hour and fifteen minutes."

While it is then true that the technique of the excision of gastric cancer has attained very great perfection, can the same be said of the means for establishing the diagnosis of the malady at its early stage? In spite of the persistent efforts of a large number of brilliant minds directed towards the object, the question must be answered in the negative.

Let us now briefly review the diagnostic apparatus, such as it is to-day.

The initial local symptoms are very vague and present nothing characteristic. When a middle-aged person, whose digestion had always been irreproachable, is suddenly and without known cause afflicted with a rebellious dyspepsia, a certain suspicion is justified; but this form of onset is the exception rather than the rule. Age, though a valuable factor, is not absolutely characteristic. Lack of appetite, though the rule, is not without notable exceptions. Bulimia, that is, an insatiable appetite, has been repeatedly observed. Thirst is only present when gastric motility is much impaired. Pain is inconstant, tenderness also, and the former is paroxysmal only in the presence of pyloric obstruction, and terminated on vomiting or on artificial depletion. The presence of blood in the gastric contents in small quantities is not characteristic. Coffee-ground vomit is frequent, and although somewhat more significant has no absolute diagnostic value. The swelling of the cervical glands is very rare, that of Virchow's gland, a late and inconstant symptom. We shall dispose of the systemic symptoms and their significance by stating that they are terminal, that is, they become manifest only when the malady is approaching its fatal end.

Now let us see what can be said of the function of the stomach in cancer.

Constant absence of free hydrochloric acid is frequent, and may almost be said to constitute a rule. But where the cancer is developing on the basis of a gastric ulcer, the rule suffers many exceptions. Moreover, absence of free hydrochloric acid accompanies fever, amyloid degeneration, cardiac troubles, phthisis, and essential atrophy of the gastric mucosa.

Absence of the digestive ferments is also an inconstant phenomenon.

The presence of lactic acid depends on three factors; first, on the absence of free hydrochloric acid; secondly, on the presence of motor insufficiency, and thirdly, on the diminution of the digestive ferments and of the digestive capacity for albumin. It is one of the most significant symptoms, and exists, according to Strauss, in 91 per cent of all cases of gastric cancer. But, on the other hand, the symptom is present in a number of other morbid states, such as are gastritis gravis, mucous atrophy, benign pyloric stenosis, then in cardiac, renal, pancreatic, and some intestinal disorders, such as, for instance, invagination. Moreover, it is a very late symptom, and, in the absence of the three cardinal factors just mentioned, fails utterly, though cancer be present.

Before quitting the subject of chemicity, let us glance at some of the more recent researches bearing upon it. Siegel (*Berliner klinische Wochenschrift,* 1904, Nos. 12 and 13), who re-examined the work of Salomon (*Deutsche medizinische Wochenschrift,* 1903, No. 31) and Glazinsky, bases his argument on the well-known fact that most gastric cancers can be classed in two groups: one containing those situated on the lesser curvature, and not complicated by pyloric stenosis, the other made up by the carcinomata that occupy the pyloric portion, and are most frequently accompanied by motor insufficiency due to stenosis.

The well-known fact that the surface of open cancers is secreting albumin, was utilized by Salomon, who, after withholding albuminous food, and the subsequent employment of carefully arranged washings by a saline solution, demonstrated the frequent presence of free albumin in the contents of the cancerous stomach. Sigel confirms this finding absolutely in carcinomata of the lesser curvature without stenosis, but rejects it in cancers developing on an old ulcer located near the pylorus. He finds that in these cases even small quantities of the free hydrochloric acid, which is frequently present, will digest the free albumin.

Glazinsky's thesis may be stated thus: When a hyperacid gastritis is followed by a mucous gastric catarrh, this may signify one of two things: Either that an ulcer has healed and a coexistent pyloric contraction has disappeared (for the persistence of the contraction would have caused the persistence of hyperacidity); or, that a pre-existent ulcer is undergoing a cancerous transformation.

It would transcend the limits of this paper to enter into the proofs brought forward by Glazinsky, which must be looked up in the original paper, and it may suffice to quote this as his conclusion, that with a history of ulcer and stenosis, increasing secretory insufficiency forms a strong indication of the presence of cancer. Inversely, where in the course of an ulcer, and in the absence of pyloric

stenosis, a tumor appears, and with all this there is no constant diminution in the secretion of free hydrochloric acid, cancer can be excluded with certainty. The writer of this paper has recently had occasion to verify the value of this thesis in a case at Mt. Sinai Hospital, and Sigel himself quotes a very striking case of his own, admitting the relative value of Glazinsky's method. He states, however, at the same time, that he has seen the method fail utterly.

Now let us see the value of the microscopic examination of the stomach contents. As said before, blood is very frequent in small quantities, but is just as often present in benign ulcerations. The Boas and Oppler bacillus (successfully cultivated by Kaufmann and Schleringer), is frequently found wherever, from whatever cause, lactic acid is abundant. Hence it is not pathogenomic. Cancer particles have a positive value, but are exceedingly rare.

In cancer, gastric motility is, as a rule, somewhat depressed, even where there is no pyloric stenosis; but marked disturbances of motor power are observed only when there is pronounced pyloric obstruction. According to Schüle, this is found only in 13 per cent. of all cases of cancer.

Neither examination of the blood, nor of the urine, yields any important aid towards the making of the specific diagnosis. Rosenfeld's assertion, that in cancer of the stomach the volatile fatty acids became augmented in the urine, is positively refuted by Sigel.

The presence of a gastric tumor may be of the greatest significance, but here again much difficulty is encountered. There are flat, diffuse forms of gastric cancer, which never develop a tumor. Then, in the presence of a tumor, it may be difficult, even impossible, by means of most skilful palpation, by the added inflation of stomach or colon, or by both, and even under anæsthesia, positively to determine whether the tumor is one of the stomach or not, not to mention the cases where an existing tumor cannot be felt on account of its high and hidden situation behind the costal arch or the liver, or where satisfactory palpation is utterly impracticable on account of meteorism, spasm of the abdominal muscles, ascites, or the presence of great masses of bellyfat.

The *respiratory and passive mobility* of the tumor, or their absence, are also phenomena not always easy to ascertain or to interpret, and *local tenderness on pressure* depends mainly on inflammatory conditions which may complicate cancer, or exist without it.

These are the main facts bearing on diagnosis in general, and, as you see, presenting much that is perplexing. Now, let us see how it is about the early diagnosis? Difficult as the diagnosis often is, even in much progressed cases, it is much more so in the initial stages of the trouble, that is just when active surgery might still be successful. The status of the question can be better characterized by two quotations, one from Czerny, the other from Kraske. Czerny says that "cancer of the stomach should not be operated upon radically at a time when its recognition as a tumor has become certain," and Kraske's words are as follows: "Operation for pyloric cancer is desirable only when a tumor cannot be felt, and when, on this account, no positive diagnosis is possible" (*Berliner klinische Wochenschrift*, 1894. Nos. 20 and 21). Thus we are placed here before an irreconcilable contradiction! On general principles we ought not to operate without a positive diagnosis; on the other side, however, we see that the dicta of such weighty authorities as Czerny depreciate operating at a time when the diagnosis has become plain, thus erecting the postulates clearly expressed by Kraske, that cancers ought to be operated upon before they can be certainly recognized as such.

Let us make an attempt to see whether the harsh contradiction in terms of these two postulates cannot be softened by the aid of differential diagnosis.

Eliminating the symptom of tumor, we have to depend on two things. First, on the dyspeptic disturbances, and, secondly, upon symptoms due to the damage done to the general condition.

Let us appeal to the method of exclusion to see how far it is able to help us.

In reference to the disturbances of the gastric function, first all those maladies must be excluded, which, like gastric cancer, are accompanied by marked diminution or absence of free hydrochloric acid. They are:

1. The chronic catarrh of the stomach.
2. All the processes other than cancer that lead to atrophy of the gastric mucosa.
3. Certain gastric neuroses.

A chronic catarrh will show a lengthy course, with ups and downs, with moderate and temporary diminutions of the free hydrochloric acid, and no grave impairment of the general condition; whereas the sudden appearance of rebellious dyspepsia, without adequate cause, in a person of previously faultless digestion, with coffee-ground vomit, with constant and increasing diminution of free hydrochloric acid; then the appearance of lactic acid, accompanied by grave emaciation, will certainly justify the strongest suspicion of cancer.

Not only grave and pertinacious catarrh, but especially that form of mucous atrophia dubbed by Ewald "anadeny," can determine such an alarming state of cachexia, that the suspicion of cancer will become very obvious. Such atrophy appearing in consequence of a chronic or toxic gastritis, or as an essential and independent malady, will have a very protracted course, and will not be ordinarily complicated by disorders of motility. Likewise shall we rarely observe motor insufficiency in forms of atrophy due to the presence of cancer of the œsophagus, duodenum, rectum, of the mamma, the uterus or the peritoneum, and notable variations will be observed in the state of the gastric secretion in different stages of the process. The only exceptions to this rule occur in cases of duodenal cancer when motor disorders and the presence of lactic acid are frequent (Ewald).

The greatest difficulties, however, will be encountered in the differentiation between cancer of stomach, and between atrophy due to gastric distension, caused by benign stenosis of the pylorus. It is pertinent to mention here the clinical conception maintained by Einhorn and Martius, under the name of simple gastric achilia, the necessity for which, however, is much questioned by various authors.

We have finally to bring forward certain neuroses of the stomach, that also can be the cause of very grave forms of atrophy, difficult to recognize, and

still more difficult to defferentiate from cancer, developing on the basis of an old gastric ulcer in a neurasthenic individual.

As to gastroscopy and skiagraphy, neither has yielded anything really valuable to aid the early diagnosis of gastric cancer, and, as to the significance of the etiological factor of traumatism, the most discouraging divergence of opinions has to be noted.

We see, then, that with our present knowledge a reliable diagnosis of incipient cancer of the stomach is a sheer impossibility.

Thus we are brought again face to face with the dilemma contained in the words quoted above from Czerny and Kraske.

Heretofore sound practice has demanded that a patient be not subjected to the risks of an operation without a clear knowledge of the diagnosis. Only in exceptional cases of great urgency was it permissible to resort to probatory incision. But keeping in view what we had to say about the uncertainties of the diagnosis of gastric cancer, especially in the early, operable stages of the malady, every suspected case of cancer of the stomach constitutes an urgent case. The fact is that while, after having conscientiously exhausted all means of diagnosis in cases of trouble affecting the appendix, the uterine adnexa or the biliary passages, we do not hesitate to resort on suspicion to the diagnostic incision, it is not less a fact that we still hesitate to do so in the face of a more certainly deadly malady than those mentioned; that is, in suspected cancer of the stomach. For we know that a respectable proportion of the infectious disorders of the organ just mentioned can be and are cured by the maiden efforts of nature; but the only possible issue of a gastric cancer is death. Why, then, hesitate to urge probatory incision at a time when the risk connected with it is slight and when, with its diagnosis early established, cancer can be surgically attacked in the only known manner that promises success.

The objections to operating, in this field on suspicion "are less real than imaginary," whenever the suspicion is well grounded in the results of careful clinical observation and experience. The repugnance of the patient is very often merely the outcome of the repugnance and lack of initiative in the physician.

Our appeal is necessarily directed to the zeal and energy of the general practitioner, who has the first chance to suspect the presence of gastric cancer, and upon whose intelligent and conscientious initiative depends the ultimate success of all operative measures.

In the case in question, the principle, that we must not submit a patient to the risks of any operation until the diagnosis is well secured, is led *ad absurdum* by the hard facts just brought out. Blind adherence to it means that no case of gastric cancer can be attacked by the surgeon, for in its initial stages no diagnosis can be had, and, further, because, *when* the diagnosis has become apparent, the malady is beyond surgical help.

The absurdity of this position will be still more apparent when we consider that, even in the presence of all the known late symptoms, local and general, of gastric cancer, no conscientious diagnostician can positively assure the patient that his malady is indubitably a case of cancer.

In view of the great variations observable in the malignity of the several histological varieties of gastric cancer, the ultimate prognosis as to recurrence will necessarily be *pari passu* different in different cases. It is safe to predict that the greatest successes will be achieved by early operations done on those forms of cancer which show the least tendency to rapid dissemination.

In conclusion, we may summarize our argument in this sentence:

When in a clearly progressive case of an intractable disorder of the stomach the local and general symptoms, conscientiously collected and weighed, strongly justify the suspicion of cancer, diagnostic laparotomy should be considered not only admissible, but obligatory.

34 East 75th Street.

CONDITIONS SIMULATING AND MISTAKEN FOR ACUTE APPENDICITIS.*

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The diagnosis of acute appendicitis is made without difficulty, in the great majority of cases. Nevertheless, cases of appendicitis are frequently overlooked, or appendicitis is diagnosticated where some other condition is present. The most constant symptoms of acute appendicitis are a sudden onset of abdominal pain, tenderness, rigidity, nausea, vomiting, and rise in the pulse rate and temperature. This chain of symptoms, however, may be caused by other pathological conditions, and unless the fact is borne in mind, mistaken diagnoses are liable to occur. Considering the multiplicity of tissues, and their liability to inflammation, it will be readily seen that there are many conditions which might simulate, and be mistaken for appendicitis.

It is beyond the scope of this paper to enumerate all the various tissues and organs which might be involved. In every case, with symptoms pointing to the right lower quadrant of the abdomen, the history and symptoms should be carefully considered, and the possibility kept in mind of some condition other than appendicitis. A diagnosis of appendicitis should not be made unless all other possible conditions have been excluded. At times an absolute diagnosis will be impossible, in spite of care and study, and only laparotomy will reveal the true condition. In many of the conditions mistaken for appendicitis, operation is quite as necessary as in appendicitis. In those cases in which general peritonitis is present, it is frequently impossible to say where the primary infection originated, but here the existing condition necessitates prompt operative intervention. During the past two years a number of cases came under my observation in which a diagnosis of acute appendicitis was made in the presence of some other condition. These cases have been of greater instructive value than a greater number of typical appendicitis cases. In addition to a report of the histories, I will briefly allude to the most important points in the differential diagnosis.

Case I. Adele F., age 36 years, married, was admitted to the Lebanon Hospital on February 6, 1903. For the past eight years she had occasional attacks

*Read before the Medical Society of the Borough of the Bronx.

of a sense of pressure in the lower part of her chest, which would last for several days at a time. Nine months ago she had an attack of pain in the right side of her abdomen, chills, fever and vomiting. She was treated for malaria, and remained in bed for a week. Subsequently she had a similar attack, which kept her in bed for two weeks. She was never jaundiced. Her present illness began eight days ago, with pain in the right side of her abdomen. The pain grew worse four days ago. She vomited once and her bowels moved after cathartics. She was sent to the hospital for operation, with a diagnosis of acute appendicitis. On examination, tenderness and rigidity was elicited over the right rectus muscle about the level of the umbilicus. An indistinct mass could be felt through the rigid muscles in the region of tenderness. The mass moved up and down with respiration. Tenderness extended below the level of the umbilicus, and almost to the median line. Her pulse was 116, temperature 101.4° F., and leucocytosis moderate. There was no jaundice, no vomiting, and nothing abnormal in the fæces or urine. The region of the appendix was somewhat tender. All the physical signs pointed to the region of the gall bladder, and the diagnosis was changed to acute cholecystitis, with calculi. She was operated upon by the writer on February 7, 1903. Through an incision of the right rectus muscle a tense mass was exposed. This proved to be the distended gall bladder, and was about the size of an orange. This mass was distinctly palpable through the abdominal walls, under full anaesthesia. There was localized peritonitis. The gall bladder was first aspirated and then sutured to the parietal peritoneum, in the upper angle of the wound. On opening the gall bladder a quantity of thick, muddy bile escaped, and the walls were about one-quarter of an inch in thickness. In all eighteen calculi were removed, varying in size from a hazelnut to a pea. Several of the calculi were removed from the cystic duct. A drainage tube was inserted and the rest of the wound sutured. There was at first a free discharge of bile-stained mucus, but it rapidly diminished and no bile escaped, showing that the cystic duct was still obstructed by a calculus. She improved rapidly, and declined further operation for the relief of the obstructed cystic duct. She left the hospital on March 12, 1903, feeling perfectly well, but with a very fine sinus, discharging mucus.

In this case the symptoms pointed to appendicitis, but the physical signs were those of cholecystitis. Nevertheless, we must bear in mind that the gall bladder in this case was situated much lower than is usual, and that pain and tenderness in appendicitis might be on as high a level as it was in this case, especially, if the appendix be pointing upwards. Examination showed the mass to move up and down with the movements of the diaghragm; this phenomenon is not observed in appendicitis.

These two conditions have many symptoms in common, and literature contains many reports in which cholecystitis was mistaken for appendicitis. Not infrequently we are able to elicit a history of attacks suggesting biliary colic, or a history of indigestion. The pain in cholecystitis is, as a rule, on a higher level, and radiates to the back. It is often referred to the epigastric region, which is exceptional in appendicitis after the first few hours. The maximum point of tenderness after the first twenty hours of cholecystitis, is just below the border of the ribs. Cholecystitis is usually caused by impaction of a calculus in the cystic duct. This obstruction is usually complete, and prevents drainage of the gall bladder, which in time is followed by increased secretion of mucus, and hence, distention of the organ. In the diagnosis of cholelithiasis, entirely too much stress is laid upon the presence of jaundice. Where only obstruction of the cystic duct is present, as in the majority of cholecystitis cases, jaundice is absent. A distended gall bladder without jaundice points to obstruction of the cystic duct. In fact, most attacks of so-called biliary colic are not associated with jaundice, because in reality they are attacks of cholecystitis.

Case II. Sadie E., age thirteen years, was admitted to Lebanon Hospital on September 28, 1903. For about a month she had had more or less pain in the abdomen, lasting three to four days at a time. About five days before admission, after returning from school, she was seized with pain about the umbilicus, which lasted for about four hours. After this she had more or less pain, on the right side, particularly at night. The point of maximum tenderness was in the right iliac region, but somewhat above McBurney's point. At this point a distinct mass was palpable, which on account of its tenderness could not be examined very thoroughly. Her temperature was 101°, pulse 110 and respiration 24. After a diagnosis of appendicitis, the abdomen was opened over the most prominent part of the mass, which under full anaesthesia appeared to be hard, and the size of a chicken's egg. The appendix was normal, and was in no way connected with the tumor, which was fluctuating and proved to be part of the right kidney. Aspiration revealed clear fluid; therefore, the diagnosis was changed to hydronephrosis. I incised the posterior layer of the peritoneum external to the colon, and exposed what proved to be the distended pelvis of the kidney. The posterior layers of peritoneum were partly sutured to the anterior abdominal wall, and the rest of the peritoneal cavity was walled off by gauze tampons. The pelvis of the kidney was incised, and about two ounces of clear fluid evacuated. Before completing the operation I endeavored to find the cause of the obstruction. The ureter was permeable, and at the time showed nothing abnormal. Drainage was followed by a free discharge of urine which gradually diminished and stopped entirely. The wound healed and she was discharged on October 29, 1903. Six months later she reports in perfectly good condition.

This, undoubtedly, was a case of intermittent hydronephrosis. The kidney was below its normal level, consequently the distended pelvis was palpable at a point where an exudation due to a postcaecal appendicitis might be found. Urinary symptoms were not observed. The history of similar attacks was considered to be in favor of appendicitis. What the exact cause of the obstruction was could not be determined; it may have been kinking of the ureter in connection with a displaced kidney, or a congenital faulty implantation of the ureter.

Case III. William M. G., age forty years, single, was admitted to Lebanon Hospital on February 6, 1903. Six years ago he had an attack of pain and vomiting like the present one. He remained in bed

for a few days and recovered without medical aid. On February 5, while at dinner, he felt a sudden pain, dull and rolling in character, most of the pain being in the right iliac region. The pain became gradually worse, and he could not sleep on account of pain and incessant vomiting, which began soon after the initial attack of pain. Vomiting continued all night and the next day. Bowels moved several times on the following day. During the night he was seen by his physician, who sent him to the hospital with a diagnosis of appendicitis. When he arrived at the hospital his temperature was normal, pulse 88, respiration 24. On examination, a distinct movable mass was palpable in the right iliac region. There was rigidity and considerable tenderness over the right side of the abdomen. Abdomen was somewhat distended. After admission to the hospital, bowels moved freely after a soapsuds enema. On February 7, 1903, forty hours after the first symptoms appeared, he was operated upon by the writer. Under ether anaesthesia, the abdomen was opened through a Kammerer incision. On opening the peritoneal cavity, a quantity of serous fluid escaped The appendix was normal. On further examination a movable mass was felt, which proved to be the caecum and ascending colon, with the ileum invaginated. An ileocolic intussusception was demonstrated, and an attempt made to reduce it. This was impossible and resection was performed. A faecal fistula remained, requiring further operative treatment. He left the hospital with a small faecal fistula. For a detailed history of this case, see MEDICAL RECORD, December 19, 1903.

The greatest number of cases of intussusception occur in children during the first year of life. The most important symptoms are a sudden onset of paroxysmal pain, vomiting, and bloodstained stools. These symptoms, in a young child, will readily lead to a diagnosis of intussusception. In adults, primary acute intussusception is comparatively rare, and the symptoms are not quite as characteristic. While in children the diagnosis should rarely present difficulties, in adults the condition is frequently mistaken for some other condition. Literature contains several reports in which intussusception was mistaken for acute appendicitis.

Reviewing the history of our case, several features will be found which pointed against appendicitis. The pulse was not appreciably accelerated, and the temperature was normal. The mass in the right iliac fossa was unusually large for the first forty hours of appendicitis, and was freely movable. On the other hand, we find that the bowels moved freely, even forty hours after the onset of the disease, and there was no blood in the evacuations. The comparative rarity of acute intussusception in adults, was perhaps the main cause for overlooking the true condition, and mistaking this case for appendicitis.

CASE IV. Mamie M., age twenty-one years, single, was admitted to Lebanon Hospital on June 1, 1903. Menstruated last on May 27. Six days ago she began to have pain in the abdomen, which gradually localized in the right iliac fossa. She vomited several times, and her bowels were constipated. Appendicitis was diagnosed and she was sent to the hospital. On admission she complains of continuous pain in the lower right side of her abdomen. Temperature 103.2°, pulse 126. Abdomen is somewhat distended and tender over lower part, and principally on the right side. Rigidity of the muscles is very pronounced over the lower right quadrant. The abdomen was opened by the writer, through an incision along the right rectus muscle. On incising the peritoneum, considerable serum escaped. The peritoneum of the lower part of the abdomen and pelvis was highly congested and covered by a recent fibrinous exudate. This condition was present about the ileocaecal region, and involved the appendix. This was removed, but it was apparent that the peritonitis originated in the pelvis. The right tube was distended and imbedded in a recent exudate of fibrin and serum which filled the entire pelvis. The right tube was removed, the serum and fibrin sponged away and the pelvis drained. The temperature and pulse rate gradually returned to normal, and she was discharged cured, on July 5, 1903.

CASE V. Mary E., age twenty-four years, married, was admitted to Lebanon Hospital on March 21, 1904. Has two children. In 1899 had peritonitis. Last menstruation began on January 18, 1904, lasting five days. On March 15, she aborted in the fifth week of pregnancy, expelling a complete ovum, and remained in bed for three days. She was feeling well until the day before admission; on this day she was taken with abdominal pain and vomiting. Most of the pain was localized in the right iliac region, and was of a dull aching character. She vomited several times; bowels were constipated. On the following day she was sent to the hospital with a diagnosis of appendicitis. On reaching the hospital her temperature was 104.4° F., pulse 100, and she complained of pain in the lower part of her abdomen. Tenderness was most marked slightly above Poupart's ligament and to the right of the median line. Rigidity was slight and there was no exudate around McBurney's point. Vaginal examination revealed tenderness to the right of the uterus, and a circumscribed mass, most likely a pyosalpinx of the right tube. There was no fetor to the uterine discharge. She was transferred to the gynæcological service, and was operated upon several days later. Laparotomy, performed by Dr. Ralph Waldo, exposed a pyosalpinx of the right side and a normal appendix. The pyosalpinx was removed and the patient made an uneventful recovery.

These two cases illustrate the possibility of mistaking inflammatory diseases of the uterine adnexa for appendicitis. In one of the cases the appendix was involved by the extension of the pelvic peritonitis. Inflammatory diseases of the uterine appendages frequently present symptoms which simulate an attack of acute appendicitis. This is most likely when a pyosalpinx is above the pelvic brim, or a pelvic abscess extends beyond the pelvic cavity. On the other hand, if the appendix extends into the pelvis, which is rather common in women, appendicitis might be mistaken for a pyosalpinx or a pelvic abscess. Should a long appendix be the seat of inflammation, it may become attached to the tube or ovary, and infect it by contact; on the other hand, a pelvic peritonitis may, by extension, involve the appendix. A history of gastro-intestinal disturbances points to appendicitis, while in cases of pelvic inflammation, there will be a history of menstrual irregularity, gonorrhœa, puerperal infection or mis-

carriages. Frequently there is a history of pain and fever occurring simultaneously with menstruation. The pain of acute appendicitis is more acute in its onset, and after a few hours is localized in the right iliac fossa. Constitutional and gastro-intestinal symptoms are more pronounced in appendicitis. In pelvic inflammation the pain is more diffuse, often extending to the opposite side. On vaginal examination, in cases of pyosalpinx, a clearly defined tumor is found. Pain after micturition or defæcation point to pelvic trouble. In pelvic inflammation usually both sides are involved, while in acute appendicitis, if the exudate extends into the pelvis, it is usually more pronounced on the right side. At times an absolute diagnosis is impossible, especially where both conditions are present simultaneously. Where doubt exists, operation is the safest course to pursue.

Case VI. Rose F., age forty years, married, was admitted to Lebanon Hospital on July 5, 1902. She was sent to the hospital with a diagnosis of appendicitis. As far as could be learned, she was seized with severe abdominal pain and vomiting about five days before admission. The pain continued and became most marked in the right lower quadrant of the abdomen. During this time her bowels did not move and vomiting was present from time to time. Her abdomen was very much distended and tender; the tenderness being most marked in the right lower quadrant. In spite of marked rigidity, a mass, the size of a cocoanut, was found, occupying the right iliac fossa. The mass was slightly movable and dull on percussion. The eyes were sunken and showed some icterus. On vaginal examination a tumor was found to the right of the uterus, which on bimanual examination, corresponded to the one felt in the iliac fossa. There was a blood-stained vaginal discharge. Her temperature was 101.2° and pulse 120. There was muttering delirium and restlessness. Bowels were constipated and vomiting frequent. General peritonitis, probably due to torsion of the pedicle of an ovarian cyst, was diagnosed. In spite of the apparently hopeless condition, she was operated upon on July 6, 1902. The abdomen being open, a large quantity of blood-stained fluid escaped, and a dark-red tumor was exposed, which on further examination proved to be a gangrenous ovarian cyst, with a double twist in the pedicle. After evacuating the contents of the cyst, the healthy portion of the pedicle was ligated and the entire mass removed. The abdominal cavity was rapidly sponged out and the wound closed with the exception of the lower part which was drained. In spite of active stimulation her condition failed to improve. Though the bowels moved freely, vomiting continued, delirium became violent, and she died from peritoneal sepsis, three days after the operation.

In this case, although the patient did not come under my observation until symptoms of general peritonitis were present, the physical signs led to a correct diagnosis. At times there is a history of a previously existing tumor. Intense pain and severe abdominal shock are the initial symptoms. This shock is of the greatest diagnostic value, and is rarely present with appendicitis. As the result of the torsion, circulation is interfered with, venous obstruction being most marked. This obstruction to the return flow gives rise to a hemorrhage into the cyst which is followed by a rapid enlargement of the tumor; this is one of the most important signs of torsion. The tumor is extremely tender and hard, and is at the site of the first pain. Signs of internal hemorrhage may develop, and the condition might at first suggest rupture of an ectopic gestation. Unless the condition is promptly relieved, peritonitis sets in as the result of rupture or gangrene of the cyst. In women, a history of sudden pain and marked abdominal shock with a rapidly growing tumor, should suggest acute torsion of the pedicle of an ovarian cyst.

Some years ago I reported to this Society the history of a patient, who was sent to the hospital with a diagnosis of acute appendicitis. A very marked anæmia and the absence of an inflammatory exudate, led me to make a diagnosis of ruptured ectopic gestation, which was confirmed at the operation. Sudden, severe pain, profound shock or collapse, marked anæmia and a low hæmoglobin percentage, with a history of menstrual irregularity, are the most important points in the differential diagnosis.

Case VII. John D., age forty-five years, was admitted to Lebanon Hospital on November 14, 1902. Twenty-four days before admission, he began to complain of severe pain in the lower part of the abdomen. He vomited twice and had some fever. Bowels moved freely without cathartics. Appendicitis was diagnosed and he was sent to the hospital for operation. On admission his temperature was 102.2° and pulse 94. A diffuse exudation was felt in the lower part of the abdomen which extended from a point above the middle of Poupart's ligament on the right side across the abdomen into the left iliac fossa, where it was most pronounced. In the median line, the infiltration extended about three inches above the symphysis. The region of McBurney's point was not very tender, nor was there any rigidity. On the right side the infiltration did not reach as high as on the left, where it extended about four inches above Poupart's ligament. The diffuse infiltration appeared to involve the abdominal wall, which was tender but not fluctuating. The rest of the abdomen showed nothing abnormal. There were no symptoms of peritoneal sepsis. Most of the local trouble was on the left side. This, with the comparative freedom of the region of the appendix, led to a diagnosis of a properitoneal abscess of unknown origin. His physician insisted upon the correctness of his diagnosis; therefore, to set aside all doubt, a small incision was made, and a normal appendix exposed. At the same time a diffuse infiltration of the abdominal wall was demonstrated which was in no way connected with any intraperitoneal organ. The incision was closed and sealed. An incision was then made on the left side about an inch above and parallel to the outer half of Poupart's ligament. After splitting the fascia and muscle fibres, an abscess was opened and a large quantity of thick, foul pus evacuated. The abscess cavity extended towards the right side, and seemed to be principally prevesical. After draining the cavity, he made a perfect recovery.

Case VIII. Kate R., age seven years, was admitted to Lebanon Hospital on July 24, 1903. Six weeks ago she began to complain of pain in the abdomen, but continued to go to school. A week

ago she complained of pain in the right side of the abdomen, and had some fever. The family physician was called in four days later and detected a tender mass in the right iliac fossa. Recognizing the possibility of acute appendicitis, she was sent to the hospital for operative treatment. On admission she was irritable and restless; her temperature was 104° F., and pulse 140. A mass was felt over Poupart's ligament, extending upwards for two inches. It was tender and seemed to be in the abdominal wall. There was no tenderness or rigidity around McBurney's point. There was no vomiting, and the bowels moved without cathartics. A properitoneal abscess was diagnosed, probably due to suppurating iliac lymph glands. She was operated upon by the writer, and after incising the skin and separating the fibres of the abdominal muscles, about an inch above Poupart's ligament, an abscess was opened. The abscess proved to be properitoneal and broke through the deeper layers of the abdominal wall. After the operation a vaginal discharge was noticed, the result of gonorrhœal vulvovaginitis. The discharge diminished and she made a perfect recovery.

In the first of these cases, the abscess developed in the properitoneal space and was, probably, prevesical in origin. In the second case, the abscess was most likely, due to gonorrhœal infection of some of the iliac-lymph glands. In the first case, the slow course of the disease, without any peritoneal symptoms, as well as the diffuse induration of the anterior abdominal wall, without rigidity, pointed against appendicitis. In the second case tenderness was most marked just above Poupart's ligament, and the exudate was in the abdominal wall. There was but slight rigidity and McBurney's point was free from pain. A properitoneal abscess will produce a diffuse, hard infiltration in the abdominal wall, which will be tender, but may not fluctuate until very late in the disease. This induration will extend upwards or to either side, and on rectal or vaginal examination will be found confined to the abdominal wall. Though the skin may show no redness or oedema until late, fluctuation might be detected, early, on rectal or vaginal examination.

Case IX. Emma Q., aged nine years, was first seen by her physician on May 29th, 1903, and gave the following history. On the preceding day she returned from school, complaining of headache, sore throat and pain in her abdomen. Castor oil was given, but was not retained. Vomiting continued and she was unable to retain anything. At the time of the doctor's first visit, the temperature was 103.4°, pulse 120. There was some hyperaemia of the tonsils, so that her symptoms were ascribed to tonsillitis. The pain in the abdomen and the vomiting were ascribed to some indiscretion in diet. Calomel in small doses was followed by tincture of iron. At this time there was no rigidity, but the entire abdomen was tender. On the following day, May 30, 1903, her throat condition was much better, but her temperature remained high, 103.4°, and her pulse rate was 120. She still complained of pain on the right side of her abdomen, and had a slight hacking cough. On the following morning she complained of severe pains all over the abdomen, but tenderness was most marked over McBurney's point. Appendicitis was suspected, with the possibility of some chest condition. I saw the patient at this time and found the symptoms just mentioned. There was also marked prostration, and the face was flushed. Palpation of the abdomen failed to find an exudate. I also found that the tenderness did not increase on continued pressure, and that the abdominal wall became relaxed. The sudden and marked rise of the temperature, the rapid respiration, flushed face, marked prostration and absence of a distinct inflammatory exudate in the abdomen, with previous experience in similar cases, led me to suspect pneumonia. Examination of the chest showed some dullness over the right lower lobe, with some change in the respiratory murmur. The diagnosis of pneumonia was confirmed by the subsequent course of the disease. In a few hours the physical signs became marked, and she passed through an attack of lobar pneumania, from which she fully recovered.

I have selected this case from a series of four which came under my own observation during the past three or four years. Literature contains reports of quite a number of cases, in which pneumonia was mistaken for acute appendicitis. That an absolute diagnosis is, at times, very difficult, may be seen from the reports of cases which were operated upon by experienced and well-known surgeons. This simulation occurs most frequently in children, but may occur in adults. The abdominal pain is referred from the chest along the lower intercostal nerves, and is not uncommon; the possibility of this reflex pain should always be kept in mind. Vomiting is not at all rare in the early stage of pneumonia, and obstinate constipation and tympanitis are frequently very troublesome symptoms of this disease. Several observers note that the abdominal walls relax with each inspiration and that the tenderness disappears under firm pressure by the flat of the hand. The sudden rise of temperature to a high point, the continued high temperature, the rapid respiration, the relaxation of the abdominal walls with each inspiration, and the disappearance of tenderness on deep pressure by the flat of the hand, with the absence of an inflammatory exudate, point against appendicitis. If, with this chain of symptoms, we bear in mind the reflex abdominal symptoms of pneumonia, an error will usually be avoided.

These cases illustrate but a small number of the conditions which might simulate or be mistaken for acute appendicitis, but it is beyond the scope of this communication to enter into a consideration of the others.

663 East One Hundred and Fortieth Street.

The Throat as the Source of Systemic Infection in Acute Rheumatism.—P. Watson Williams presents a few brief conclusions on this subject: Acute rheumatism is an infective disease *sui generis*. There is a true rheumatic pharyngitis or tonsillitis, and it is a primary infection. Rheumatic fever is a secondary infection, due either to the absorption of the products of the infective microorganisms or to the growth of such microorganisms in the tissues, and the infection may manifest itself in arthritis, pericarditis, endocarditis, chorea, bronchitis, pleurisy, alone or in association. In a large percentage of cases the portal of infection is in the fauces or pharynx or other region of the upper respiratory tract, but most often in the oropharyngeal lymphoid ring. There is no proportion between the intensity of the primary local lesion and the appearance or severity of the secondary systemic complications.—*The Bristol Medico-Chirurgical Journal.*

SOME RANDOM CONSIDERATIONS ON TUBERCULOSIS.*

By AUGUSTUS A. ESHNER, M.D.,
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Although the subject of tuberculosis is a well-worn one, and knowledge of its various phases is pretty well diffused, it can, by reason of its great importance, always be taken up for discussion with advantage and profit.

Being dependent upon a living cause, susceptible, under favorable conditions, of indefinite multiplication, tuberculosis belongs among the transmissible or communicable diseases. The causative bacteria are contained in the lesions, and they may be thrown off with the discharges from the diseased tissues, and thus find their way directly or indirectly into the bodies of previously uninfected individuals. They are especially conveyed through the air, in the form of dust, into which dried sputum is converted, although they may be distributed with the fine spray into which the expectoration is transformed in the act of coughing. Further, they may be contained in the milk and flesh of tuberculous animals used as food. There has been some difference of opinion as to whether tuberculosis is the same disease and due to the identical bacillus as it occurs in man and in animals, but the most recent evidence tends to sustain the affirmative view.

Knowing the cause and origin of the disease, as well as the channels through which it is conveyed, its preventability is established. A further important etiological factor to be considered is the susceptibility or insusceptibility on the part of the individual exposed to infection. The lodgment and presence of the tubercle-bacilli do not alone constitute the disease, which rather represents the reaction between the invading micro-organism and the tissue attacked. Either the seed falls on fertile soil and undergoes multiplication, or it falls on barren soil and then it fails to thrive.

Tuberculosis is, strictly speaking, not an inherited disease. Exceptionally the tubercle-bacilli pass from the maternal blood through the placenta to the fœtus, in which the disease may then develop exactly as it does in extrauterine life. What the offspring of tuberculous parents really inherits is some vice of tissue, some aberration of function, by reason of which a predisposition to tuberculosis is set up. In addition, such children are exposed to the danger of infection through the usual channels in increased degree by reason of their intimate association with victims of the disease. It were a salutary precaution if tuberculous individuals did not marry. At least, a tuberculous woman should not become pregnant, but in the event of pregnancy and successful delivery, she should not nurse her child.

An important aid in checking the spread of tuberculosis is the recognition of the disease in cattle, in conjunction with isolation of infected animals and disinfection of the premises occupied by them. Diseased animals should be condemned and the use of their milk and flesh as food forbidden. It has been demonstrated beyond peradventure of doubt that the milk of tuberculous cows may contain tubercle-bacilli, whether lesions of the udder or teats be present or not, and such milk may constitute a medium of infection. In order to remove the danger from this source the logical procedure would be thorough sterilization of the milk, but inasmuch as this precaution is, for one reason or another, perhaps more honored in the breach than in the observance, the more practical procedure is to interdict the sale of milk from tuberculous animals. It would, indeed, be a good plan to have the sources of all milk intended for consumption as food carefully and systematically inspected and certificates issued for that derived from non-tuberculous cattle.

Although it was at one time commonly believed that in children the intestinal tract is, by reason of the consumption of infected milk, more commonly than the air-passages, the portal of entry for the tubercle-bacillus, and therefore also the primary seat of the disease, strong evidence has been brought forward to show the fallacy of this belief, although it is probable that the abdominal viscera are rather more commonly the seat of tuberculosis in children than in adults. Under such circumstances the tubercle-bacilli may find their way to the thoracic viscera not alone through the air-passages directly, but also secondarily and indirectly through the pharynx, the tonsils, the œsophagus, and the intestines.

It has been found from a study of post-mortem records that infection with tuberculosis takes place by way of the air-passages rather more than four times as commonly during the first twelve years of life as by way of the alimentary canal, and only somewhat less commonly during the second twelve years of life. Later on, however, the disproportion is much more marked.

It has been pointed out that children may be infected with tuberculosis through the hands soiled as a result of creeping and playing on the floor, and the like. We have here an additional reason, if it were needed, to prohibit indoors, as out-of-doors, indiscriminate expectoration, and to require on the part of the tuberculous patient a strict observance of measures for preventing dissemination of the sputum.

It is a well-known fact that in tuberculous women the menstrual discharge may be replaced more or less regularly by hemorrhage from the lungs. Attention has also been called to the circumstance that in some such patients both the local and the general symptoms are aggravated during the menstrual period. Accordingly, tuberculous women should exercise special precautions at the time of menstruation, being careful to secure more than the customary amount of rest and freedom from excitement and strain.

Hæmoptysis, though an alarming symptom is, as a rule, not a dangerous feature of pulmonary tuberculosis. When it occurs early it is probably a result of hyperæmia in the neighborhood of the local lesion, the blood escaping from the vessels by diapedesis. At a later period it is most likely due to ulceration of the bronchial mucous membrane. At a still later period the hemorrhage is due to rupture of an aneurism or erosion of the coats of an artery in connection with excavation of the lung. Hæmoptysis, finally, may occur at any time in plethoric tuberculous subjects.

As tuberculosis is a communicable disease, notification of the existence of cases should be made to some official body clothed with authority, for the institution of steps looking to the prevention of its spread. The tuberculous patient should be informed

*Read before the Adams County Medical Society, at Gettysburg, August 25, 1904.

as to the communicability of his disease, as to the means of its conveyance, and also as to the measures for reducing the danger of communicating it to others. In case of death or removal, the premises or apartments previously occupied by such a patient should be disinfected.

That there has been a distinct reduction in the morbidity and mortality of tuberculosis should be a source of no little pride to the medical profession, to whose efforts and activities these good results are largely due. This advance must be attributed essentially to a better knowledge of the nature of the disease, its etiology, its mode of dissemination, its prophylaxis, and its treatment.

The differentiation between typhoid fever and tuberculosis is sometimes a matter of no little difficulty, and in this connection it should be borne in mind that the two diseases are sometimes associated. In the latter event, it is probable that the typhoid fever is most commonly intercurrent in the course of the tuberculous affection, or perhaps excites into activity a previously latent tuberculosis, although on the other hand the tuberculosis may no doubt be implanted upon the fever.

In connection with the diagnosis it should be borne in mind that there is at times a close similarity between the symptoms of influenza and those of incipient tuberculosis, or of exacerbations of the tuberculous process.

The prime indication in the treatment of a case of tuberculosis is the improvement of the general nutrition by whatever means possible. This will be met by an abundant supply of fresh air, and good, assimilable, nutritious food, and a proper amount of exercise and rest. Two other requirements are essential in the management, namely, isolation and disinfection. The tuberculous patient is not inherently and essentially a source of danger to others, but he may become so by reason of carelessness in the disposal of his discharges. This danger can be averted by simple measures of disinfection, such as the use of special receptacles for the expectorated matter, keeping the sputum moist, and destroying it by means of heat, or rendering it innocuous by means of chemical disinfectants. In coughing, the patient should hold a handkerchief or a napkin before the mouth to prevent the expectoration blown into spray from being scattered. In so far as these latter measures are enforced the necessity for segregation of the tuberculous patient will be diminished.

It has been learned that it is not always necessary to send tuberculous patients away from home to secure the advantages of climatic treatment. What is needed especially in this connection is a life in the open air, with a maximum of sunshine, and this can, as a rule, be attained at or near home. When possible, the patient should be out of doors all of the time, even during sleep, or, if compelled to remain in the house, windows and doors should be kept open constantly, winter and summer alike. The roof-garden and the tent are useful adjuncts in this connection. With this object in view it has been proposed that camps for tuberculous patients be established on certain forest reservations. A good purpose would be subserved if light agricultural or other form of outdoor work were provided for those able to perform it. This would have a beneficial therapeutic effect, apart from its economic value.

Hydriatic measures have been warmly recommended in the prophylaxis and treatment of tuberculosis. Cold water applied topically is a powerful tonic, improving the appetite, increasing the weight, enriching the blood, augmenting muscular power, stimulating innervation, and accelerating metabolism. It antagonizes retrogressive and favors constructive metamorphosis. By an influence on the peripheral terminations of the sensory nerves and on the vasomotor nerves, it corrects the susceptibility on the part of the tuberculous patient to catarrhal affections of the air-passages. It also exerts a beneficial influence on the local morbid process, inducing increased activity in the flow of blood to and from the affected parts, and improving the circulatory conditions generally. The action of the heart is invigorated, the tone of the vessels is improved, and the entire organism is strengthened. The best plan is to employ a temperature as low as the patient can promptly and completely react from.

It is as yet not possible to speak with assurance concerning the outlook for serum-therapy as applied to tuberculosis. Experimentally results have been obtained that seem to offer the promise of better things, but we have in this connection got scarcely beyond the experimental stage. It may yet be found that uncomplicated tuberculosis is a self-limited disease that, in the absence of secondary infection with streptococci, staphylococci, and other, especially pyrogenic, bacteria, tends toward spontaneous recovery through the development of anti-bodies that exert a destructive influence on the tubercle-bacilli. If this be so, we may hope for the isolation of an antitoxin possessing both prophylactic and curative properties. From the same point of view the necessity for the avoidance of mixed infection, so far as this is possible, is obvious. Good results have been reported from the use of the blood-serum obtained from horses inoculated with progressively increasing amounts of tuberculin until no reaction took place.

Urea has been employed in the treatment of tuberculosis on the basis of the apparently lesser prevalence of the disease in carnivorous than in herbivorous animals. Twenty grains are administered by the mouth three or four times daily, or forty grains hypodermically in four drachms of distilled water. Perhaps the same end is attained by insisting upon the ingestion of a superabundance of proteid food.

Inhalations of formaldehyde have proved useful, compressed air being passed through a 6 per cent. solution. I have had patients saturate with the same solution a sponge placed in a mask held over the patient's nostrils. Encouraging results have been reported also from intravenous injection of formaldehyde—50 c.c. of decinormal salt solution containing 1 part in 2,000 parts.

Rib resection has been practised for the purpose of bringing about collapse of a tuberculous cavity in the lung, and a subsidence of the morbid process. The development of an artificial pneumothorax, with the introduction of nitrogen gas, has been recommended in the treatment of pulmonary tuberculosis, with the object of putting the affected lung at rest. More radical surgeons have even suggested operative removal of diseased portions of lung, provided that the lesion be circumscribed and single. In the presence of abscess or gangrene, surgical intervention would, of course, become necessary.

In conclusion, I desire to reiterate and emphasize

three important parts: (1) Tuberculosis is a transmissible disease; (2) it is a preventable disease; (3) it is a curable disease.

1019 Spruce Street.

STERILE WATER ANÆSTHESIA IN THE OPERATIVE TREATMENT OF ANO-RECTAL DISEASE;*

WITH A SUMMARY OF THREE HUNDRED AND TWENTY CASES.

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It has been in the past, and is at present, the custom of both the general surgeons and the proctologists, with very few exceptions, to insist that patients suffering from rectal diseases, no matter how trivial, must forego business and social engagements and enter the hospital to be operated upon under general anæsthesia. The writer is firmly convinced that this is unnecessary, and indeed unjustifiable in most instances, and for several years he has endeavored to diminish the number of his hospital cases, until during the past two or three years he has succeeded in relieving the vast majority of his patients by radical operation performed under local anæsthesia in the office or dispensary.[1]

The greatest difficulty encountered in the office treatment of these affections was to find a reliable, safe, and effective local anæsthetic. Cocaine and various other agents were extensively employed for some years, but were discarded one after another because of dangerous toxic effects, copious hemorrhage, prolonged postoperative pain, or failure to produce the desired amount of anæsthesia. In employing cocaine solutions it was observed that they were practically inert when distention was not obtained, because of the presence of an ulcer, fissure, or sinus, or because the pushing of the needle through the tissues allowing the escaping of the fluid, although the same solutions were effective where no such opening existed and complete distention occurred; and also that very weak solutions of these drugs were equally as effective as strong solutions when thorough distention was accomplished. From these observations it occurred to the writer that the anæsthetic effect produced by these solutions was not due to the action of the drug, but to the presence exerted by the injected fluid upon the terminal nerve filaments, and experiments were begun in September, 1901, to determine whether sterile water injected into the tissues would produce anæsthesia. It was found that sterile water or decinormal saline solution at any temperature caused effective anæsthesia[2] when the tissues were thoroughly distended. The salt solution did not appear to possess any advantages over the plain water, and the temperature of the water was unimportant in producing anæsthesia, although when warm it caused the least discomfort to the patient.

The cardinal principle in producing pressure anæsthesia by the injection of water is to introduce sufficient water thoroughly to distend the tissues, causing them to become anæmic and assume a glassy whitish appearance, when complete anæsthesia immediately follows. This distention does not require a large amount of water, from ten minims to half a drachm only being necessary for small hemorrhoidal tumors, and from one-half to four drachms in more extensive operations. In introducing the water it is not necessary to use more force than is usually employed in making the ordinary hypodermic injection.

The first distention causes in some cases a momentary stinging pain, and patients should be warned of this, so that they will not jump away and pull out the needle before complete distention is obtained.

The only requirements for producing local anæsthesia by this method are sterile water and a hypodermic syringe, or, better, an aspirating syringe fitted with a fine, sharp needle and a Gant curved extension piece which raises the needle above the body of the syringe so that the latter does not obstruct the operator's view when the injection is being made.

The technic depends upon the nature of the operation to be performed. When a linear incision is to be made through the skin and subcutaneous structures for abscesses, fistula, excision of lipomata, cysts, etc., the removal of clots from thrombotic hemorrhoids, or of foreign bodies from beneath the integument, the procedure is as follows: A fold of the skin at one extremity of the line of incision is caught up between the thumb and forefinger and compressed for a few seconds, which diminishes and often prevents the momentary pain caused by the introduction of a needle. The needle is quickly introduced between the layers of the skin, and a few drops of water are slowly injected, which should produce a small, localized swelling and anæsthesia of the skin at this point. The needle is then introduced slowly further and further along the entire length of the line of the cut to be made, and the water is gradually injected as before, care being taken not to go entirely through the skin. The needle is next plunged deeper into the subcutaneous structures, and they are gradually distended until a linear, firm, whitish, ridge-like swelling is produced. If the procedure has been properly carried out, the skin and underlying structures can now be incised without pain in almost every instance.

The writer has also employed this method to anæsthetize the line of incision for colostomy, abdominal fixation of the sigmoid, and exploratory laparotomy, these operations for obvious reasons being performed in the hospital.

For the thrombotic variety of external hemorrhoids it is necessary to make the injection of sterile water between the layers of the skin only, when the tumor should be quickly transfixed with the curved bistoury, laid open, the clot turned out and cleansed, and the cavity packed with gauze.

In cutaneous hemorrhoids the water must be deposited between the layers of the skin and also into the center of the tumor, after which the tumor can be excised and the wound closed with catgut, or left to heal by granulation.

Large internal, protruding or bleeding, hemorrhoids can be speedily, and, in the vast majority of cases, painlessly, removed by the ligature, clamp

* Read at a meeting of the American Proctologic Society, June 9, 1904.

[1] A plea for the non-hospital or office treatment of diseases of the rectum and anus, Samuel G. Gant, M.D., LL.D., *New York Medical Journal*, April 18, 1903.

[2] For the history of water anæsthesia, see the writer's article, *New York Medical Journal and Philadelphia Medical Journal*, January 23, 1904.

and cautery, or excision after the tumor has been so tightly distended with water injected directly into its center that it turns white. The ligature method is the operation of choice to be performed in the office.

Prolapsus ani, even though extensive, may be cured in the office, and with little discomfort to the patient, by distending with water small or large areas of the mucous membrane and muscular structures of the bowel, which are removed by the ligature or clamp and cautery. Or, on the other hand, linear distention may be done and long segments removed, the wound being left to heal by granulation or closed by sutures.

Ischiorectal, follicular, or marginal abscesses may be opened with but slight pain by injecting the water between the layers of the skin over the abscess, subcutaneous distention being unnecessary. But the writer does not advocate this method of anæsthetization for extensive or deep ischiorectal, circumrectal, or pelvirectal abscesses when much cutting and curetting are essential.

Fissure, ulceration, epithelioma, stricture, and congenital malformations about the anus, constipation, fæcal impaction, or other affections which require operation to increase the lumen of the anal outlet, or which necessitate incision or division of the sphincter muscle, may be operated on under water anæsthesia. For these operations the skin and subcutaneous structures up to the anal margin are distended as previously described, and finally injections are made into the mucosa, submucosa, the external, and, if necessary, the internal sphincter muscle, until a sufficient degree of pressure is exerted upon the nerve endings to overcome sensation. The injection should be made slowly, as rapid distention of this sensitive region may produce considerable discomfort.

The cases in which this method of local anæsthetization has been successfully employed by the writer include radical operations for fissure, ulceration, protruding and non-protruding internal hemorrhoids, cutaneous and thrombotic external hemorrhoids, polypi, prolapsus ani, ordinary complete and blind internal and external fistula, and ischiorectal, marginal, and follicular abscesses; excision of perineal cysts, sacral dermoids, and lipomata of the buttocks; removal of foreign bodies beneath the skin and mucosa; division of the sphincter in constipation, when the muscle was so hypertrophied that divulsion had proved ineffective; fixation of an elongated sigmoid to the anterior abdominal wall; colostomy, and exploratory laparotomy.

This method of anæsthetization is not practicable, however, for excision of the coccyx, or for extensive operations, such as are required for the removal of large tumors by excision or resection of the bowel, or for the relief of the worst types of complete prolapsus recti, complex, horseshoe, rectovesical, rectourethral, and rectovaginal fistula, very extensive abscesses, malformations, or other affections located in the upper rectum. Neither is it applicable for opening the abdomen when there is a thick layer of fat and the tissues are so loose and flabby that a proper degree of distention is impossible.

The anæsthesia and anæmia of the parts occur almost instantly on complete distention of the tissues, and from this it would seem that the effect is produced by the pressure upon the nerves and their endings, or upon the blood-vessels. If the distention is too quickly induced, however, by too rapidly injecting the water, it may cause considerable temporary discomfort, amounting to pain in extremely sensitive persons.

The advantages of water anæsthesia are many:

(1) Effective local anæsthesia is so quickly and easily obtained by this method that in a majority of operations upon the rectum and other parts of the body there is no necessity for the patient to enter a hospital and undergo general anæsthesia. For this reason it appeals strongly to the better class of patients.

(2) The anæsthesia instantly follows the injection of water sufficient to distend tightly the tissues to be incised or removed. This enables the operator to work quickly, and the patient is not confined to the hospital during the after-treatment, but can come to the office to be dressed, thus economizing the surgeon's time and labor.

(3) No annoying or dangerous complications have been observed during or following the injection of the amount of water necessary to produce anæsthesia.

(4) In the writer's experience there has been but little bleeding during the operations, and dangerous secondary hemorrhage has never occurred.

(5) Except for the stinging pain sometimes induced in the beginning of the distention, the patient has but little discomfort during and immediately following the operation.

(6) It eliminates the danger to life from heart, lung, and kidney complications, which are always to be feared during and following the administration of ether or chloroform, and it avoids the increased pain and hemorrhage due to straining and vomiting after general anæsthesia.

(7) The only requirements are a suitable syringe, a needle, and boiled water, and these are usually at hand.

(8) The radical treatment of hemorrhoids and fistula can be so easily carried out under this method in the physician's office, with so little danger and inconvenience to the patient, that it should relegate to oblivion the much-vaunted injection treatment, which is so dangerous and uncertain.

Following operations under this method of anæsthesia the pain is much less than when cocaine and similar drugs are used, as the latter apparently induce a state of nervous excitability in the patient; and, moreover, after their anæsthetic effect has worn off there is increased local irritability of the nerves. There is also less danger of postoperative hemorrhage after this method, due apparently to the fact that the drugs cause a relaxation of the walls of the small vessels, which frequently persists for a considerable time, and permits oozing and sometimes profuse bleeding.

The writer has tabulated 320 cases—243 males and 77 females—operated upon under sterile water anæsthesia in the office or dispensary, giving the details of diagnosis, operation, etc. But owing to the space which would be required to print the complete table, only a brief summary of the table can be submitted at this time.

There were 126 cases of internal, protruding, or bleeding hemorrhoids, 116 of which were operated upon by the ligature, 6 by excision, and 4 by the clamp and cautery method; 44 cases of external

cutaneous hemorrhoids treated by excision, the wound being sutured or left to heal by granulation; 20 of thrombotic hemorrhoids treated by free incision, removal of the clot, and drainage; 16 cases of fissure, 14 requiring complete and 2 partial division of the sphincter muscle; 57 cases of fistula (46 complete, 1 complete internal, 2 complete external, 6 blind internal, and 2 blind external), of which 51 were operated upon by division, 4 by excision, and 2 by ligature; 11 cases of prolapsus recti, 7 operated upon by means of area ligation, 7 by clamp and cautery, and 2 by linear section and suture; 8 cases of ulcer, 2 being excised, 2 incised, 2 curetted, and 2 cauterized; 8 cases of polypi, 6 being removed by the ligature operation, 1 by excision and suture, and 1 by clamp and cautery; 7 cases of abscess (4 ischiorectal, 2 marginal, and 1 follicular) requiring free incision, curettage and drainage; 3 cases of stricture and 1 of congenital malformation of the anus treated by incision; 9 tumors (4 sacral dermoids, 2 lipomata, 2 perineal cysts, 1 epithelioma) treated by excision; 2 cases of foreign bodies removed after incision; 2 cases of constipation and impaction requiring division of the sphincter muscle. In addition there were 3 colostomies for cancer, 1 abdominal fixation of the sigmoid for prolapsus recti, and 1 exploratory laparotomy for suspected intestinal obstruction. These latter operations were performed in the hospital for obvious reasons.

In nearly all these cases the anæsthesia was satisfactory, distention was easily obtained, and the discomfort accompanying it was not great and was relieved immediately by the incision. There was but little bleeding during the operations, and annoying post-operative hemorrhage occurred in only three instances, there being considerable bleeding, which was arrested by external pressure in two of these, while in the third the hemorrhage became alarming, but was finally controlled by inserting a gauze plug into the rectum. In a few instances there was quite severe post-operative pain and sphinteric spasm, for the relief of which the application of hot water to the anus or the insertion of opium and belladonna suppositories was required.

Recently much has been written and said concerning operations performed on other parts of the body under local anæsthesia produced by very weak solutions of cocaine and similar agents, but in the writer's experience the addition of these drugs has been found unnecessary, and although the quantity used may be small, they still possess the disadvantage of sometimes producing toxic symptoms and other complications.*

In conclusion, the writer wishes to state that, while anæsthesia by the injection of sterile water is not effective and cannot be applied in all major operations, he has employed it, to the exclusion of general and local medicinal anæsthetics, in nearly all of his operations upon the rectum (for hemorrhoids, fistula, fissures, etc.), and with such gratifying results that he would heartily recommend its thorough trial by other surgeons for operations in the anorectal and other regions of the body.

* The writer has succeeded in producing local anæsthesia by means of pressure upon the nerve endings induced by compressed air and gases of different kinds, introduced into the skin by means of a porous needle connected with the compressed air tank. The difficulty of retaining the air or gas until anæsthesia was produced was found to be an objection, as was also the danger of air embolism.

43 West Fifty-second Street.

THE ROLE OF THE PROSTATE IN AFFECTIONS OF THE URINARY TRACT.*

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The purpose of this paper is to consider briefly the prostate as a urinary organ, a point of view suggested by the many pathological conditions of the urinary tract in which we find the prostate involved.

The prostate is commonly spoken of and thought of as a purely procreative organ—an important member of the sexual family of organs. It has been termed the sexual heart, and when we consider its physiological function the name seems certainly deserved. However, a glance at the anatomy of the organ and at its relations to adjoining parts, is sufficient to justify its consideration in its relation to the urinary tract. The urethra, carrying the urine from its reservoir, the bladder, into the outer space, tunnels its way between the two prostatic lobes, its walls, roof, and floor being made of prostatic tissue. This portion of the urethral tract, known as the prostatic urethra or neck of the bladder, is about an inch and a quarter in length, and possesses a decided curve, thus dominating the construction of urethral instruments. The muscular fibers of the prostate completely encircle this portion of the urinary tract, and by their tonic action keep the canal firmly closed.

The so-called "third" lobe, which is in reality not a lobe at all, is a small pyramidal-shaped isthmus of tissue, known as the *pars intermedia* or the posterior commissure, which connects the two lobes below. This mass of tissue is of the greatest importance, for when it becomes hypertrophied, as it often does in old age, to such an extent as to project into the urinary channel, interference with the flow of urine results. It is in this condition that the hypertrophied mass has been denominated the "third" lobe, a term arbitrarily given to a pathological condition. When this outgrowth is present, it may act as a bar at the orifice of the bladder, or it may appear as a spherical mass occluding the neck of the bladder like a ball-and-socket valve. In any event, the obstruction to the urinary flow is well marked, and in extreme conditions may be complete.

Of no less importance in the relation of the prostate to urinary affections is the arrangement of the floor of the prostatic urethra. Anteriorly lies the verumontanum or sinus pocularis, and on either side of it are the prostatic sinuses into which open some fifteen or twenty prostatic ducts. The two openings of the ejaculatory ducts are placed at the anterior portion of the verumontanum. If Nature had purposely aimed to punish those who violate her laws in a manner never to be forgotten, no better plan could have been devised than this arrangement of ducts and sinuses on the floor of the prostatic urethra, leading to the genital organs. In truth the unlawful and blissful moment of joy is too often transformed into days, even years, of despair, through the arrangement just mentioned, for it is by this route that urethral diseases are carried to the deeply seated sexual organs.

In closing this brief and necessarily superficial

*Read at the Third Annual Meeting of the American Urological Association at Atlantic City, N. J., June 9,

survey of the anatomical features of the prostate which have reference to the passage of the urinary stream, mention must be made of the complex nerve supply which brings the prostate into close affiliation with all surrounding parts, and indirectly with organs at a distance. It is this profuse nerve supply that is responsible for so many of the neurasthenic symptoms following inflammation of the organ, the great majority of which are urinary in character.

There is still some diversity of opinion as to the part played by the prostate in the normal urinary act. The opinion expressed by Keyes to the effect that "the prostate has nothing to do with urination, and is quite passive in the act," while it enjoys the support of numerous observers in the past, is quite opposed to the opinion of equally numerous writers, who maintain that the prostate does take part in the act of micturition. It is conceded by all that the primary function of the organ is sexual; nevertheless, these observers agree in attributing to those prostatic fibers lying in intimate relation with the bladder anteriorly, the so-called external sphincter of Henle, a secondary part in the urinary act. In infants, it is well known that the prostatic muscle fibers are practically continuous with those of the bladder walls. In adult age, however, this continuity seems to be modified somewhat by a thickening and reinforcement of the prostatic fibers, which constitute the sphincter of Henle or the neck of the bladder. The preponderance of opinion is well put by Lydston in these words: "While urination might be carried on in the absence of muscular tissue of the prostate, the organ, nevertheless, appears to play a distinct secondary or auxiliary rôle in micturition. While admitting, therefore, that the prostate is to all intents and purposes a procreative organ, it would seem that it is a participant in the function of micturition, and should, therefore, receive consideration as a urinary organ as well."

As has been stated, this paper aims to consider the prostate, as far as brevity will allow, in its rôle as a urinary organ. It is difficult to understand the prevalent tendency that creates a sharply drawn line between the bladder and the prostate in their relation to the urinary function, for the anatomical structure of the relative parts is such as to create a functional and structural continuity between the two organs. The line drawn between the bladder and prostatic urethra is an arbitrary one. It does not exist anatomically, neither is there good reason for believing that it exists physiologically. The prostatic urethra opens into the bladder like a funnel, the wide mouth facing the bladder, the narrow mouth being continuous with the urethra anteriorly. To all intents and purposes the wide mouth of the prostatic urethra is intended by Nature as a continuation of the bladder, and as such it ought to share the honors with the bladder in health, and its misfortunes in disease. Such we find to be the fact in practice as in theory. The bladder cannot perform its normal functions properly if the prostate is diseased; neither can the bladder remain long the seat of disease without affecting the prostate. There is a community of interest, so to speak, that compels a recognition of these two adjoining bodies as common urinary organs. This can well be illustrated by the familiar picture presented by an acute inflammation of the prostatic urethra. The bladder itself is not necessarily involved in the inflammatory process, yet the symptoms are those commonly described as "bladder symptoms." To differentiate between this complex of symptoms and those produced by an acute inflammation of the bladder itself, is by no means an easy matter.

Another interesting point in this connection is brought to view when we compare the normal prostate with the pathological prostate. The normal prostate is essentially a genital organ. At best, its urinary function is a limited one. The importance of the organ in health practically depends on its genital functions. Reverse the picture and study the prostate in disease, and we are confronted with a complex of urinary symptoms. Physiologically a genital organ, the prostate in the pathological condition is at once transformed into a urinary organ. Thus a prostate may functionate properly as a genital organ, and at the same time be responsible for diverse urinary troubles of a character menacing to life itself. Whatever the pathological condition of the prostate may be, sooner or later the predominating symptoms resulting therefrom will be referred to the urinary, and not to the genital, function. This in itself should be a sufficient justification, if one were needed, for the consideration of the prostate as an important factor in urology.

In considering the pathology of the prostate, two conditions stand out preeminently as being the most important, one inflammatory, namely acute and chronic gonorrheal inflammation of the prostatic urethra, the other, the non-inflammatory hypertrophy of the prostate seen in old age. The *bête noire* of the genito-urinary surgeon is gonorrhœa of the prostatic urethra, because of its tendency to chronicity, and the well-nigh impossibility of a satisfactory cure. It has been well said that "were it not for the prostate, gonorrheal urethritis would be a curable disease." Seeking the cause of this condition, we are at once directed to the anatomical structure of the floor of the prostatic urethra, which, as has already been stated, offers the infecting bacteria a nidus from which they can with difficulty, if at all, be removed. In spite of the many material advances that have been made within the past decade, both in our knowledge of the pathological conditions and the remedies with which to attack them, there is a growing number of careful observers who maintain that gonorrheal inflammation of the prostatic urethra cannot be thoroughly cured. Manifestly the task of getting rid of the myriads of bacteria that have invaded this portion of the urinary channel, with its ducts, glands, and sinuses, is not a simple one by any means, as our experience so eloquently can testify. It is not that the germ or its product is less amenable to treatment in this location than in other portions of the body, but it is due to the peculiar structure and situation of the prostate. The gonorrheal inflammation, taking root at the meatus urinarius and traveling backward spares no portion of the canal. In some instances, happily, the disease does not seem to extend to the deep urethra, if we are to judge by the subjective and objective symptoms. Chetwood and others, however, maintain that in every case of gonorrhœa the deep urethra is more or less involved, even though there be an absence of the so-called posterior symptoms. If then, we assume this view to be correct, and granting the difficulty of successfully treating the prostatic urethra once it is attacked, we can readily

see that the prostate is primarily responsible for the chronicity of gonorrheal urethritis.

In this connection it is well to remember that the prostatic urethra leads not only to the bladder, but to the deep genital organs. It presents a division of the roads, so to speak, a bifurcation leading on the one hand to the urinary organs, and on the other to the genital organs. It necessarily follows that any pathological extension from the urinary to the genital tract, or vice versa, must of necessity invade this "thousand-mouthed, succulent prostate," as Keyes puts it.

In acute and chronic gonorrhœa, the rôle of the prostate is a predominating one. In the ultimate analysis chronic gonorrhœa is synonymous with chronic gonorrhœa of the prostatic urethra, while the so-called acute gonorrheal cystitis is in reality an acute gonorrheal inflammation of the prostatic urethra. The acute form may limit itself to the surface of the prostate, or may infect its follicles; it may reach the highest degree of inflammation and lead to abscess formation and suppuration. Between these extremes every degree of inflammation is possible, and the degree of inflammation is reflected and made manifest by the urinary symptoms which follow. Frequent, urgent, and painful urination, and vesical tenesmus, to a greater or less degree, mark the influence of acute prostatic inflammation on the urinary function. In severe cases, the prostate, by its large size, may offer a mechanical obstruction to the flow of urine, becoming more and more marked, and leading possibly to absolute retention. In the majority of instances, the severity of the urinary symptoms is in direct proportion to the extent and degree of prostatic inflammation.

In chronic prostatic inflammation the symptoms are subdued in sympathy with the low character of the inflammation. I know of nothing more exasperating and nerve racking than the neurasthenic patient with chronic prostatitis and urinary symptoms. These symptoms are usually of a reflex character, and may be and usually are out of all proportion to the appreciable pathological conditions. Yet they must be reckoned with, and the responsibility for their occurrence must be laid upon the prostate.

Strange it is that the relations of the prostate to gonorrhœa are so often overlooked. In the literature it is not at all unusual to find the prostatic urethra absolutely ignored. Judging by many of these literary effusions, gonorrhœa and the prostate are strangers, and all that one requires to cure the disease is a two-drachm syringe, a bottle of some astringent or silver preparation and a pus-bag. With this simple paraphernalia, gonorrhœa of the urethral tract lasting for days or months has been reported "cured" in a marvelously short time. In my experience it has been found not only advisable, but imperative, carefully to examine the prostate in every case of gonorrhœa before a patient can be discharged; and it has been found equally essential in every case to examine the condition of the prostate from time to time in the course of the disease. In this way what might have insidiously become a chronic intractable gonorrhœa has time and again been nipped in the bud, as it were, by this precautionary measure.

To sum up the situation, the crux of the matter of chronic gonorrhœa, its pathology and its treatment, lies in the prostate.

Leaving this phase of the subject, we shall consider the prostate in its most important, non-inflammatory rôle—senile hypertrophy. The conditions are self-evident. Without the prostate there can be no prostatic hypertrophy, and without this hypertrophy there can be no consequent obstructive symptoms. The case against the prostate is put in one word—obstruction. For reasons that need not be discussed here, the prostate assumes a pathological enlargement, impinging on the floor of the prostatic urethra or of the bladder at its junction with the latter, thereby narrowing the lumen of the urinary channel to a greater or less degree. Interference with the passage of the urinary stream follows, and the result is a series of urinary symptoms that might be summed up in these words: obstruction, retention, congestion, distention, inflammation, atony, and, eventually, sepsis and death. The condition is essentially a disease of advanced age, though isolated cases have been reported in which it was found in young men between nineteen and thirty-seven years. The statistics vary considerably according to various observers, but it is clear that from 33 to 50 per cent. of all men beyond the age of fifty-five years have enlargement of the prostate, though only about one-fifth of the total number are made aware of the fact by the presence of symptoms. Either the muscular, the glandular, or the connective-tissue elements may predominate, thereby giving character to the growth, and determining the nature and extent of the interference with the urinary stream. Any portion of the organ may be involved. It is well to remember, however, that it is not the extent of the hypertrophy that determines the subjective symptoms, but the manner in which the growth impinges upon the lumen of the prostatic urethra. Thus the hypertrophy may be very great in the direction of the rectum without interfering to the slightest degree with the function of urination; on the other hand, a small teat-like growth pointing directly into the bladder neck may so obstruct the stream as to cause complete retention. Neither does the organ assume a definite shape in its growth. It is apt to be grotesquely enlarged, and irregular in outline, when pointing towards the urethra or bladder, while in the direction of the rectum, its tough fibrous capsule usually determines its growth as a smooth and even mass. Examination of the prostate by rectum is, therefore, not conclusive of the extent or character of the urinary obstruction. A prostate that feels normal to the finger in the rectum may occlude the prostatic channel completely, and vice versa.

The results of prostatic obstruction are familiar, and need no elucidation. Briefly, the bladder wall undergoes a compensatory hypertrophy, which is succeeded by overdistention and thinning of the walls. When this condition has been reached, the ureters and pelves of the kidneys have been involved and have become distended by the back pressure exerted by the urine. The arteries of the bladder walls deteriorate, and the bladder falls an easy prey to germ infection and inflammation from extraneous sources. The urine becomes putrid, its salts are precipitated and agglutinated, and vesical calculus may add its tortures to those that have so long existed. The classic incontinence of retention, with its continued dribbling, is the characteristic urinary symptom of this condition. From this stage to the

condition of general sepsis, the steps are not many, and unless the dam is removed, and the urinary current restored, at least in part, the fate awaiting the unfortunate prostatic is mitigated only by death.

The general practitioner sees these cases in the early stages, and the responsibility for an early diagnosis rests upon him. If he will but bear in mind the axiom that frequent urination in a man over fifty, especially if the urine must be voided at night, incriminates the prostate, he will be able to spare his patients much future suffering. The finger in the rectum, the Thompson searcher in the bladder, the amount of residual urine, and the variations from the normal urinary length, furnish a mass of evidence that in most cases renders the diagnosis certain.

The treatment in theory is simple enough. The obstruction should be removed. Every surgeon has his favorite method, and each method has its advocates. Most likely a careful study of the individual case, and an application of the particular operative methods most suited to the existing conditions, will bring about the best results. In many instances in which the obstruction is not great, the patients can be kept in comfort for a long period by the intelligent administration of the so-called urinary antiseptics.

Chronic contracture of the neck of the bladder is often mistaken for prostatic hypertrophy. Pathologically, the lesion consists of a permanent, unrelaxable, rigid contracture of the muscle fibers encircling the prostatic urethra, constituting a ring-like narrowing of the wide mouth of the prostatic funnel. Fuller compares this contracture to that of the sternocleidomastoid muscle in chronic torticollis; contraction or dilatation is impossible. The mucous membrane lining the bladder neck is congested and thickened, the lumen of the prostatic urethra is narrowed and obstruction to the urinary flow is more or less well marked. The bladder becomes pouched, and cannot fully expel its contents. The residual urine behaves like that of prostatic obstruction, and presents the same symptoms. Diagnosis is made by exclusion. When, in any given case that presents the classical symptoms of urinary obstruction, it is found on examination that the hypertrophy of the prostate, if there be any, is not sufficient to account for the residuum, and there is no increase in the urinary length, we may with reason assume that chronic contracture exists. We may also diagnose this condition when a patient complains of painful and frequent micturition in the course of an obstinate chronic gonorrhœa, without the presence of acute inflammation, and when residual urine can be found without prostatic hypertrophy. At all events, any existing doubts can be expelled by a perineal section.

In neuralgia of the prostatic urethra, we have another manifestation of the influence of the prostate in the causation of urinary symptoms. This condition is more commonly known as Irritable Bladder, and is the result of deep urethral irritability, modified for better or worse, by the general nervous condition of the patient. It is characteristic of these cases that there are rarely nocturnal demands. The urine is clear, though often phosphatic. The neurasthenic element is apt to be strongly developed in these cases, sometimes manifesting itself by adding sexual symptoms to those of the urinary tract.

Prostatic atrophy as the responsible factor in urinary disease is so rare as to be very little understood. It is said that enuresis or retention may mark the range of the symptoms. It is more than likely that it exists often without giving evidence of the fact.

Prostatic tuberculosis is not an unusual urinary condition. The symptoms are those of any chronic inflammation of the prostate. Hæmaturia is sometimes present. The symptoms, of course, depend on the extent and severity of the disease. Objectively, the prostate is found to be enlarged in more or less irregular nodular fashion, with occasional areas of softening. In extreme cases the entire prostate is one cheesy mass, leading to general secondary infection. It is well to remember that tuberculosis of the genital tract cannot extend to the urinary tract without first attacking the prostate. Also, when the inflammatory process extends from one testis to the other, the prostate must likewise be bridged. Here, too, we see the great importance of the prostate.

Calculi of the prostate contribute their share to the subject of urology. They may be considered as vesical stones that have passed from the bladder and lodged in the prostatic urethra, or as prostatic concretions, in which case they consist largely of phosphate of lime and epithelial detritus. Unless they attain a large size and project into the urethral canal, they are not apt to give rise to clinical symptoms. They may work their way forward and come out at the meatus or backward into the bladder, there acting as the nucleus of a larger vesical stone. Here we see how the prostate may be responsible for vesical calculus.

Malignant disease of the organ will also give rise to urinary symptoms of a severe character. Primary malignancy with extension to the bladder is not unusual, though the reverse is quite rare. In children the type is that of sarcoma, ten per cent. of all reported cases having been sarcomata in children under ten years of age. The clinical signs are those of mechanical obstruction followed by those of nerve pressure and extension to adjacent parts. The symptoms are extremely painful, and dissolution occurs within one year after the onset of the disease. Reflex sciatica, especially when bilateral, is said to be indicative of prostatic cancer.

When the prostate is injured by blows or kicks, urinary symptoms will result, the severity depending upon the character of the wound or injury. Internal hemorrhage is very likely to follow if the rich prostatic plexus of veins is injured. Urinary infiltration is also a possible result. The blood may flow backwards into the bladder, forming a hard, coagulated mass, which may be extremely difficult to remove. Prostatic cysts may interfere with the urinary stream if they are large enough to occlude the urethral canal. It should also be remembered that the prostate may be indirectly responsible for suppuration and other important lesions in the kidneys.

Conclusions.—The prostate, though a sexual organ in health, is essentially a urinary organ in the diseased state.

Urinary symptoms are most often directly due to prostatic disease.

Any pathological lesion of the prostate which increases its size favors interference with the urinary stream to a greater or less degree.

Inflammation of the prostate is always accompanied by urinary symptoms. The genital symptoms are least marked.

In reference to gonorrhœa, the prostatic urethra is the most important portion of the urinary tract; it is the favorite seat of chronic urethritis; it is the medium over which the inflammation travels from the urinary to the genital tract.

The prostate is solely responsible for the important urinary conditions which result as a consequence of its senile hypertrophy.

Prostatic concretions may lodge in the bladder and act as the nucleus of larger vesical calculi.

Chronic contracture of the bladder neck, neuralgia of the prostatic urethra, prostatic tuberculosis, malignant prostatic disease, prostatic cysts, and trauma of the organ, are all made evident by their effect on the urinary function.

Lastly, these numerous urinary affections justify the consideration of the prostate as a urinary organ, second only to the kidneys in importance.

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MUSIC AS A THERAPEUTIC AGENT.*

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It is not my intention to, nor does time permit that I should, go into the subject of "Music as a Therapeutic Agent," with the object of dissecting musical composition, nor of demonstrating the niceties of counter-point, fugue, and harmony, but rather to take music as we find it, and to see wherein it meets the requirements of the physician in treating certain classes of patients.

From the great array of drugs, we select such remedies as we know will prove of service in meeting a given class of symptoms; not alone is the proper drug selected, but careful direction is given as to its preparation and the method of administration. The physician who would go into the sick room and say: "This patient requires drugs; send out and get a quantity, then administer freely," would be a fit subject for treatment himself. Fortunately for our purpose, music is not a new thing, but has been in existence since the beginning of time; while its variety, color, strength, source, and application are as great as the drugs of the pharmacopœia.

Musicians and composers have rivaled the chemists and pharmacists in the making of new combinations and the producing of new effects. The one produces symphonies, operas, and folk-songs; the other provides tinctures, fluid extracts, and powders; yet the therapeutist can find in both groups the tonic, the stimulant, the sedative, and the narcotic.

The chemist announces the discovery of a new drug and offers it for consideration and trial. He finds that five grains have killed a dog, while two grains have produced sleep in a guinea pig. It is therefore suggested that initial doses should not exceed a quarter of a grain, and that it could be tried in cases of insomnia, a close watch being kept on the heart action. The musician announces a new slumber song, quiet, soothing, without danger to life, and capable of producing restful sleep. His production was not the result of an accident, for before a single note or chord was written, he knew what effect he desired to produce on the listener, and his whole endeavor was to that end.

Music has an unquestioned and positive action on the mind and body which cannot be doubted. Dogiel finds, in his "Experiments Upon Men and Animals," that music, according to its nature, will either increase or decrease blood pressure, the extent being governed by the character of the music and the personal susceptibility of the individual. He also finds that the pulse rate is retarded or accelerated under the same conditions, and that the respiratory rhythm is modified in direct proportion to the pulse-rate. Dr. Herbert Lilly, in his pamphlet on the "Therapeutics of Music," argues that musical sounds being received by the auditory nerve produce reflex action upon the sympathetic system, stimulating or depressing the vasomotor nerves and thus influencing the nutrition of the body.

By what channels and by what processes the sympathetic system and the emotions are affected when musical harmonies reach the ear mechanism, does not concern us at this time; these points were elaborately considered some five years ago by Dr. J. Leonard Corning, of New York, and his conclusions published at that time in the Medical Record. The fact remains, however, that certain mental conditions are benefited by suitable musical harmonies, that muscle fatigue is overcome or forgotten by the production of stimulating music, and that even the complex process of digestion is benefited by appropriate music—the kind which the French call "liver music," and furnished by them at banquets.

The whole purpose of music is to produce impressions, and thereby affect the emotions. So true is this in its workings that the same effect is produced on the child and upon the adult of education; upon the white man and upon the savage; upon the human being and upon the lower animals. The soldier upon the march forgets his weary muscles as the band sounds an enlivening piece of music of fixed measure. His head is held a little higher, his back becomes a little straighter, while the length of his step is increased an inch or so and is more elastic. The running athlete is lifted over the ground in better time when aided by a brisk quick-step, for he feels the inspiration in every muscle. No one could dance to either a slumber song or a nocturne, nor would an infant pass over into dreamland in the presence of a brisk march or waltz.

Back in the early years of this country, when the Moravian settlement at Bethlehem, Penn., was but an infant in years, when the surrounding country was a wilderness, with hostile Indians at every hand, a sentinel from the settlement rested wearily upon the hillside, which sloped toward the river below. His eyes were to the front, watching for the first signs of an expected Indian attack; his heart and thoughts were back in his little crude home, where a loved one was dangerously near the great divide. Slowly an Indian crossed the river and noiselessly began to climb the hillside toward the settlement. He was the first of a long, sinuous line. His alert watchfulness soon discovered the white settler. His arrow was ready, his bow drawn, but a second more and a swift, silent messenger of death would have flown to its mark. Suddenly, through the soft evening air, from the heights above, came the full, clear tones of a trombone choir, in solemn, dirge-like

*Read before the Section on Medicine, of the Medical Society of the County of Kings (N. Y.), May 23, 1904.

splendor, announcing the death of one of the settlers.* Slowly the arrow was lowered, slowly the bow-string was relaxed, softly the Indian warrior retraced his steps, saying to his followers: "The Great Spirit speaks in soft sounds and without anger. The Great Spirit says Peace." The settler knew by the tones of the anthem that the loved one had passed away, and with bowed head he murmured: "Thy will be done." The music which told the white man of sorrow brought a spirit of forgiveness to the savage.

Music always reaches that sub-conscious part of our mysterious mechanism; it affects the subjective mind, swaying it one way or another, and leading it unconsciously, as if by inspiration, in whatever channel of thought the character of the music compels. Nearly every one is peculiarly susceptible, often unconsciously so, to some special piece or class of music which appeals to him under certain circumstances; he may also have an equal degree of intolerance for other kinds.

Just as we avoid quinine with one patient and iron with another, while in some other cases the minimum dose will act like a charm, so it is with music. The rag-time or even a bit of opera would be unattractive or repulsive to some, while a rich melody from the south or an old familiar home song would prove interesting at once, and restful.

To consider in detail the particular kind or class of music which would be specially suited to each of the many kinds of cases would not be possible in the limited time at our disposal, for its field of action reaches into all departments of medicine, including surgery and dentistry.

Do not imagine for a moment that I wish to convey the idea that a Chopin nocturne would amputate a leg, but it would, as a post-operative measure, have an undoubted influence for good in taking the patient's mind from his bodily distress. So, also, could "painless" dentistry be relieved of some of its pain and distress by the quieting influence of music, which would, as has been amply demonstrated, produce a pleasanter mental influence during the administration of nitrous oxide or other anæsthetic.

A German writer has recently stated (February, 1904) that in a number of test cases in which music was provided during the administration of the anæsthetic, there was an absence of distress and resistance on the part of the patient; also an absence or reduction of the post-operative nausea under the same circumstances.

Melancholia, insomnia, hysteria, family affliction, business reverses, delirium, pain, fatigue (mental or physical), will all be helped by the beneficial influence of music, rightly used. The general practitioner advises hydrotherapy, electrotherapy, heat, cold, light, and darkness, because they have a marked influence upon the body and mind. The threat of cold water in hysteria has a mental influence, and the tired physician himself goes to a concert for rest.

Music, like any other remedy, to be of service as medicine, must be suited to the particular needs of the individual, free from antagonizing elements, and administered in such a manner as to produce benefit.

Music will not do everything, nor will it always be tolerated by the patient—neither will drugs, surgery, or the electric current.

The problem presenting itself to the physician, therefore, is not as to the supply, quality, or efficiency of music as a remedy, but purely as to the selection of the proper kind and its administration. The majority of medical men and women know more about music than they do of electricity, and more of surgery than of either; yet the surgeon and the electrotherapeutist, both as consultants and specialists are recognized as a necessity. We have medical men who are musicians, and many able musicians who would be valuable consultants as to theme and method of administration. These factors would differ, to a degree, with every patient. The organ, the violin, the 'cello, and the harp are all available as means of producing proper music, but in each instance the execution must be smooth, expressive, and free from error. The piano is found in the majority of homes and institutions, and is always available.

There can be but little doubt that many of our trained nurses would be found capable performers upon the piano, and also to possess voices of suitable quality; if so, they could make themselves of double value. The quality of voice and the ability to sing or play should be judged, however, by some one other than the owner or performer.

In this connection, it may be of interest to note the work which the St. Cecilia Guild of London is endeavoring to do, according to their prospectus:

They desire (1) to institute a series of investigations to determine the extent of influence which music has upon the heart, blood-pressure and respiration. (2) To train a corps of special musicians, both vocal and instrumental, who would be expected to respond at any hour of the day or night to the calls of physicians or institutions, and who would be particularly competent to either sing or play such style of music as might be required. (3) To establish in some central hall or building a continuous performance of music, this to be transmitted by telephone direct to the bedside or room of the patient whenever required.

NOTE.—Following the reading of the paper, two methods of administration were demonstrated, one by the piano and the other by the voice, and an endeavor made by each method to illustrate the different impressions which could be conveyed to the listener. Just as a drug should be put up in a clean package and as free from adulteration as possible, so music as a medicine should be as free from error of technique as possible. For this reason, in demonstrating the piano music, a mechanical piano-player was used so that no false tone should mar the harmony and effect. The following examples were then rendered: As restful music yet sufficiently stimulating to keep the mind alert, "The Fifth Nocturne," Leybach, piano. As soothing, quieting music, "An Irish Lullaby," Needham, contralto. As physically stimulating music, "The Invitation to the Dance," von Weber, piano. As mentally stimulating music, "One Spring Morning" (Goethe), Nevin, contralto. As reminiscent, memory-refreshing music, "Fantasie from Il Trovatore," Sydney Smith, piano.

462 GREENE AVENUE.

*It is an old-established custom at Bethlehem that when a death occurs in the Moravian congregation, the fact is announced by the trombone choir from the church belfry, the character of the anthem designating the class and condition of the deceased—whether old, young, male, female, married, or single. This custom is said to have prevented a massacre, as above noted.

Opium Smoking is not as purely Oriental a vice as is usually supposed, for it is estimated that there are 1,000,000 devotees of the pipe in the United States.

Cheap Goggles for automobilists are said to be very injurious. They should be fitted to the eye by an optician to ensure their being properly placed in regard to the visual axis.

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THE PASSAIC VALLEY SEWER.

THE recent decision of the Supreme Court of New Jersey, affirming the constitutionality of the law authorizing a sewerage system for the cities of the Passaic valley, to discharge into the waters of New York bay, has excited a good deal of adverse comment among many citizens of New York, who regard this proposed method of sewage disposal as directly prejudicial to their interests and health. It is expected that the sewer which will be about twenty-four miles long, will cost some $9,000,000, and will discharge daily about three and a quarter millions of gallons of sewage, from Paterson, Newark, Passaic, and other towns, into New York waters.

As the details of construction of the proposed sewer, and methods of sewage disposal, have not yet been announced, it cannot be stated whether or not this opposition to the proposed plan is justifiable. New York already pollutes with its filth to too great a degree the waters adjacent to it, especially in view of the proposed use of salt water for fire purposes and street sprinkling. Naturally, any plan further to contaminate these waters with crude sewage, which, vast in its proposed amount, would be certain steadily to increase in quantity with the rapid growth of population in the New Jersey cities mentioned, would be viewed with justifiable alarm, and should be contested in the courts. On the other hand, if comprehensive and, necessarily, somewhat costly measures for the purification of this sewage by the septic tank system are taken, and the sewage is thus purified before discharge into New York waters, the effluent would probably be purer and less dangerous to health than the present water flowing in the Passaic river itself. Although the septic tank system of sewage purification is a relatively new thing, its efficiency is already so conclusively established that the time has arrived when the law should forbid one community from disposing of its sewage in the vicinity of another community without such purification. Even in the present state of development of the septic tank system, it is possible to destroy all the offensive qualities of sewage, and discharge an effluent without color, odor, or suspended matter, and from which more than 98 per cent. of bacteria have been removed. In the case of the proposed sewer, it is perfectly possible, by the expenditure of sufficient money, to render the effluent inoffensive and harmless, and the State of New York should promptly take any steps which may be necessary to force the New Jersey authorities, in putting in their sewer, properly to safeguard the interests and health of those who might otherwise be affected thereby. If modern scientific methods of purification are used, the municipal liquid wastes can be so deprived of the gross and microscopical characteristics of sewage as to require little more attention in the matter of their ultimate disposal than would be needed in respect to the disposal of storm water. For any community to take advantage of its geographical situation to flood a less fortunate neighbor with hurtful sewage wastes is indefensible in equity, and happily quite unnecessary in modern sanitary practice.

The Health Officer of New York is quoted as advising that the New Jersey cities in question chemically purify and dispose of their own sewage at home, and as stating that the sewage of New York itself should be "chemically treated and rendered harmless." The chemical purification of sewage is a relic of a past generation, and it is doubted if it has been satisfactory, from either a sanitary or economic standpoint, by any process, in a single instance in which it has been used. Certainly the congestion in New York would render any attempt at local sewage purification by chemical means, from the nuisances unavoidably attached to purification plants of this kind, absolutely impossible. It is practicable, however, to attach septic tank fixtures to many of the existing sewers, and certainly no new sewers should be built without such provision. By this means, additional gross pollution of the waters adjacent to New York can be prevented, and their present pollution can be considerably reduced in degree. If those who favor the chemical treatment will consult any good sanitary engineer, they will find that the chief problems relating to the prevention of the pollution of New York waters are solvable by far simpler and more economical and effective measures.

THE NATURE OF CARCINOMA.

IN spite of the efforts that are being expended by observers all over the world, who now have at their command the data available from hundreds of experiments and thousands of observations, the knowledge we have obtained concerning the true inwardness of malignant growths has not progressed at all in proportion to the advance that has been made in other branches of pathological investigation.

The list of believers in the nonparasitic nature of carcinoma is large, and includes many illustrious names, such as those of Waldeyer, Colnheim, v. Hansemann, Ribbert, and Lubarsch, but embryonal inclusion, traumatic displacement, anaplasia, whatever may be the scientific catchwords which investigators apply to their theories, are all the merest surmises, and have found but little clinical corroboration. At present, belief in the parasitic origin of carcinoma is perhaps more in vogue, and the number of alleged cancer parasites is to be counted almost by scores. Three forms of microbic life have to bear the stigma of the alleged etiology of this scourge, and members of the protozoa, the bacteria, and the yeasts or blastomycetæ have all been saddled with accusation by enthusiastic observers. While it is true that many of these riders of pathological hobbies have come to grief, and later investigation has shown that their elaborately described and figured parasites were only foreign contaminations,

such as cork cells, or various irrelevant cell inclusions or artefacts, it must be admitted that the blastomycetic theory has much in its favor. It is still, however, far from being proved, and it is quite possible that the substance of carcinomatous growths, which Freund, in 1889, showed contained from twenty to thirty times more carbohydrate than normal tissue, may afford a more suitable culture medium for the growth of yeasts than of bacteria, and that the predominence of blastomycetic forms is in this way accounted for. The lines between the widely disseminated non-pathogenic and the so-called specific forms of these organisms are also not clearly drawn, and much systematic work is yet needed before some of the results obtained can be interpreted.

Lubarsch has expressed his skepticism of the parasitic theory very strongly, and says that so far no one has succeeded in proving that any microorganism is the specific cause of carcinoma, or of any other independent new growth. No analogous cases have been found in plant or animal life which would explain a parasitic origin, and neither the statistics, the results of experimental work, nor the clinical observations, bear out the parasitic theory of cancer.

Serkowski and Maybaum (*Deutsche Medizinal-Zeitung*, September 12, 1904), in a résumé of our present knowledge in regard to the question, conclude that we know just about as little concerning the nature of carcinoma as did Hippocrates, and that the parasitic theory cannot be said to be either proven or disproven. Many things, however, speak in favor of the infectious nature of the disease, such as the infection of medical men at operations and autopsies, the clinical course of the disease, and the very numerous instances now recorded of *cancer à deux*, occurring in husband and wife, or in people brought into close personal contact with each other, such as nurses and patients, room-mates, etc. These authors conclude that more attention should be paid to prophylaxis, and that, in view of the possible parasitic nature of the affection, the secretions of carcinomatous patients should be treated with the same precautions as those of tuberculosis and syphilis. The hands should be disinfected after all operations, dressings, vaginal and gastric irrigations, etc. Clothing, linen, instruments, and sick-room articles used in the care of carcinomatous patients should not be employed again without thorough disinfection. A more careful control should be exercised over water supplies, drainage and sewerage, and the preservation of food, particularly against contamination by insects. In other words, these patients should be treated as are those suffering from any infectious disease, and the same precautions should be taken to prevent direct or indirect transference of the malady.

The Ehrlich Diazo-Reaction.

When Ehrlich, in 1882, described his diazo-reaction in the urine, the medical world received with great interest what promised to be one of the most useful diagnostic signs of that elusive malady in the name of which so many diagnostic crimes had been committed—typhoid fever. But as clinical and experimental data increased, as the years rolled on, the diazo-reaction came to be looked upon as one of those laboratory methods which cannot walk unsupported by the substantial crutches of clinical symptoms, until finally to-day the reaction is known to occur in such a variety of conditions and in such a multitude of circumstances that its diagnostic value has dwindled considerably.

In the present state of our knowledge concerning Ehrlich's test we have by no means reached a thorough insight into the exact way in which it takes place, and especially into the various factors, normal and abnormal in origin, which influence the intensity of the brilliant color obtained in the typical reaction, as described by the original observer.

A recent study on this subject by Campanella, of Catania (*Gazzetta degli Ospedali e delle Cliniche*, July 10, 1904), is of interest, because it concerns itself particularly with the modifications in the diazo-reaction wrought by such commonly-used drugs as salol, and such constant elements of the urine, as urochrome and indican. This author found that in healthy persons, who had been taking salol, the reaction appeared clearly in the urine within a few hours, and that urochrome, indican, and diacetic acid, each separately, when present in excess, intensified the diazo-reaction to a marked degree.

As regards the influence of drugs upon the diazo-reaction, Campanella's experiments show nothing very strikingly new. The fact that some drugs induce the appearance of Ehrlich's reaction in a urine in which it has previously been absent, is well known. Zung has mentioned codeine, resorcin, the salts of quinine, digitalin, and creosote. Chrysarobin and naphthalin are apt to cause the appearance of the diazo-reaction, but the reaction resulting from the ingestion of these drugs differs from the true diazo-reaction by the absence of a green precipitate, which occurs in the latter on standing for twenty-four hours. This differential point has been noted by a number of observers, but Campanella makes no mention of it as a means of distinguishing the true from the false diazo-reaction. On the other hand, other drugs, such as tannin and preparations containing it, such as cinchona bark, rhatany, etc., as well as the iodides and iodine itself, inhibit the development of Ehrlich's reaction, according to Burghardt and others.

The researches of Campanella, which deal with urochrome, indican, and diacetic acid, and with the influence of these upon the diazo-reaction are especially noteworthy. The fact that variations in the amounts of these constituents of urine run parallel with modifications in the intensity of the diazo-reaction possibly accounts for the mysterious irregularity with which Ehrlich's phenomenon appears in some patients. If it is true, as Campanella believes, that these substances, when present in excess, can cause the appearance of Ehrlich's reaction, then this test can scarcely serve even as a relative diagnostic sign of typhoid fever, and our notions concerning its significance in disease in general must undergo revision.

Health of Americans in the Philippines.

First Lieutenant Wallace De Witt, Assistant Surgeon, U. S. Army, writes in the *Yale Medical Journal* for August, 1904, on the above subject. He deprecates the exaggerated statements so frequently made, that a tropical climate in itself has a most deleterious effect on the health of the white man. He concedes the fact that an American cannot work in the tropics with the same energy as in temperate climes, but insists that, using proper precautions, an individual may keep in excellent health. The great drawback, from a hygienic point of view, in the Philippines, is the bad sanitary conditions existing therein, greatly aggravated by the un-

cleanly habits, superstition, and ignorance of the native and Chinese population.

Diseases of the skin are remarkably prevalent in the Philippines, and lucky indeed is the American who does not contract one or other of the numerous parasitic skin diseases which are the bane of the islands. Gastrointestinal disorders occur with great frequency among the American dwellers in the Philippines, and according to the author, the treatment of the two most severe forms—dysentery and sprue—has been unsatisfactory.

Among the infectious diseases, cholera is most to be dreaded, while another highly infectious disease is dengue. Pulmonary tuberculosis is also extremely frequent among the native population, and is a source of danger to American residents.

Concerning the most suitable form of diet for white men in the Philippines, Dr. De Witt expresses himself in favor of a similar dietary to that which the American is accustomed to in his own country. Great care, however, must be taken to provide pure food and water. Another important point is to insist that clothes and linen are thoroughly washed in hot water, in order to guard against infection by parasitic skin diseases. Stringent precautions must also be taken against mosquitos.

The author states, with respect to clothing, that it is sufficient if it be cool. He is of the opinion that the wearing of an abdominal flannel belt is contraindicated, as experience has shown that wearers of this kind of band fall victims as readily to intestinal disorders as those who have never used them; besides which the belt is hot and uncomfortable, and unless changed frequently is always damp from the absorbed perspiration.

Dr. De Witt concludes that while the Philippine Islands are by no means what may be called a healthful country, yet by the exercise of a few necessary precautions, the average American can live there for an indefinite period and enjoy good health.

Intra-Articular Injection of Sodium Salicylate in Multiple Arthritis.

At the Egyptian Medical Congress, held in December, 1902, Bouchard presented a communication in which he advocated treatment of syphilitic and other affections by the local rather than the general administration of the so-called specific remedies. Prompted by this suggestion, A. Santini employed periarticular injections of sodium salicylate in a number of cases of polyarthritis with variable results, sometimes entirely negative. Thinking that this was due to the fact that an insufficient quantity of the drug entered the joint itself, he injected the salicylates directly into the articulation (*Weiner klinisch-therapeutische Wochenschrift,* September 4, 1904), and thereby obtained very good results, rarely finding it necessary to treat a joint more than once. The most efficient solution is one of three per cent. strength in sterile water, this being isotonic with the blood. In most joints a spot will be found where the capsule is slightly distended and here the fluid can be injected. At the shoulder, however, the injections can only be made close to the joint. The dose varies with the size of the joint, but Santini says that from 3 to 5 c.c. of the solution is usually sufficient. When the joint is very much distended, some of the fluid may be aspirated before the remedy is injected. The pain becomes immediately worse, but soon subsides, and the temperature drops. The individual joints may be injected on successive days, and in the four cases reported a cure was secured by the use of from 24 to 60 cgm. of the salt.

Hyoscine Poisoning.

Dr. J. C. Given (*Liverpool Medico-Chirurgical Journal,* June, 1904) has recently reported a case of this form of poisoning. A patient of the physician in question, aged sixty-nine years, was ordered by him hyoscine hydrobromate gr. $^1/_{200}$ in one drachm of water, to be taken at bed time. The pharmacist to whom the prescription was taken read gramme for grain, with the consequence that the patient took fifteen times more than he was intended to take. About half an hour after this dose had been given the patient was deeply comatose, and Dr. Given was called in. Strychnine was injected and brandy given by the rectum, with no beneficial results. Morphine and caffeine were administered hypodermically with little or no improvement. Then the stomach was washed out by the syphon tube with hot water, and about eight ounces of strong black coffee was passed into the stomach. In an hour improvement was shown, which gradually continued until eleven hours after taking the dose consciousness returned, and recovery was uneventful.

Dr. Given makes the occurrence a plea for the adoption of the metric system in Great Britain, arguing, rightly enough, that the present condition of the weights and measures in the British Pharmacopœia, by which it is now optional whether the decimal system or apothecaries' weight be used, is a source of constant danger. With regard to antidotes to hyoscine poisoning, besides those given in the case mentioned, pilocarpine is frequently used. Dr. Given thinks that the recovery of his patient was largely due to caffeine, administered both as such hypodermically and as strong coffee.

Smallpox in Children.

Of 111 children under ten years of age removed to the Isolation Hospital in Chicago last year, 105 were under and only six were over school age; eighteen were under one year old, thirteen between one and two, twenty-two between two and three years. Up to October 1 of this year there have been sixty-two cases in children less than ten years old, of which number fifty-seven were under and five over school age. Dr. J. D. Rawlings, Assistant Chief Medical Inspector, in charge of the Isolation Hospital, in commenting on these figures, refutes the popular fallacy that the infant in arms is not susceptible to smallpox, and he also shows the great practical value of the vaccination requirements for school attendants. As Dr. Rawlings says, it is the duty of physicians to educate the population, so that parents will have their children protected against smallpox from infancy, instead of advising delay in vaccination until the school age is reached, as is now too often the case.

News of the Week.

A Paper by Sir Felix Semon.—The regular meeting of the section on Laryngology and Rhinology, of the New York Academy of Medicine, for October 26, is postponed until November 2, at 8.15 p.m., in Hosack Hall, when Sir Felix Semon, of London, will read the paper of the evening: "Malignant Tumors of the Larynx." It will be discussed by Drs. Hartley, Brewer, Gerster, Delavan, Bodine, Bosworth, B. F. Curtis, and Wright.

Columbia's Anniversary.—The one hundred and fiftieth anniversary of the founding of King's College will be celebrated by the trustees of Columbia University on Friday, Saturday, Sunday, and Monday, October 28 to 31. A reception will be held in the Low Memorial Library and the various buildings

of the university will be open for the inspection of the alumni and their friends. The professors and other officers will be in their departments to explain any details in regard to the equipment and administration of their work.

Dr. Knopf Receives a Prize at the St. Louis Fair.—The Superior Jury of Awards of the Louisiana Purchase Exposition has awarded to Dr. S. A. Knopf, of this city, a gold medal for his work on tuberculosis. The exhibit consisted of Dr. Knopf's English, French, and German textbooks on tuberculosis; his contribution on tuberculosis in the Twentieth Century Practice of Medicine, his various addresses and lectures, and his International Prize Essay, "Tuberculosis as a Disease of the Masses and How to Combat It," with translations in eighteen languages.

Dr. Samuel W. Lambert Appointed Dean of the Columbia Medical Department.—The Deanship of the College of Physicians and Surgeons of Columbia University, which has been filled by Dr. John G. Curtis, as Acting Dean, since the resignation of Dr. McLane, in June, 1903, has been filled by the election, for the statutory term, of Dr. Samuel W. Lambert, Professor of Applied Therapeutics. Dr. Lambert becomes *ex officio a member* of the Columbia University Council, of the Board of Trustees of the Roosevelt Hospital, and of the Boards of Managers of the Sloane Maternity Hospital and of the Vanderbilt Clinic. Dr. Lambert is a graduate of the College of Physicians and Surgeons in the class of 1885.

Officers of the County Medical Society.—At the ninety-ninth annual meeting of the Medical Society of the County of New York, held October 24, the following officers were elected: *President,* Dr. Henry S. Stearns; *Vice-Presidents,* Drs. Floyd M. Crandall and Walter L. Carr; *Secretary,* Dr. John Van Doren Young; *Assistant Secretary,* Dr. Edmund P. Fowler; *Treasurer,* Dr. Charles H. Richardson; *Censors,* Drs. Wendell C. Phillips, H. S. Houghton, W. H. Park, Joseph Brettauer, and Egbert Le Fevre.

Accident in the Jersey City Hospital.—The ceiling fell in the drug room of the Jersey City Hospital a few nights ago, and wrecked the stock of medicine and nearly caused a panic among the patients. The building has been in a bad condition for a long time, and the erection of a new building has been under consideration for many months. A bill was passed by the Legislature, under which commissioners were appointed. The Mayor and board became involved, however, in a dispute over the plans, and when the board awarded the contract its action was not concurred in by the Finance Board.

Illegal Use of a Surgeon's Name.—On the complaint of Dr. John B. Murphy, of Chicago, Dr. N. News Wood, president of the so-called Christian Hospital, was recently arrested and taken before Judge Holdom. He was released on $1,000 bonds, furnished by his wife. Dr. Wood was accused of violating an injunction granted in July, 1903, restraining him from using the name, signature, or picture of Dr. Murphy in connection with the Christian Hospital, or from representing that Dr. Murphy has or ever had any connection with the establishment. Former Judge George W. Brown, acting for Dr. Murphy, charged that Dr. Wood had been selling membership certificates bearing Dr. Murphy's portrait, and also was using the surgeon's name illegally.

Agassiz Scientific Cruise.—Under the direction of Prof. Agassiz, of Harvard, an expedition on the Government steamer *Albatross* will cruise for several months in the Pacific, in the region of the Galapagos Islands, Callao, and the Easter Islands, engaged in deep-sea sounding work and in studying the pelagic life of that quarter. The *Albatross* will have on board with Prof. Agassiz, Prof. Kofoid, of the University of California, an artist, and a Harvard assistant, and two assistants furnished by the United States Fish Commission. It has already sailed from San Francisco, leaving there three weeks ago to meet the Harvard party at Panama. Most of the expenses of the expedition will be borne by Prof. Agassiz himself.

Teachers for Tuberculous Children.—At a recent meeting of the executive committee of the Board of Education, a request was received to assign teachers to thirty-six children suffering from tuberculosis. The children are in the Seaside Tent Camp at Coney Island, where they are being cared for by the Association for Improving the Condition of the Poor. The society offered to supply a schoolroom if the Board of Education would furnish the desks, books, and teacher. It was decided to comply with the request.

Care of the Insane in Illinois.—Legislation will be sought soon transferring the Dunning (Ill.) Hospital for the Insane from County to State management. The plan provides for a division of the institution. It was proposed to transform Dunning entirely into a State Insane Asylum, and establish the Home for the Poor and the Hospital for Consumptives on some large tract of land farther from the city of Chicago. The County Board approved the proposition and referred it to the Committee on State Legislation. This committee will petition the State Board of Public Charities to recommend to the General Assembly at the approaching session the enactment of the necessary legislation for the transfer.

Summary Disposal of the Undesirable.—At the annual meeting of the National Prison Association, held last week, Dr. Henry Hatch, of Quincy, Ill., read a paper advocating some very radical measures in respect to the mentally, morally, or physically diseased. He is reported to have advocated granting permission for, or encouraging, suicide by those suffering from an incurable disease, and to have urged that the State dispose of the incurably insane by putting them to an easy death. He advocated also the prevention of marriages of undesirable persons, the restriction of saloon-keepers from selling liquor to habitual drunkards, and the castration of all persons convicted of sexual crimes. The speaker's views met with little support from his hearers.

The Staff of the Cook County Hospital, Chicago.—The Cook County (Ill.) Commissioners recently adopted a resolution reducing the attending medical staff at the County Hospital to 65 members, and providing a merit test for appointment. It was thought by the President of the County Board that the attending staff at the County Hospital had grown so large as to impair its efficiency, and work a hardship on the doctors who stood ready to render their best services to the county. Hereafter a competitive examination will be conducted by a competent examining board, under the direction of the Civil Service Commission, and in accordance with the provisions of the Civil Service law.

Dr. H. L. Woodward has been appointed clinician to the children's clinic of the Medical College of Ohio.

New Free Bath for New York.—Plans have been filed with the Superintendent of Buildings for a public bath house, for which the city will pay $250,000. The new building will be located in Avenue A, between Twenty-third and Twenty-fourth streets. It will be surrounded by a garden, having

a frontage of 163½ feet and a depth of 140 feet. The construction will be of ornamental brick, with trimmings of limestone, granite, and terra cotta. There will be a decorative cornice, surmounted by a flagstaff. Two main entrances will be arched and decorated with ornamental glass, with broad staircases of granite. The interior will have an arched roof and the flooring will be of tile. The natatorium pool for men will be 25 feet by 60 feet, and that for women 25 feet by 40 feet. This pavilion will be open winter and summer.

The Work of the New York State Lunacy Commission.—An abstract of the reports of the Lunacy Commission for the last three years has been made by Drs. George B. Fowler, Edward D. Fisher, and Carlos F. MacDonald, showing the progress in the care of the insane in New York State made during this period. The Commission is a constitutional body consisting of one democrat, one republican, and one independent, appointed by the Governor and confirmed by the Senate. The chief objects accomplished by the Commission in Lunacy are summarized as follows: (1) The reorganization of the Pathological Institute. (2) Provision for the addition of 5,147 beds to the capacity of the present hospitals. (3) The segregation of tuberculous insane, at first in solariums and tents at the various hospitals, and later by the construction of three tuberculosis hospitals, accommodating 100 each. (4) The securing of an appropriation for the construction of ten isolation pavilions for infectious diseases. (5) The passage of a law providing for emergency commitment of serious cases of insanity. (6) Large additions to the means of treatment in asylums, in the way of surgical operating-rooms, hydrotherapeutic apparatus, and numerous electrical, medical, and surgical appliances. (7) The introduction of a system of careful registration of each patient restrained or isolated, which has resulted in a large diminution in restraint of patients by mechanical means, etc., and in the reduction of the number kept in solitary seclusion. (8) Throwing open the fourteen State Hospitals to 30 clinical assistants, who have the same opportunities for study as the medical internes in our general hospitals. (9) A marked increase in the number of alien insane deported, and improving the facilities for discovering and deporting them. (10) The adoption of a more satisfactory dietary and larger ration than that allowed under the Atwater system. (11) The appointment of a medical inspector for the more continuous supervision of the 33 private asylums of the State in which about 1,000 patients are cared for. (12) Numerous systematic improvements demanded in such private retreats as did not approach the standard of care set by a general letter sent out by the Commission to the private asylums in January, 1902. (13) The development of a definite policy in the matter of provision of care of the insane by the State, which should be applicable not only now but for future years. (14) The appointment of boards of consulting specialists at a number of State Hospitals, located sufficiently near to cities, resulting in great benefits to the institutions concerned. (15) The establishment of a summer colony at the lake shore for convalescent and curable patients in connection with the Rochester State Hospital. (16) The establishment of a colony for the insane in the Champlain regions on the same principle as the Craig Colony for Epileptics, and of a Psychopathic Hospital in the City of New York.

Objection to Sanatorium for Tuberculosis.—The residents of Mt. Airy, a suburban section of Philadelphia, have been greatly agitated in consequence of the establishment there of a sanatorium for patients suffering from tuberculosis, and a number of persons have joined in a protest to the Board of Health against its continuance. It is contended that the place is not properly drained, and complaint is made of offensive odors and unpleasant sights. Twelve tents have been erected and there are about 30 patients.

The Absurdity of Phthisiophobia was strikingly shown recently in San Francisco, where, because Justice Amadée Herville, of the Tahiti Islands, is suffering from tuberculosis, the immigration authorities decided that under the law he could not be permitted to land and cross the continent to New York on his way to France. Tuberculosis was held to be a contagious disease, within the meaning of the immigration law, and Justice Herville will, therefore, be compelled to return to Tahiti or continue his journey to Europe by way of some Mexican port.

Vital Statistics of Philadelphia.—For the week ended October 22 there were reported to the Philadelphia Bureau of Health 380 deaths, as compared with 414 for the preceding week, and 390 for the corresponding week of the previous year. The largest number of deaths due to a single cause—39—were caused by nephritis; the next largest number—37—by pulmonary tuberculosis. There were reported, further, 96 cases of diphtheria, 75 cases of scarlet fever, and 62 cases of typhoid fever.

St. Luke's Hospital Income Insufficient.—At their annual meeting, on October 18, the managers of St. Luke's Hospital reported that the hospital is overtaxed, and they have insufficient facilities to handle the patients. Four wards are vacant on account of an insufficient income.

Illegal Practitioners Fined.—Four persons were convicted last week of practising as physicians without proper registration, and were fined sums ranging from $35 to $150, with the alternative of ten to sixty days in jail. Three of the number were women.

Egyptian Medical Students.—Two Egyptians, Ermia Dos and Ayad A. Ghazouli, have arrived in Cincinnati and will take up their course of study in the Medical College of Ohio. They both speak English, and have been educated by American missionaries in the American College at Assrat, and later in the Syrian Protestant College at Beirut, Syria. Their object is to return as physicians to their own country.

Cincinnati Academy of Medicine.—At the regular meeting, held October 17, a paper was read by Dr. Ferd. C. Valentine, of New York, on "The Examination of the Male Urethra."

American Nurses in Japan.—Dr. Anita McGee and her party of American trained nurses, who were a few days ago decorated by the Mikado for their services in the hospitals in Japan, left Hiroshima for Nagasaki on October 18.

First Aid on Railway Trains.—The Pennsylvania Railroad has just adopted a plan for providing first aid to the injured. It consists in equipping all baggage, mail, express, construction, and wrecking cars, terminals, yard offices, shops, and important stations with stretchers; and locomotives, terminals, yard offices, shops, and important stations with "first aid boxes." Each of these is a sealed tin box, containing six sterilized packets, consisting of one large triangular bandage, one ordinary bandage, two compresses, and two safety pins. All passenger and freight trainmen and the employees at terminals, yards, shops, and so on, where accidents are likely to occur, are to be instructed by the surgeons of the road in the primary treatment of wounds, fractures, burns, shock, etc., and the handling of the injured on stretchers. The employees will also be taught

how to treat emergency cases of unconsciousness, convulsions, and persons overcome by heat. Plans are now being prepared for the construction of a hospital car, to be used for transporting invalids.

Obituary Notes.—Dr. Samuel W. Abbott, secretary of the Massachusetts State Board of Health since 1886, and one of the best known physicians in the State, was found dead at his home, at Newton Centre, on October 22. Heart disease was the cause. Dr. Abbott was born in Woburn sixty-seven years ago, and was a graduate of Harvard Medical School in the class of 1862. He was assistant surgeon in the navy during the civil war. A widow and three daughters survive him.

Dr. William C. Flowers of Cambridge, Mass., died October 20, at the age of seventy-nine years. He was a native of Halifax, N. S., and was graduated from the Harvard Medical School in the class of 1861.

Dr. William White of Abingdon, Va., died last week in Baltimore. He was a graduate of the Medical College of Virginia in 1894.

Dr. George Purviance of the U. S. Public Health and Marine Hospital Service died in Philadelphia on October 20. He was a graduate of the Jefferson Medical College in the class of 1867, and had been stationed in Washington for a number of years.

Dr. Montefiore Levi Maduro of this city died in St. Luke's Hospital on October 22, as a result of injuries received in a bicycle accident several years ago. He was a graduate of the College of Physicians and Surgeons in the class of 1895.

Dr. Auguste Frederick Müller died at Philadelphia on October 20 as a result of malignant disease of the stomach, at the age of sixty-four years. He was born in Alsace-Lorraine, and came to the United States with his parents at the age of twelve years. He enlisted in the Federal Army at the outbreak of the Civil War, and he fought in many battles, being severely wounded in the battle of Germantown. He was graduated from the Medical Department of the University of Pennsylvania in 1866. He was long connected with the medical staff of the Germantown Hospital, and he was Vice-President of the Germantown Medical Society.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

NOTES OF OPENING ADDRESSES—THE HUXLEY MEMORIAL LECTURE—BRIGHTON MEDICAL CHARITIES—SIR I. OWEN—LEEDS UNIVERSITY—PARKES' PRIZE—ITEMS.

London, October 7, 1904.

The medical schools are settling down to steady work after the more or less exciting scenes of the "opening day." It was pretty certain that the position of the University of London would be prominently mentioned by some of the lecturers, after the freedom with which all the schools had advertised their relations to it. So at University College Dr. Gregory Foster, having welcomed the students, new and old, passed on to tell them it would not be long before their school would be permanently affiliated with the University. So many schemes had been floating about for years that it was somewhat difficult to be sure what was surviving. But there was no doubt whatever that the incorporation of that college in the University would be carried out. Thanks to Sir Donald Currie's gift, that scheme had become possible and the institution would become an integral portion of the University. The preliminary and intermediate stages of medical instruction would be carried on in University College itself, the advanced stages in the hospital across the road. In the medical department Professor Norman Collie, F.R.S., gave an address on the Relation of Chemistry to Medicine.

Dr. Wethered referred to the University in his lecture at the Middlesex hospital. He commented on the fact that the largest city in the world had not yet possessed a real teaching university—an apt illustration of the difference between theory and practice. A great effort is now being made to give practical effect to the recommendation of the Royal Commission. Steps are being taken to establish an Institute of Medical Sciences near the University. Advanced studies could then be carried on at the several hospitals which would become veritable clinical schools. It was to be hoped they might see chairs of medicine and surgery endowed at the University, so that the professors might devote all their energies to teaching.

Dr. Wethered further offered excellent advice to the students, recommending them, among other things, to keep up their athletic exercises and to cultivate habits of temperance and self-control. So let them learn to live that in their future lives they might be able to draw from experience when advising their patients how to keep well.

At King's College also the lecturer (Dr. Buzzard) took up his parable about the University and strongly put forth the advantages of its degrees. He admitted that a London degree was little, if any, easier to attain than before the reorganization, and that it necessitated hard work to succeed. As to that he quoted President Roosevelt as saying, "Your work is hard. Do you suppose I mention that because I pity you? No, not a bit. I don't pity any man who does hard work worth doing." Further, he said he was inclined to allow examinations in some subjects separately, and a student who failed in one subject to come up again for it singly. The necessity of passing in several subjects at the same time tended to cramming. It is amusing to see a juggler keep half a dozen balls in the air at the same time, but there is no particular use in the achievement. Dr. Buzzard is on the Senate, so perhaps he will assist in removing from the University the reproach of promoting cramming. The rest of the lecture was devoted to the future relation of King's College to the University.

St. George's hospital kept the traditional October 1, although it fell on Saturday and the other schools deferred their opening until Monday. On the first then Professor Macalister lectured on "Some Landmarks in the History of Medical Education." He warned students that a more arduous training is required for the medical than for other professions, and that this is only to be secured by wasting no time throughout the allotted five years of the curriculum. The sciences concerned with medicine are continually growing. An element of danger in this rapid development was pointed out, viz., that as each of the fundamental sciences grows so large, it becomes necessary to appoint expert teachers and examiners. A risk, therefore, arises of the great end of training skilful and well-equipped practitioners being lost sight of. He urged, therefore, teachers to remember that each science taught is for medical students not an end in itself, but merely a means to an end. He added that the authorities should use every means to safeguard the interests of a well-balanced, efficient, professional training.

At St. Bartholomew's hospital, the address was deferred until last night, when Mr. J. Langton discoursed on "Modern Aids to Diagnosis." He feared some of the younger men might be too apt to rely on haphazard information gathered from haphazard questions rather than on the trained use of their senses. Incorrect diagnosis was often the result of carelessness. He especially dwelt on the importance of sound and light in diagnosis, and urged the students to educate their ears and eyes to the highest degree.

At St. Mary's hospital, Prof. Wright began by remarking that the twentieth century offers the spectacle of a civilization which has attained a practically complete control over the forces of nature, but utterly incomplete over the processes of disease. He passed on to point out the necessity of endowing research. He doubted if more than 100 scientific workers are actively engaged on the problems of disease out of the 40 or more millions of British people. This he considered was because such workers were face to face with the problem of primitive savages—how to find subsistence, clothes, and shelter. The solution, he said, was to be found in the provision of salaries on the scale of those obtained in civil and government services. The death duties of a single millionaire would suffice for a beginning. The comparatively simple problem of limiting the spread of infectious disease had not attracted research, though of such great financial importance, especially to schools.

At the Women's School Miss Murdoch, having commented on the great inheritance of the students undreamed of by women 40 years ago, gave some practical hints on personal hygiene. In clothes she would follow the fashion, as it would be unpleasant to be attended by a peculiarly dressed woman; but she denounced tight-lacing as well as germ-trapping jewelry. Then she pleaded for the abolition of the hat, for by exposing head and hair to sunshine and wind both would benefit. She assured the pupils that those who had never cycled without a hat had lost a great

delight. Long hatless days on the moors were worth living for and dreaming of afterwards. Nothing had done so much for women as out-of-door sports, and the bicycle had simply revolutionized and emancipated their whole lives.

Sir Wm. Macewen delivered on Monday the Huxley Memorial lecture at the Charing Cross School—the school at which Thos. Henry Huxley entered in 1842 when he was 17 years old. At the beginning of his discourse he referred to the influences under which Huxley's mind was formed, chief of which he considered were the teaching of Wharton Jones and Thomas Carlyle. To "Sartor Resartus" he referred as inculcating the love of truth which characterized Huxley. On that I pause to remark that the period of life when Sartor Resartus could be enjoyed seems rather late for inculcating the love of truth. The lecturer then expressed disagreement with the extraordinary notions promulgated by some medical men respecting the uselessness of certain organs, such as the appendix, as to which some had said that its extirpation would lessen the liability to disease.

But, asked Sir William, is this human body of ours so badly constructed that it contains many useless parts and requires so much tinkering? He might be out of fashion, but he found no such imperfections in the normal body. On the contrary, the more one looks into it and sees its work, the better one understands it, and the more is one struck with the wondrous utility, beauty, and harmony of its parts. It must be a fallacious conclusion that every organ whose use is not clear to us is a remnant of the past and useless. We have removed the spleen, one of the kidneys, parts of the brain and lungs, the patients recovering and doing their ordinary work without detriment apparent to the ordinary observer; but it would be ridiculous to conclude that these parts of the body should be removed or that man would be as well without them. One would prefer normal man as he comes into the world to the pared and mutilated animal produced by the attempts at betterment which some folks propose. From this point Sir William Macewen entered at length on his chosen subject—the Function of the Cæcum and Appendix.

Brighton has set an example of hospital management. The hospital for women there wanted to raise £20,000 to build a new hospital. The mayor (Alderman Marx) called a meeting for Monday to consider the question of amalgamation, as he thought it would be a public calamity for that amount to be spent on building when the other charities needed so much. It was agreed to amalgamate the several medical charities of the town, and in order to carry still further the work of coordination the mayor moved that a central board (to be called the Brighton, Hove and Sussex Hospitals Board) be appointed (1) to obviate overlapping of local medical charities; (2) to promote economy of administration, particularly in regard to capital outlay on buildings, and (3) to prevent the abuse of medical charities by persons not proper objects for charitable assistance. This resolution was seconded by the mayor of Hove and carried. Influential gentlemen connected with the charities were nominated to form the Board.

Sir Isambard Owen, of St. George's hospital, has been appointed principal of the Durham College of Science, in succession to the late Dr. Gurney, who lost his life in an Alpine accident. Sir Isambard is connected with the Universities of Wales and London.

The inaugural ceremony of the new University of Leeds took place yesterday afternoon, a congregation of the university being convened for conferring honorary degrees on a number of distinguished men more or less associated with Yorkshire or its college, which has now become the university. A remarkable and exceptional share in the government of this new university has been assigned by its constitution to representatives of Yorkshire local authorities—a departure from custom which the Duke of Devonshire in a speech congratulating the graduates on the event of the day pronounced to be a wise course.

The Parkes Memorial Prize Essay, awarded to Mayor Robert Caldwell, R.A.M.C., has been published by Messrs. Baillière, Tindall & Co., under the title, "The Prevention of Disease in Armies in the Field."

"Municipal Shortcomings" is the title of a volume of reprints from the Liverpool *Journal of Commerce*, dealing with the unsatisfactory state of the public health in that city.

Mr. Balfour's presidential address, at the British Association, has been published as a shilling pamphlet.

A verdict of death from misadventure was returned by the jury at the inquest on Dr. Roberts, whose decease I mentioned last week. The evidence showed that he was a victim to the habit of inhaling chloroform, and when found he had a handkerchief in his hand and a supply of chloroform in his pocket.

Brigade Surg. E. Wilson, R.A.M.C., who died suddenly last week, at the age of 76, took his M.R.C.S. in 1851, joined the army service in 1855, and retired in 1884. He served through the Indian Mutiny and took part in the affairs of the central force under Sir Hugh Rose. He had charge of the flying column in pursuit of Burgore Sing, for which he held the medal with clasp.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

HYPERGLOBULIA—INVOLVEMENT OF CONUS TERMINALIS AND CAUDA EQUINA—EFFECT OF RED LIGHT ON VACCINATION—TRACHOMA TREATED BY ROENTGEN RAYS—DIAGNOSIS FROM CEREBROSPINAL FLUID—NEW HOSPITAL FOR LUPUS.

Vienna, September 20, 1904.

Professors Goldzieher and Hochalt demonstrated a case of hyperglobulia in the Society of Hospital Physicians in Budapest. In a feeble nine-year-old girl, the left eye showed cyanosis of the retina; the right, cyanosis of the conjunctiva, ciliary injection, punctate hemorrhages of the iris, infiltration of the vitreous, and, later, profuse hemorrhage into the interior of the eye perforating the sclera. Examination of the heart was negative. The blood was highly concentrated, showing 8,000,000 red blood cells, a normal number of leucocytes, and 115 per cent. hæmoglobin. An enlargement of the spleen was evident. The picture corresponded to the obscure one described by Rendu and Widal as polycythæmia, cyanosis, and splenomegaly. Yet the Roentgen ray examination showed in the upper left part of the heart shadow a rhythmical forcible contraction, with its maximum point in the region of the left ventricle. This fact, taken together with typical club-shaped fingers, and beginning lung infiltration, and in spite of the negative physical heart examination, made it necessary to consider this a case of congenital cardiac defect.

Balint and Benedict presented three cases of involvement of the conus terminalis and cauda equina. The first case resulted from trauma; the second, from rachitis and neuritis of the roots, and the third, from aneurysm of the hypogastric artery and erosion of the sacrum. Most noteworthy was the restoration of the automatic control of the functions of the bladder and rectum, in spite of great disturbance of the sacral cord, and especially of the sacral roots. As a characteristic defect remained only a loss of function of the striated muscle of the external sphincter. On the other hand, the bladder and rectal reflexes, depending on smooth musculature, remained intact. Power of erection was not lost, though it was weaker than normal on peripheral irritation, but the ejaculation through the urethra was deficient, being under control of striped muscle. It is most interesting that in one case labor occurred, and was without pain. This can be brought forward as proof that the sensory nerves from the uterus enter through the sacral roots.

Professor Goldzieher presented four cases of trachoma treated by Roentgen rays as follows: a case of cicatrized trachoma with pannus, 2 sittings; 2 cases of trachoma complicated by pannus, blepharospasm, and photobia, respectively 15 and 12 sittings, the total duration of treatment being respectively 71 and 60 minutes; and one case of simple follicular trachoma. In each case one eye only was treated. In the first case, the treatment had to be stopped because of the extreme irritation produced; in the other cases the result was astonishingly good. The conjunctiva showed, after five or six sittings of 70 minutes' duration, an appearance such as can be achieved by applications only after years. The pannus also improved, and the subjective symptoms lessened. The other eye, for the sake of control, was treated by Knapp's method of expression. The result in the complicated trachoma was better than that with Roentgen rays. Indeed, a *restitutio ad integrum* was to be hoped for, which appeared impossible in an eye treated by Roentgen rays, because of the cicatricial changes in the trachoma infiltration. Knapp's expression is, then, superior to the Roentgen ray treatment, as that is superior to medicated applications.

Dr. Goldmann has recently recommended vaccination under the influence of red light. He called attention to its favorable influence on the vaccination process, as noted in experiments on forty children. A number of these were vaccinated on both arms, in a photographer's dark room, under red light, the dressing being thick red bandages. With the remainder, the vaccination was carried on differently, part by daylight, part by red light, and different on each arm. The result was as follows: Those vaccinations done under red light, and kept under its influence, showed no sharp reaction. The pustules were round, and sharply raised like small warts from the surrounding normal unreddened skin, while the pustules on the control arm of the same individual were broadly diffused, with much pus, and surrounded by a red inflamed area often 8 cm. in diameter. Moreover, there were swelling of the axillary glands and tenderness, conditions entirely lacking in the arm treated with red light. If the arm vaccinated by red light

was left bandaged in red for two or three days, and then exposed to daylight, it promptly showed inflammation and pustulation; and, in like manner, a milder course ensued if the arm vaccinated by daylight was dressed after two or three days with red bandages. By these experiments, then, it was learned that red light, or the absence of light of other colors, modifies the vaccination process, with its well-known formation of pustules, surrounded by an inflamed area, and also that the constitutional changes are less. That red light exerts an influence on the vaccine virus or the vaccination process seems to be established as a matter of fact, by these experiments, so an influence of red light on the course of smallpox is to be assumed. It was natural, therefore, for many voices to be raised condemning this method, and declaring that vaccination by red light would have little or no value; that the round pustules, raised on a normal skin as little warts, are such as the vaccinating physicians look upon as useless results. The flat, scarcely perceptible scar, which is even less plain after six weeks, gives the impression that here was a vaccination, the value of which against exposure to smallpox will extend at best over only a short time. Upon the duration of the immunity depends the value of vaccination, and the ten years' immunity which is now expected from a successful vaccination, is conditional upon the full development of the characteristic pustule, with its umbilication, surrounding inflammatory area, and a constitutional reaction of short duration. The characteristics of a scar from a successful vaccination are that it is not flat, involving only the epidermis, but deep, branched, and uneven, and remaining clearly visible. The discussion of this subject is not yet ended, but the majority of physicians abide by the old method.

In the Society of German Physicians in Prague, Dr. Oscar Fischer delivered an address on the "Contents of the Cerebrospinal Fluid in Progressive Paralysis." Fischer has performed numerous lumbar punctures in the psychiatric clinic of Professor A. Pick, and he demonstrated the microscopical preparations from two cases of paralysis. One of these, duration eight years, showed but little evidence of inflammation in the meninges, great increase in connective tissue proliferation, and the cerebrospinal fluid was normal in content, showing about three lymphocytes in a field 400 times enlarged. The other case ran a rapid course, lasting hardly a year. In this the meninges showed an abundant small-celled infiltration, and, to correspond, the cell elements in the cerebrospinal fluid were much increased, 30 or 40 appearing in a field. The author found explanation for these apparently contradictory results in the theory that the number of lymphocytes in the cerebrospinal fluid appears to be dependent on the infiltration of the meninges, and this again goes parallel with the acute or chronic course of the disease. The diagnostic value of the Quinke lumbar puncture for chronic diseases of the central nervous system is beyond doubt, to the extent that all diseases accompanied by organic tissue changes, as progressive paralysis, tabes, luetic affections, arteriosclerosis of the meninges and brain, multiple sclerosis, etc., at least at the time of active advance, give positive cellular results, namely, increase in the number of lymphocytes in the cerebrospinal fluid. On the other hand, functional diseases of the mind, which show no microscopical changes in brain or cord, as melancholia, paranoia, alcoholic neuroses, hysteria, and neurasthenia, show a normal number of cells in the cerebrospinal fluid. Centrifugalization is a long process because of the slight difference between the specific gravity of the cells and of the liquor cerebri. In order to shorten this process, and to obtain all the cells possible, Fischer adds a few drops of formalin solution, which forms a fine, snare-like mass of albumin, and this falls with the cells during the centrifugalization.

In the immediate future an institution, interesting from many points of view, will be opened in Vienna, namely, a hospital for the treatment of lupus. The incentive for this was in the fact that the representatives of the medical world at the International Medical Congress at Paris, realized that cases of lupus were being healed by the dozen (Lang, Finsen). They were convinced that radical methods of treatment of lupus may be successful, and that, therefore, there is a possibility of freeing from their terrible malady those heretofore completely shut out of society by their repelling appearance. This possibility awakened in Professor Lang the noble wish to call into being in Vienna an institution which would offer every method of healing for lupus, and so to create a center for scientifically established methods of procedure which ensure lasting results. Many ambulant cases will find in the new institution long-desired treatment according to new and approved methods of lupus therapy. There is ample provision also, for bed cases, especially for such as are suitable for plastic operation. In this hospital all the necessary equipment will be provided. There will be a number of Finsen lamps, Roentgen-ray and radium outfits, and an operating room. No means will be lacking that could prove of advantage to the many patients who will come from far and near. At the same time the fact is never to be lost sight of that the institution is cast in no firm mould, to the end that each new discovery for the healing of lupus can be tried without difficulty. It is intended from the very beginning to have this hospital of such a standard that it will serve as a model for similar institutions elsewhere.

OUR PARIS LETTER.

(From Our Special Correspondent.)

CONGRESS OF OTOLOGY—TREATMENT OF FURUNCLES, ABSCESSES, AND CARBUNCLES BY SUBCUTANEOUS INJECTIONS OF OXYGEN—DEATH OF WALDECK ROUSSEAU.

PARIS, September 25, 1904.

THE International Congress of Otology was held in Bordeaux in August. The first question considered was the choice of a simple and practical acoumetric formula. The only reports were by Politzer, Gradenigo, and Desaix. The second question, according to the order of the day, was the diagnosis and treatment of labyrinthine suppuration, on which Brieger of Breslau was the speaker. After having insisted on the necessity of radical trephining and opening the labyrinth, he described the technique of the operation. The other speakers on this subject were von Stein of Moscow and Dundas Grant of London. The last question was the technique of opening a cerebral abscess originating in the ear, and its after-treatment. Hermann Knapp of New York and Ricardo Botey of Barcelona were the speakers. Among other questions considered in this congress, we would mention a paper on the surgical treatment of acute meningitis of aural origin, by Lermoyez and Bellin of Paris. Also, Boulay spoke on the interesting problem of the psychological element in deafness. The congress voted that a collective investigation be organized to study adenoid vegetations and other causes of deafness.

At the Royal Academy of Brussels, Professor Thiriar recently presented a method of treating local infections by pure oxygen gas, which has the valuable property of causing the attenuation, to a great degree, of bacteria, and of destroying their toxins by oxidation. The oxygen is kept under a pressure of 120 atmospheres in a metallic case. One end of the case is fitted with an adjustment closed by an easily opened valve. To this is attached a rubber tube, terminating in a fixture to which can be fastened a simple Pravaz needle, or a small glass or rubber cannula. In treating a furuncle, one first regulates the flow of oxygen by plunging the Pravaz needle in aseptic water. The bubbling of gas in the water enables one easily to estimate the rapidity and quantity of the flow. After having previously rendered the region aseptic, injections are made in the furuncle, the needle being plunged successively into the summit and base of the tumor. At first, when the oxygen penetrates the indurated tissues, it produces a sharp pain due to distention. Almost immediately, however, the painful symptoms lessen, and soon entirely disappear; at the same time the swelling diminishes and disappears. In three or four days the furuncle no longer exists, and the rapidity of the cure is no greater than its permanence. Carbuncular infections are circumscribed or diffuse. When they are circumscribed, the Pravaz needle is used, introduced at different points in the swollen area. The current is allowed to run for about half a minute in each place, or until light digital pressure gives the sensation of crepitation, indicating that the carbuncle is, as it were, isolated in an atmosphere of oxygen. When suppuration is clearly established, and when sloughing tissue and pus are eliminated by different openings, the glass cannula is used, which passes to the center and into the ramifications of the tumor, and a comparatively strong current is allowed to run for about a quarter of an hour. The treatment is given every day for a week, and by this time the constitutional symptoms have abated, and the pus has disappeared. When the carbuncle is diffuse, it is necessary to begin by removing and carefully dissecting out the necrotic tissue, and then to direct a strong current into the center of the tumor for about ten minutes. After this a weaker current is continued for 24 hours. Five or six days are necessary to ensure complete cure. Finally, abscesses of the breast are cured by this method with incredible rapidity. The technique is simple. After disinfection, an incision is made to evacuate the pus. After irrigation by peroxide of hydrogen, a current of gas is passed for about half an hour. If the abscess is large, a permanent current is passed for 24 hours. After this time, suppuration is retarded, and in two or three days the cure is complete.

Waldeck Rousseau, the great French statesman, former President of the Council of the Ministry, died the latter part of August. He suffered from an obstruction of the bile-ducts which necessitated surgical interference, as we have previously mentioned in these letters. Professors

Terrier and Poirier performed a laparotomy several months ago, in the course of which, having found it impossible to achieve a radical cure, they had confined their attention to performing a cholecystenterostomy, in order to secure a flow of bile. The patient recovered well and easily from this first operation, but when, after several months, cachectic and feeble, he asked for a second, the French surgeons refused. It was then that the German surgeon, Kehr, in spite of the extremely debilitated condition of the patient, performed a second operation. But the illustrious patient was too feeble to stand the shock, and died a few hours after the completion of the operation.

AN INTERESTING DAY'S WORK.

To the Editor of the Medical Record.

Sir: As an illustration of the old adage that "it never rains but it pours," I have the following report to make of one day's obstetrical work. On October 5 I attended Mrs. E. M., who was delivered of twins, two girls, at 12:30 P. M. At 6 P. M., I attended Mrs. T. B., who was delivered of twins, two boys; and at 3:30 of the following morning, I attended Mrs. A. S., who gave birth to twins, two boys, making three cases of twin pregnancies attended in less than twenty-four hours.

William F. Barry, M. D.

Woonsocket, R. I.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 20, 1904.

Heart Complications in Diphtheria.—Franklin W. White from his work on a series of 946 cases of diphtheria emphasizes the following points: There is a great frequency of heart murmurs and irregularity of pulse. The prognosis does not depend upon the mere presence of these signs, but upon the severity of the infection, the length of time without treatment, the rate and degree of irregularity of the pulse and the presence of the graver signs of cardiac disturbance. Moderate disturbance of the heart is very common; severe complications are infrequent. Frequent examinations of the heart are necessary to really determine its condition, because of the marked changes in rhythm from one hour to the next. Gallop rhythm, late vomiting, and epigastric pain and tenderness are important as danger signals of severe heart complications. The association of late vomiting with gallop rhythm renders the outlook almost hopeless. Antitoxin does not affect the heart unfavorably, but, on the contrary, its early use prevents the appearance of grave heart complications. Frequent examination of the heart and pulse in the second and third week of the illness are necessary, that being the time when severe heart complications most frequently occur. Bronchopneumonia is a more frequent fatal complication of diphtheria than heart disease; sudden death from heart disease is very rare when patients are kept in bed for a proper period. Prolonged rest in bed is necessary in all severe cases; it is not necessary to keep all patients in bed who have cardiac murmurs and a pulse which is somewhat irregular and increased in rate. One should be governed by the stage of the illness and the patient's general condition. If no serious heart trouble has developed within four weeks the patients are usually safe from this complication. Heart murmurs and irregularity are of long duration in many cases, and make it necessary to watch the condition of the heart long after convalescence in all severe cases.

The Assouan Cure.—F. Gordon Morrill declares that the quality of the air of the Nubian desert differs essentially from that of any other which can be found in conjunction with the comforts of civilized life. Dryness is its main characteristic. There is also a comfortable degree of warmth. By the "invalid season" is meant the fourteen or fifteen weeks beginning about December 10. Assouan is exempt from rain and malaria. The disagreeable features consist of two or three full blown khamsins, during which one must remain indoors for an average of thirty-six hours, and a peculiar condition of the atmosphere which occurs with about equal frequency and lasts equally long—an apparent mist hangs over the Nile valley, closely resembling a fog, but due to the presence of fine sand in the atmosphere. It is safer to remain in this climate until about May 1. The diseases which derive the greatest benefit from this climate are nervous prostration, and delayed convalescence from prolonged illness; chronic bronchitis with emphysema and cardiac dilatation, with perhaps a tendency to asthma; but when the larynx or naso-pharynx are alone affected, the climate is unsuitable. Other diseases well treated here are rheumatic affections and neuralgias. This is an excellent place for the establishment of a "sand cure." Cases of prolonged albuminuria in which renal conditions render prognosis doubtful sometimes clear up completely. The writer has also observed two or three cases of incipient tuberculosis which have done remarkably well. The writer, although he does not condemn the climate of Lower Egypt, declares that it is not to be compared with that of Assouan for health seekers.

New York Medical Journal, October 22, 1904.

Quintuplets.—A case is reported by A. Bernheim. The patient was thirty-nine years of age and this was her eighth pregnancy. Five male children were born at from ten to twelve minute intervals and varied in weight from four to five pounds. All were apparently healthy and well developed. All died, however, in from four to fourteen days. The afterbirth consisted of five placentæ grown together, but each with a separate cord.

Syphilis Continuously Treated by Intramuscular Injections of Mercury Salicylate.—This plan of treatment is recommended by D. A. Sinclair. The requisites are the following: An alcohol lamp for sterilizing the needle and heating the mercury; a sixty minim subcutaneous syringe; a needle of large calibre, which should have a high polish, a sharp point, and be about No. 19 gauge, and an inch and a half long; cotton; ether or alcohol; and collodion are necessary. The site most favorable for the injection is the gluteal region, but this may be changed to the calf of the leg or the muscles of the back and chest. The part selected for the injection is bared and cleaned with a piece of cotton, moistened with alcohol or ether. The remedy is prepared in dram vials, each containing one and three quarters grains of the salicylate suspended in thirty minims of benzoniol. Allowing for waste about one grain and a half are injected, but the author has used six grains without unpleasant effects.

A Contribution to the Surgery of Nephritis.—C. W. Wile reports a case. His patient was a boy of eighteen years with the history of subacute nephritis of at least one month's duration. Two months' medical treatment were without result. The right kidney was stripped and its capsule removed. Subsequent analyses of the urine showed a reduction of over fifty per cent. in the amount of albumen excreted. A second operation was then done (on the left kidney), and the amount of albumen was reduced to but a trace. There was a marked decrease in hyaline and granular casts. The urea output remained unchanged. At the time the patient was discharged from the hospital the urine contained scarcely any casts and but a trace of albumen.

Medical News, October 22, 1904.

The Surgical Physiology of the Lymphatic System.—C. H. Mayo emphasizes the important part played by the lymphatic system in the body. For a long time it was thought that there were but two lymph ducts of entrance into the circulation—the right lymphatic duct opening into the right subclavian vein, and the left or thoracic duct which empties into the commencement of the left innominate vein. Recently, however, Leaf has found that there may be a communication between the lymphatics and small veins in the groin, and it is possible that others exist and will sometime be located. It is now generally considered that the ductless glands are drained by the lymphatics. The condition of the lymphatic system in its relation to malignant disease is of the utmost importance. It is an accepted fact that there are definite gland-fascia areas which must be removed with or at the time of the removal of the original malignant growth. The prognosis of maligant disease is modified by the age of the patient and by the lymph circulation in the area involved. Cancer in the young is rapidly fatal and early recurrence of metastasis often follows operation, the gland distribution being early involved. Old age with its disappearing lymph system may often be a more hopeful condition for permanent recovery. Cancer statistics as to cure improve with each decade of life, other conditions being equal. The writer then considers the subject of drainage. He believes that aseptic operations in regions rich in lymphatics, where the lymph circulation is but little disturbed, will not require drainage as ligation of vessels in the neck, Alexander's operation, and hernias in the inguinal region. Aseptic operations in these regions in which the lymph system is removed require capillary drainage from four to six days. Free drainage of the stump should be employed in amputation for malignant disease where the glands are removed from axillary or inguinal regions. In regions rich in lymphatics, where operations are done for septic conditions, strong antiseptics should be used on the incised surface, followed by the use of alcohol or glycerine. In the drainage of wounds it is well to make a separate incision at the most favorable point and close the original operative wound completely.

The Climate and Waters of Hot Springs, Virginia.—Guy Hinsdale says that the popularity of the Virginia Hot Springs is due to a combination of climate, a variety of mineral springs for external and internal use, a complete bathing equipment, and good accommodations for visitors. The climate is distinctly stimulant which is natural as the altitude is nearly 2,400 feet. Compared with New York,

Boston, Philadelphia, or Chicago, the air is rarer, dryer, purer, and more invigorating. The cold in winter is not so penetrating, and the summer heat is never so intense. There is, however, a wide diurnal variation in temperature. The formations of shale afford a pure and palatable drinking water. The scenery is beautiful. A striking feature is the proximity of warm springs and cold springs. The mineral springs owe their efficiency mainly to the methods used in their application. It is not claimed that the good results from bathing in these hot springs are due to absorption by the skin of the mineral constituents of the water, but rather to a temperature effect. The heat or cold stimulates the peripheral nerves of the skin, and these, in turn, favorably affect the central nervous system. Many visit the Hot Springs to restore a proper function of the stomach, the kidneys, or the liver. The use of hot baths and diuretic waters together with the other aids which are at hand accomplishes much.

Three Cases of Probable Psittacosis.—Herman F. Vickery refers to several house epidemics probably due to contagion from parrots. The symptoms of the disease are those of a grave typhoidal condition with atypic pneumonia. The onset is acute, often with chilliness or a true rigor. Exceptionally the disease begins insidiously, but in that case there is apt to be a chill when the pneumonia begins. The fever is more or less continuous, with a termination by lysis. In many cases successive foci of pneumonia develop, giving the temperature curve a recurrent type. With the onset the patient is feeble and depressed; there is usually a violent headache and dizziness. There may be delirium. Obstinate constipation is the rule, but diarrhœa is sometimes present. The spleen is always enlarged. There may be a roseolar eruption. There is a cough from the beginning. Auscultation reveals subcrepitant rales throughout both lungs. After a few days pneumonia slowly develops. In some cases there may be no evidence of consolidation. Warthin states that "the bacteriology of psittacosis and the true relations of the parrot disease to the atypical pneumonia seen in man are yet to be definitely determined." The writer has observed three cases with the symptoms above described. A parrot had just been sent to the home of these patients. The bird had a bloody diarrhœa and died. It had been kept in the sitting-room of the house. Eighteen days after the parrot arrived, the domestic who had charge of the bird, was taken suddenly ill. A few days later two members of the family also fell suddenly ill. The symptoms in all of these cases corresponded fairly well with the descriptions of psittacosis, and the disease is not easily placed in any other category. The only member of the household who escaped illness had little to do with the bird. The bacteriological report made by Oscar Richardson gave disappointing negative results, but they were of considerable importance in ruling out those diseases the atypical forms of which psittacosis resembles.

American Medicine, October 22, 1904.

The Early Diagnosis of Pulmonary Tuberculosis.—William Fitch Cheney declares that in the diagnosis of early pulmonary tuberculosis the clinical history and the physical examination are the ones of greatest importance. Sputum examination does not give information early enough. Tuberculin may give reaction when no active tuberculosis is present, and may fail to give a reaction when active tuberculosis is really present. The Röntgen ray confirms what physical examination has already discovered, but does not tell anything that cannot be found out in other ways. The writer then calls attention to three sources of error in the diagnosis of early pulmonary tuberculosis. Prejudice and bias often keep the physician from seeing what would otherwise be perfectly plain. Inattention to details is an important source of error. The changes that must be dealt with in the early stages of this disease are slight, and it is by many little things that by themselves mean nothing, but that put together mean everything, that a diagnosis must be reached. Lack of persistence in examinations is often at fault for an incorrect diagnosis. The evidence must be gone over again and again. Too much cannot be said of the value of a careful and painstaking history. In the personal history the significant point is how the patient lives. The writer believes that time cannot be better spent than in the effort to make a certain diagnosis of the early stages of pulmonary tuberculosis.

"Shorten the Time from the Cow to the Baby."—Arthur R. Reynolds lays stress on the fact that 12-hour milk is worth very much more from a dietetic standpoint than 24-hour milk. Milk may be unfit food for the young many hours before it becomes sour to the taste. Milk begins to deteriorate, as to its digestibility and wholesomeness, from the moment it is exposed to the air. It is one of the best mediums for the growth and multiplication of bacteria. In 24 hours after being drawn, unless checked by cold, there will be 400,000 microorganisms in each teaspoonful of milk. Souring is due not only to the growth of bacteria which have fed and multiplied on the nutritive constituents of the milk, thereby reducing its food value, but to their production of a special souring (lactic) acid and other poisons. Old milk not only starves the young, but it poisons them. All milk intended for the use of children should be bottled in the country, immediately after having been thoroughly cooled. The bottles should be packed in broken ice and shipped to consumers within 12 hours after bottling. The writer declares that no legislation will be enacted making the delivery of 24-hour to 36-hour old milk illegal until the public is educated to a knowledge of the evils of stale milk and its murderous effects upon the young. The writer concludes his paper with the quotation from Lord Derby: "Sanitary education is more important than sanitary legislation."

Journal of the American Medical Association, Oct. 22, 1904.

A New Method of Lateral Anastomosis.—The steps of the operation are thus described by A. Werelins: (1) Fix by guy suture the opposing surfaces of stomach or bowels and sew with a running through-and-through suture; (2) Insert a silk or tissue ligature or silver wire running into the lumen of the bowel; (3) Cover the silk ligature by folding adjacent parts of intestines over it and sew with through-and-through suture, leaving the free ends of the silk ligature on the outside; (4) An assistant holds the united tissues firmly on the opposite side of the free ends of the ligature. By alternate pulling of the right and left ends of the silk ligature, the tissues are neatly cut through and an anastomatic opening is made, the thread escaping through the minute slit between the sutures. Take one more stitch where the thread slipped through and the operation is complete. The advantage of the method is that by the last-named manœuvre the bowel is cut through without exposure of the mucous surfaces while the operation is complete at once and leaves no foreign body.

Rupture of the Mesenteric Glands During Typhoid Fever.—R. G. LeConte describes a case of this nature simulating intestinal perforation. Operation was performed, and the patient recovered. Two similar operative cases with fatal results are referred to. The author's conclusions are as follows: (1) Swelling of the mesenteric glands is a constant lesion of typhoid fever. (2) Such enlargement is due principally to a proliferation of the endothelial cells lining the lymph sinuses. (3) These cells by penetrating the walls of the capillaries and smaller veins produce thrombosis, with resulting minute necroses. (4) Such necrosis ends in resolution. (5) Perforation of the capsule of the gland is dependent on some causes other than the presence of the typhoid bacillus and thrombosis of the smaller glandular vessels. (6) Perforation is probably due either to the presence of the staphylococcus or streptococcus in the gland, or to thrombosis of larger vessels of the mesentery outside of the gland.

The Lancet, October 22, 1904.

A Case of Gigantic Renal Calculus.—The case is reported by A. Marmaduke Shield, who discourses also on other cases in which renal calculi formed obvious tumors. The patient in this special instance was a man of thirty-nine years, with the usual symptoms, which had recurred at intervals during a period of fourteen years. Operation was performed, and the stone weighed fresh, with sand and detritus, and soaked in blood and fluid weighed nineteen ounces; when dried, it weighed sixteen and one-half ounces. Its longest diameter was five inches and greatest circumference about ten inches. The patient made an uneventful recovery. The author appends a list of cases in which large stones have been removed, and believes that under such conditions the preferable operation is to remove the disorganized kidney and calculi by an anterior incision.

Chlorate of Potassium in Habitual Abortion.—This remedy is recommended by G. S. S. Hirst, who records a case in which it seemed to prove successful. The patient had previously aborted eleven times, and this time carried her child to full term, and was delivered in a normal manner of a healthy girl. For nearly four months she took two and a half grains of the drug, three times daily. No apparent cause could be found for her previous abortions, and she had always taken the best possible care of herself during her pregnancies.

A Case of Blood Poisoning from Tonsillitis.—I. Owen records the case of a man aged twenty-two years with an apparently ordinary acute tonsillitis. In about eight or nine days a condition of general sepsis set in. The swab test showed neither diphtheria bacilli nor streptococci, but a later blood test showed the presence of the latter organisms. Antistreptococcic serum was given, but without avail. Roux's serum seemed at first to give some benefit, and was given intermittently, according to indications. The greatest benefit seemed to come from giving every six hours half a dram of tincture of non-perchloride, with twenty-five minims of dilute hydrochloric acid and three grains of quinine sulphate. The patient made a good recovery.

The British Medical Journal, October 15, 1904.

Lesions of the Posterior Columns in General Paralysis.—David Orr and R. G. Rows, in their study of general paralysis, have devoted special attention to the degenerations found in the posterior columns. The spinal cords studied were treated by the Marchi method, as being the most delicate method for determining the early degenerative changes in the fibers. Besides, a modification of Weigert's medullary sheath method was used to demonstrate sclerosis, if present. Degeneration in the posterior columns has been constantly found, varying in degree in the different cases. The writers have found the following features in all cases: The portion of root between cord and posterior root ganglia shows no degeneration. Degeneration of the internal division of the sensory root in its intramedullary path, commencing at the point of entrance into the cord. The external division, or Lissauer's area, remains almost intact. The collaterals and terminals passing into the gray matter share in the degenerative process. The long fibers, derived from segments situated low down in the cord, are also affected, as shown by the presence and position of the degenerated fibers in Goll's column in the upper parts of the cord. The writers believe that the sensory fibers are specially vulnerable just where they enter the cord, owing to the absence of the neurilemma. The degeneration is primary, and due to the direct action of toxins on the myelin sheath and axis-cylinder. Owing to the damage inflicted on this latter, however, there becomes added to the original primary degeneration a secondary one. The areas affected in these cases coincide anatomically with those seen to be degenerated and sclerosed in early tabes. The writers hold that tabes dorsalis starts in the same manner, and is a chronic affection of the sensory fibers, due to the primary influence of a toxin in the posterior lymph system, which attacks the nerves at the vulnerable point. The fibers affected must be assumed to be weaker than those which are not, but the lesion spreads to the latter owing to the secondary changes induced by the degenerative products. Thus degeneration slowly merges into sclerosis.

Treatment of Pruritus Ani.—Malcolm Morris limits the term pruritus ani to a condition characterized by intense itching about the lower orifice of the bowel. Pruritus is often a symptom, sometimes an essential disease. The possible etiological factors of this affection are numerous. It is often found in the gouty, and in those who suffer from disorders of the digestive and chylopoietic apparatus. Shell-fish and strawberries sometimes give rise to it; also tobacco. Piles, constipation, fissure, ulceration, foreign bodies, and irritating discharges from the bowel or neighboring parts sometimes give rise to it. Cutaneous diseases, such as eczema, may produce the symptom. It is said that the most important predisposing cause is hyperæsthesia. General diseases producing it may be idiopathic neuroses, such as hysteria or hypochondriasis, or other affections of the nervous centers. Although pruritus ani may occur at any age, there is a certain relation of particular causes to particular ages. Thus in children, the itching is likely to be due to worms. The patient generally seeks relief in violent scratching, and thus secondary lesions develop. Pruritus ani is often very refractory to treatment. The first thing to do is to seek for the cause and remove it, or neutralize its action. The treatment must be appropriate to the cause. In all cases it is well to regulate the bowels and recommend a bland, but nutritious diet. Rich foods and alcohol should be forbidden. Short courses of calomel in small doses are useful. Tonics are indicated if the patient is depressed, with a poor appetite, and failing nutrition. Thorough flushing of the system with large quantities of weak alkaline waters is often a powerful aid to local treatment. The most scrupulous cleanliness must be enjoined. The application of water as hot as can be borne is a very efficacious method. Some patients prefer very cold water. After bathing, a soothing or cooling remedy should be applied. Local remedies may be classified as anodyne, antiseptic, and caustic. Cocaine may be used in the form of a suppository, but care should be taken that the patient is not allowed to use this remedy too freely. Menthol is cooling. A strong solution of bicarbonate or bisulphate of soda applied in a poultice is an excellent sedative. Carbolic acid often acts like a charm. Oil of cade is useful. The local application of calomel is highly praised. The calomel stops the itching at once, according to the advocates of this method. Nitrate of silver is sometimes used. The patient should be kept cool in bed. Hypnotic suggestion has been tried with success. Electricity is said to have given good results. It is well, after bathing the parts, to apply a powder like bismuth, oxide of zinc, and starch, or orthoform. However, each case must be studied as a distinct problem.

The Influence of Peripheral Nerve-Irritation upon Diseases of the Skin.—G. Norman Meachen says that although trophic disorders of the skin are well known, local irritation of terminal peripheral nerve filaments has not been so widely credited with any special influence upon the production of cutaneous diseases. Irritation proceeding from the cranial nerves, such as the ocular and the dental branches of the fifth, appear to possess an appreciable influence over the progress of certain forms of alopecia areata. The "dental theory" is an instance in point. Errors of refraction have been found to be associated with some kinds of alopecia. The appearance of herpetic eruptions upon areas of the skin which have been injured, or in which the nerve filaments are irritated, is frequently seen. Lichen planus is sometimes met with in the vicinity of old fractures, or in scratch marks. "Trophic influence" cannot always be brought in as an explanation. Conditions of "nervous erethism" are often responsible for cutaneous disorders.

Berliner klinische Wochenschrift, October 3, 1904.

Sclerosis and Dilatation of the Right Coronary Artery Through Digitalis.—Openchowski is of the opinion that digitalis has a strengthening effect only on the left heart and dilates the left coronary artery, whereas it contracts the corresponding artery on the right side and weakens the work of the right ventricle. The indiscriminate administration of digitalis is ill-advised and may lead to serious overtaxing of the right ventricle. In the author's case of advanced complicated valvular lesions on two occasions the use of digitalis was followed by aggravation of the symptoms of broken compensation, and he made the diagnosis of dilatation and sclerosis of the right coronary artery, which was later confirmed by autopsy.

Convergent Strabismus, Its Heredity and Treatment.—Cohn, from the histories of 2,700 private patients collected during the past forty years, comes to the conclusion that in 23 per cent. of the cases of strabismus some near relative was affected similarly. His general rules of treatment gathered from his experience of over 2,000 cases of strabismus and 700 operations are as follows. Up to the fourth year no treatment except to bandage the unaffected eye several hours daily at play. In the fifth year begin separate exercises by means of convex lenses and the stereoscope, and correct the total hyperopia. Tenotomy is not to be done before the tenth year, only in cases where the deformity is very great should the operation be performed as early as the sixth year. Promise improvement, but never a cure. In severe cases advance the externus.

Münchener medizinische Wochenschrift, October 4, 1904.

Preliminary Report on the X-Ray Treatment of Two Leukæmics.—Fried says that the results obtained by the *x*-ray treatment of leukæmia are sufficiently satisfactory to encourage further work in this direction. He reports two cases of his own, in which during about a month of treatment the size of the enlarged spleen greatly diminished, the red cells rose from 2,525,000 and 3,075,000 to 3,925,000 and 4,450,000, respectively, while the leucocytes dropped from 62,280 and 185,000 to 22,500 and 14,642, respectively. There was also a rise in the hemoglobin and a marked improvement in the patient's general condition. The author says it is still too early to say whether this improvement will be permanent or not and whether further amelioration is to be expected for a continuation of the treatment. It is possible that it is only the exacerbations of the disease that can be subdued by this means, and that its general course will remain uninfluenced, but further experimentation seems indicated.

The Mechanical Sterilization of Rubber Gloves.—Fromme and Gawrensky have made a series of bacteriological tests with a view to determining whether it was possible to render completely sterile by purely mechanical means rubber gloves that have been infected. Dettmer, Wandel and Höhne published results indicating that this could be effected by washing with soap and sterile water for two and a half minutes, but the authors found that it was impossible to ensure sterility in this way. They always observed growths in the culture medium unless the washing process was concluded with the use of an antiseptic solution (1-1,000 bichloride). They explain this discrepancy by attributing the results of former authors to the fact that they used as nutrient medium agar, which is less adapted for the growth of the germs concerned than is bouillon, which was the culture medium employed by themselves. Their conclusion is that it is safe to perform minor operations with rubber gloves that are put on in unsterile condition and then washed for four minutes with soap and water and for two minutes longer with bichloride solution. It is, of course, essential that the glove be without holes and that it fit well.

The Comparative Results Obtained by the Ferrometer and Hæmoglobinometer.—Altmann made parallel determinations on thirty patients by means of the Fleischl hæmoglobinometer and the new ferrometer of Jolles. By suitably graduating the size of the cylinder and the quantities of reagents used Jolles has adapted his apparatus to the Fleischl-Mischer hemoglobinometer so that the glass wedge

of the latter may be used as a standard of comparison. The method is therefore much simplified and according to the author may be carried out in fifteen minutes. In the author's thirty observations the two methods corresponded very closely in all but three cases. These were of anæmia, Addison's disease, and diabetes, and the author concludes that the ferrometer determinations on the one hand are valuable controls on the hæmoglobinometer figures, and on the other that where marked variations are observed these may be of clinical significance.

Deutsche medizinische Wochenschrift, October 6, 1904.

Intestinal Obstruction.—Roos reports a case of intestinal obstruction in which atropine was used with good results. The patient was a woman of fifty-one who had a ventral hernia following laparotomy. For eight days she suffered from intestinal obstruction supposed to be due to the hernia. All operative treatment was refused and the case seemed hopeless when 2 mg. of atropine were given internally. There was no effect and the next day 3 mg. of the alkaloid were injected subcutaneously. A few hours later flatus and feces were passed in abundance. The pulse rose to one hundred and forty, but no other symptoms of intoxication were produced. Four months later the same condition developed, but the atropine treatment proved ineffectual, and the patient's death was hastened by a complicating pneumonia. In another case a woman of sixty-three years, after several years of dyspepsia, had an attack of localized peritonitis in the region of the gall-bladder. Five months later after protracted colicky pain and intestinal obstruction a gallstone measuring 4.3 cm. by 2.8 cm. was passed, and the patient recovered. The author ascribes the first attack to the perforation of the gall-bladder and transit of the stone into the intestine.

Applications of Continuous Local Pressure.—Heerman describes his method of employing continuous local pressure over swellings of all sorts either by the old but little used sponge compression or by the use of suitable inflatable cushions of rubber. The essential point in applying such agents is to have the outer bandage of absolutely unyielding material. The ordinary flannel or muslin bandage will not do, and the author employs straps with buckles which are applied either singly or in combination. If a sea sponge is used it is applied to the part moist and is dampened several times throughout the course of the day. Inflatable cushions are applied flat and then blown up after the outer constricting bandage is in place. In one case of swelling of the leg following a blow the author made use of the inner tube of a pneumatic tire which was applied down one side and up the other of the leg. The scope of the method is very large, and the most varied conditions such, for example, as contractures of the fingers due to cicatrices, etc., can be relieved by its means.

The Operative Treatment of Cicatricial Contraction of the Cheek.—Manasse describes the difficulty of relieving the deformity and loss of function attending the contraction of the soft parts of the cheek sometimes following severe cases of such conditions as burning by caustics, stomatitis due to scarlatina, smallpox, measles, etc. Very few instances of permanent cure are on record, and the author reports a recent case in which he successfully treated such a condition by an extensive plastic operation. The patient had acquired his deformity in childhood following an attack of facial erysipelas, during the course of which the mouth was frequently cauterized with silver nitrate. Three previous operations were followed by recurrence. The author divided the scar tissue on either side and transplanted into the gaps pedicled flaps taken from the sides of the neck and twisted so as to cause the skin surface to face into the mouth. The skin of the cheeks was disected up and drawn over the raw gap. The functional and cosmetic results were excellent and are still unchanged fifteen months after the operation.

French and Italian Journals.

An Anti-Rheumatismal Serum.—The discovery of Menzer, a physician of Halle, of a curative serum for articular rheumatism, seems full of promise. In the two years in which Menzer has been studying this question, he has become more and more convinced that this disease is caused by a streptococcus which enters the organism through the lungs. His treatment has been equally successful in cases of acute and chronic rheumatism.—*La Revue Médicale du Canada*, September 28, 1904.

The Urinary Eliminations in the Course of Uncontrolable Vomiting of Pregnancy.—M. A. Schwab being impressed with the fact that if rational therapeutics are to be used it is necessary to understand the etiology and pathogeny of a disease, has reviewed some of the work that has been done in relation to the urinary elimination in the cases of uncontrollable vomiting, thinking in this way more light may be thrown on the obscure problems associated with this condition. It has been determined that the diminution in the quantities of urea and chlorides is more marked as denutrition is more accentuated. From observations which have been made he presents the following data. Diminution in the chlorides is constant; in five cases the weight of sodium chloride eliminated in 24 hours was less than 2 grammes. The diminution in phosphates is also constant, but within far narrower limits. The quantity of urea was normal in two cases, and clearly below normal in four other cases. The quantity of uric acid was more than normal in three cases, normal in two cases, and less than normal in one case. The relation between uric acid and urea was considerably increased in four cases, and diminished in one case. The relation between phosphoric acid and urea was normal in three cases, and increased in three others. Indican or the phenols were present in four cases. Urobilin, indican, or acetone was often noted. The writer declares that these interesting researches deserve to be continued.—*La Presse Médicale*, October 5, 1904.

Demonstration of the Specific Parasite in a Case of Rabies in Man.—Lina Luzzani records the pathological findings in a case of rabies furiosa, in a child of 10 years, bitten by a dog that escaped and of which no examination could be made. In about six weeks after the bite she developed the symptoms of rabies furiosa, and died within twenty-four hours. Careful examination was made of all parts of the nervous system with reference to the presence of the protozoa discovered by Negri. The endocellular parasites were absent in the pons, bulb, and medulla; numerous in the cornu ammonis, cerebellum, cerebral cortex, Gasserian gangion, ganglia of the vagus, and superior cervical ganglia of the sympathetic. In the salivary glands and the skin of the wound they were absent. They were typical in form, but smaller in size than those found in the dog, due, perhaps, to the shortness of the illness. This case corresponds with the reports of the disease in dogs; in the furious form the parasites are frequent in the brain and ganglia; in the paralytic form they are frequent in the spinal ganglia and medulla and infrequent in the cerebrum. —*Archivio per le Scienz Mediche*, Vol. XXVIII, No. 11.

Plaster Apparatus in the Treatment of Pott's Disease.—P. Desfosses and G. Berruyer conclude their article on this subject. As to the length of time that apparatus should be worn by patients suffering with Pott's disease, the writers declare that in childhood the parts of the body change very rapidly. A child that is well fitted with apparatus when it is first applied, may be found to be uncomfortable or even suffering with excoriations four months later. The plaster corset should be changed every two or three months. The child with Pott's disease should in the beginning be kept lying down until the phenomena of pain or of paraplegia have disappeared. At the end, perhaps of two years, if the pain has completely ceased, if the paraplegia has disappeared, and if the abscess has healed, walking may be allowed, and for this purpose the child should be provided with a Sayre corset. It must be added, however, that certain children do badly when they are kept for a long time in bed. Their nutrition suffers, and their intestinal functions are interfered with. In such cases showing an intolerance to rest, it is indispensable to have recourse in the beginning to Sayre's corset, and to permit walking. But this treatment is the last resource. Horizontal decubitus ought to be the rule in the treatment of Pott's disease.—*Le Bulletin Médical*, October 5, 1904.

Malaria and Ascarides.—H. Gros reports a very interesting case in which infection with the ascarides was present at the same time with an attack of malaria. The patient was a man of 40 years who had been troubled with "worms." When he entered the hospital he had been sick for about eight days. He complained of headache and anorexia. He had fever, and vomiting, accompanied by great nausea. There were pains in the abdomen and diarrhœa. The patient was very weak, his body was covered with a cold sweat and the abdomen was swollen and painful on pressure. The pulse was 140 a minute. Poultices were applied to the abdomen, and an opium derivative was given. On the next day the patient had a violent chill, and the temperature rose. Calomel and santonin were given. The writer refrained from giving quinine, as there was no immediate danger to be feared from the patient's condition. On the next day the vomiting occurred again, and the patient thought that he was going to die. There were 3 liquid stools in which 2 ascarides were passed. Feeling better, he returned to his home in the evening. Before he left the hospital he was given sulphate of quinine, and some of the same drug was given him with directions to take it morning and evening for 3 days and to return to the hospital within a few days. He did not return, but his brother came to the hospital with a well-defined attack of malarial fever, the malarial organisms being found in the blood. The first patient was reported to be perfectly well. The writer believes that the first patient had an attack of malaria, with the presence of ascarides in his intestine at the same time. The malarial organisms, however, were not found in his blood.—*Le Caducée*, October 1, 1904.

Book Reviews.

Clinical Vibration Charts. By M. L. H. Arnold Snow, M.D. New York: The Scientific Authors Publishing Company, 1904.

These charts are designed to aid the practitioner in the therapeutic application of vibration and of high frequency currents. Chart I. shows the relation of the sympathetic ganglia to the vertebræ, and the origin and distribution of the great plexus of the sympathetic. A cross section of a dorsal vertebra shows the relation of the sympathetic and spinal branches. A table of referred pains is appended. In Chart II. the relation of the segments of the spinal cord and their nerve roots to the vertebræ is shown. In a table of spinal stimulation are given the indications for spinal stimulation for the relief of various conditions.

Essentials of Diseases of the Eye. By A. B. Norton, M.D., Professor of Ophthalmology in the New York Homœopathic Medical College; author of "Ophthalmic Diseases and Therapeutics," etc. Philadelphia: Boericke & Tafel, 1904.

The volume is one of 349 pages, and is well printed. There are no illustrations. The object of the author is to supply a work from which all theories, technical terms and phrases are excluded, to present "the essential features of eye diseases, together with their homœopathic treatment." It is a simple, brief statement of the conditions attending the ordinary diseases of the eye and its adnexa, their cause and treatment. The text is divided into twenty-one chapters, which are arranged in logical order. The work will prove of value to students and practitioners of the homœopathic school, and to those who desire to know something of homœopathic therapeutics in eye diseases.

Clinical Lectures on Mental Diseases. By T. S. Clouston, M.D., F.R.C.P.E. Sixth Edition. Philadelphia and New York: Lea Brothers and Company, 1904.

In this series of lectures, so many cases of mental disease are given as almost to overshadow the subject matter proper, which in itself would make a volume of fair size and great interest. The histories are given in detail, and so vividly that the reader seems in reality to be present at a clinic, where he is under the instruction of one interested in pathology, in disease, but preëminently in the welfare of human beings. This style is that of a conversational lecturer, though never does it lose dignity of attitude nor of wording. Aside from the clinical pictures presented, the book's greatest value lies in the methods and results of treatment, which are given in full, whether or not the result was favorable. Though the author acknowledges the therapeutic limitations of the present, he seems to impersonate the modern spirit of devotion and optimism which will not rest till it has found a cure even for the incurable. The present edition gives the author's conclusions to date in connection with the cases which have changed or confirmed those previously expressed. Moreover, the book is largely reillustrated by new pathological plates.

While it is recognized that the "classification of the future will be on a pathological, toxæmic, and bacteriological basis," the classification used is based on symptoms, supplemented by specific forms of disease, diagnosed according to pathology.

The Practice of Obstetrics. Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College; Visiting Obstetrician to the Emergency Hospital of Bellevue Hospital, New York City; Consulting Obstetrician to the New York Maternity Hospital. Second Edition, Revised. With 1,264 Illustrations, including five colored Plates and 38 Figures Printed in Colors. Philadelphia: P. Blakiston's Son & Co, 1904.

Although less than a year has passed since the issue of the first edition of this work, several alterations and additions have been found necessary. The section on the toxæmia of pregnancy, embodying the results of Ewing's researches and deductions, is especially noteworthy. The author has given considerable space to this subject, inasmuch as the interest of the profession at large needs to be aroused so that the data and theories may be more complete. In this issue the author also seizes the opportunity to make his position more clear on the indications for embryotomy and cæsarean section, which he thinks has been misunderstood. The section on the fever of the puerperium has been entirely re-written and incorporates all that is new.

As a whole, the work is particularly well arranged; but from the students' standpoint the work is too large to be digested in these days when so much is to be learned. The subject matter dealing with the essentials is more apt to be grasped if presented in condensed form than when such a complete volume is used as a text-book.

A Handbook of Surgery, for Students and Practitioners. By Frederic Richardson Griffith, M.D., Surgeon, Bellevue Dispensary; Assistant Genito-Urinary Surgeon at the New York Hospital (Home of Relief); Past Acting Assistant Surgeon, Third Regiment Infantry, N.G.P.; Fellow of the New York Academy of Medicine; Associate Editor of the *Medical Critic*, etc. With 417 illustrations. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

Within the compass of 540 12mo. pages the author has endeavored to compress "a brief outline of the principles and practice of surgery," capable of serving as "a working guide for the student and general practitioner." The book includes not only general surgery, but also the specialties—eye, ear, nose, throat, gynecology, and genito-urinary diseases; hence the space left for general surgery is not very large; it is further reduced by several space-consuming illustrations and by page upon page of matter that has little or no rightful place in a hand-book of surgery. Thus, there are sections on uranalysis, histology, classification of disease, signs of death, autopsy, poison tests, life insurance examination, medical jurisprudence, infanticide, rape, etc. More space is devoted to the section on autopsy than to the whole chapter on tumors; cæsarean section is disposed of in a dozen lines, while sexual perversion consumes nearly a page. In many instances the compression has been carried to such an extent that the statements given have practically no value. The book needs revision and pruning in order to meet the wants of the student and the general practitioner.

A Manual and Atlas of Medical Ophthalmoscopy. By Sir William R. Gowers, M.D., F.R.C.P., F.R.S. Fourth Edition. Philadelphia: P. Blakiston's Son and Company, 1904.

In the present edition of this work such additions have been made "as are needful to represent accurately current knowledge." The most obvious change is the substitution of autotype plates, reduced facsimiles of sepia drawings by the author for the chromolithographic illustrations. The plates, ten in number, are accompanied by illuminating descriptions, and succinct histories. The scope of the work is but little altered. It includes an explanation of the value of the information given by ophthalmoscopy in diseases of other than ocular origin; instruction in the use of the instrument; a detailed account of changes visible in the eye; and a description of those changes found in special diseases. Those found in diseases of the nervous system are treated with greatest detail.

The writer speaks always as one having authority, and we have no wish to gainsay him, even though his most positive and wide-reaching statements are unsupported by given statistics. His vast experience and the enormous bibliography cited preclude the thought of errors from ignorance. His conclusions are evidently drawn from actual cases, though the cases referred to are treated but briefly and for exact illustration of the point in hand. The book is notably well arranged, clear in style, and is evidently written for those to whom the rudiments are an old story.

An Atlas of Human Anatomy, for Students and Physicians. By Carl Toldt, M.D., Professor of Anatomy in the University of Vienna, assisted by Professor Alois dalla Rosa, M.D. Translated from the Third German Edition and Adapted to English and American and International Terminology by M. Eden Paul, M.D., Brux., M.R.C.S., L.R.C.P. Fourth Section, *E.* Splanchnology (figures 641 to 932 and Index), and Fifth Section, *F.* Angeiology (figures 933 to 1123 and Index). New York: Rebman Company, 1904.

It is difficult to give an adequate review of these unequalled anatomical atlases in the limited space at our command. One would need a couple of pages at least to point out the excellencies of the delineations of various organs—digestive, respiratory, and genito-urinary—of the human body, to note the disagreements (for doctors do disagree even over the facts of anatomy) between the authors and other authorities in this science, and to comment upon the several pages of most valuable notes, which the translator has appended to each volume.

In Part IV, after a preliminary consideration of the structure of organs in general, the secreting and absorbing apparatus, the digestive and respiratory organs are pictured; then follows a section on the topographical anatomy of the thoracic and abdominal viscera, and this is followed by plates depicting the genito-urinary apparatus, the male and the female organs of generation.

Part V treats of the circulatory systems, blood and lymphatic; of the anatomy of the heart, vessels, and lymphatic glands, and of the distribution of the blood-vessels and lymphatics.

A sixth part, on neurology and the organs of special sense, will complete the series.

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirtieth Annual Meeting, Held in Cincinnati, Ohio, October 11, 12 and 13, 1904.

The Association convened at the Grand Hotel, under the Presidency of Dr. Hugh T. Patrick, of Chicago.

Prayer was offered by Rev. Chas. Frederick Goss, after which the Mayor of Cincinnati delivered an Address of Welcome, which was responded to by Dr. Dudley S. Reynolds, of Louisville.

The Choice and Use of Medical Literature.—This was the subject of the President's address, delivered by Dr. Hugh T. Patrick, Chicago. He said the daily walk of doctors differed greatly. We had the family factotum, the conversational doctor, the lodge doctor, the church doctor, the society doctor, and the doctor deep in politics. They were good friends and good citizens, but really fine physicians? Not one of them. And not one of them knew or cared about good medical literature. The wise, skilful physician he would like to be, read a great deal. He selected his literature well and used it wisely. The selection of books was a task as delicate, a duty as significant as was the choice of drugs. Every book was a prescription for one's mental self. Progress meant expansion. No textbook doctor was an A No. 1 man. He must have the treatise, the system, the cyclopedia, and the monograph. Of all books, the monograph was the best and the worst. It must be properly selected and read with discrimination. In medicine there was no such thing as an authority. Every paragraph was to be adjudicated. Concerning medical journals, the speaker said: "Since to advise is more human than to confess, to find fault more spontaneous than to praise, to say don't easier than to say do, I venture first to advance a few of the don'ts in my mind. Don't admit to your presence a journal that is not perfectly straight and clean. Don't indulge in yellow journals, for such there are of deeper or fainter dye. Don't take a journal which is run as an advertising medium. Don't tolerate the journal that accepts abortive papers by underdone doctors. Don't waste time on journals abounding in short cuts. Don't pay much attention to columns of formulæ, notes on treatment, therapeutic hints, brief paragraphs on recent discoveries, and items on new drugs." In conclusion, four hints were given as to the manner of reading: "(1) Systematically, to get up one subject well; to investigate it thoroughly in every way. Then take up another. (2) To read up fully on cases in hand. No case can be considered alone. It is always in relation to variant cases. (3) Reading to write, providing, of course, that the writer compels himself to produce really good material. Pursuance of these three plans produces a most desirable habit—the keeping of case records. This in turn stimulates reading, and enhances its value. Accurate comparison of experience ripens knowledge into wisdom. (4)To acquire the mental habit, or attitude, or aptitude of reading for reproduction. There is a vast difference between the acquisition of knowledge as a mere accomplishment, and as a means of accomplishment. It is well for us doctors to regard our store of knowledge not simply as an interesting museum of nature's wonders, marvelous to contemplate, but rather as an armamentarium, an orderly array of goodly weapons ready for instant use."

Surgical Tuberculosis in the Abdominal Cavity, with Especial Reference to Tuberculous Peritonitis.—This was the title of the Address on Surgery, delivered by Dr. William J. Mayo, Rochester, Minnesota. In St. Mary's Hospital during the ten years from October 1, 1894, to October 1, 1904, 6,408 abdominal operations were performed; of these, 183, or a little less than 3 per cent., were for tuberculous lesions. Localized in intestine, 21 times; in appendix, 29; in Fallopian tube, 44; and tuberculous peritonitis, 89. Of the latter, not over fifty per cent. remained well, although 96 per cent. were discharged improved or cured, giving a high percentage of relapses within two years. About four females were operated upon to one male. In seven relapsing cases in females, reinfection was found to arise from tuberculosis of mucous membrane of the tube. In all, 26 cases of tuberculous peritonitis in females were subjected to radical operation for the removal of tuberculosis of Fallopian tubes. In a few females an infecting focus was found in the appendix or cæcum. In a minority the source could not be traced. In men a considerable number arose from tuberculous lesion of the appendix or cæcum. Tuberculous peritonitis, like septic peritonitis, was due to a local focus. A considerable number of cases of tuberculous peritonitis were cured by nature. Simple laparotomy aided recovery by permitting of more thorough encapsulation of tuberculous products and by increasing the anti-tuberculous serums in the abdominal cavity. Removal of the localized focus of infection in the tube, appendix, etc., would greatly increase the percentage of cures and prevent reinfections. If the local focus could be removed and was primary, a general cure might be expected. If secondary to a primary disease in the lung or other part of the body, ultimate recovery depended on curability of the chief lesion.

A Plea for Wider Knowledge Concerning Diseases Which Affect the Joints.—This was the title of the Address in Medicine, by Dr. C. Travis Drennan, Hot Springs, Arkansas. The author urged the necessity of greater care in every instance in which a joint was involved, no matter how insignificant such condition might appear. The usual cases of acute articular rheumatism, gout and tubercular disease could easily be recognized under ordinary conditions, but not so much could be said when one came to the early manifestations of arthritis deformans, so-called subacute articular rheumatism, and certain forms of gonorrheal arthritis. Under existing knowledge it was well-nigh impossible in certain cases to differentiate these diseases during their earlier manifestation. When the etiology of gout was written, in his opinion it would be shown to manifest itself primarily somewhere along the digestive tract. If we could get perfect digestion, we were in a position to get perfect assimilation, and with perfect assimilation, most assuredly we were in direct line to get perfect elimination. That there was a nervous element supervening in arthritis deformans, was a view concerning which he had a well-grounded belief.

Hospital Construction in American Cities and Towns.—Dr. A. J. Ochsner, Chicago, in a paper with this title pointed out the fact that an enormous number of new hospitals had been established, and were still being established in every part of this country; that so far the new hospitals had almost all been built by architects who based their plans on the principles which governed hospital construction thirty years ago, at which time the theories of contagion and infection were wrong. Nothing was known about differences in purity of air at different levels. The elevator had not been perfected. It was not possible to make high buildings fireproof at a reasonable cost. These changes in our knowledge being of the greatest importance should change entirely the plans of hospital construction. The importance of proper location was discussed at length. The building should be so placed as to admit sunlight to all the rooms and wards. It should be accessible to the patients and their friends and to the medical staff. This could usually be accomplished without interfering with the other important conditions. The paper then gave a number of plans for hospitals intended for various purposes, the latter being those exhibited at the Louisiana Purchase Exposition by the author, associated with Mr. M. J. Sturn, architect. Stress was laid upon the fact that millions of dollars would be spent in the construction of hospitals in the immediate future, and that it was important that the subject be thoroughly studied in the meantime.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. Bransford Lewis, St. Louis, Missouri; *First Vice-President*, Dr. Frank P. Norbury,

Jacksonville, Illinois; *Second Vice-President*, Dr. J. Henry Carstens, Detroit, Michigan; *Secretary*, Dr. Henry Enos Tuley, Louisville, Kentucky, re-elected; *Assistant Secretary*, Dr. John F. Barnhill, Indianapolis, Indiana; *Treasurer*, Dr. S. C. Stanton, Chicago, Illinois.

Indianapolis, Indiana, was selected as the place for holding the next annual meeting; the time, second Tuesday, Wednesday, and Thursday in October, 1905.

Medical Section.

What Shall be Done with the Criminal Insane?—Dr. John Punton, Kansas City, Missouri, in a paper with this title, said that the conflict of authorities in law and medicine was responsible for much miscarriage of justice. The members of the American Psychological Association and the general medical profession were appealed to for their assistance in defining the mental condition which should exonerate a criminal from punishment. The wide difference of opinions prevalent in the public and professional minds relative to what constituted criminal responsibility of the insane rendered a consensus of medical opinion a necessity. Very few of the insane were wholly irresponsible for their misdeeds, and they should, therefore, incur, with certain restrictions, some form of punishment. The declaration of the law that the insane man was wholly irresponsible was a gross confession of weakness. Some courts recognized modified responsibility and instructed the jury to commit the insane criminal, if found guilty, to the State Insane Hospital until his recovery, when he should again be set free, and this usually happened a very short time after punishment. The just or humane medical disposition of the criminally insane would seem to demand his incarceration in a special institution under medical surveillance and subject to certain restrictions suited to each case, and he should never be allowed to associate with innocent inmates of the State Insane Hospital.

Dr. A. Ravogli, Cincinnati, deprecated the tendency to generalize too much in discussing the criminal insane. He reported a case in which an epileptic committed several murders before his insanity was recognized.

Dr. Charles W. Hitchcock, Detroit, said this was a very delicate question, and a case was reported, showing that justice might miscarry.

Dr. G. Frank Lydston, Chicago, said that the entire subject of criminology should be relegated to the medical profession, so far as the physical conditions and remedies therefor were concerned. Both sane and insane criminals should be removed from our social system and isolated. The principle should be not punishment, but simply social self-defense. What should we do in regard to the propagation of the criminal insane? We had not yet come to the sterilization of these individuals, but undoubtedly would do so.

Dr. F. W. Langdon, Cincinnati, said that if the profession was given full power in this matter, it was questionable whether it would be able to draw the lines satisfactorily. The legal and medical professions had different points of view, and therefore their conclusions must vary.

Dr. B. F. Beebe, Cincinnati, stated that law had been coming to medicine on this question, because the prosecutors had been securing the assistance of medical men. Society must be protected, but the question was how and when and where to take care of the criminal insane. We must determine what constitutes responsibility or irresponsibility.

Dr. Dudley S. Reynolds, Louisville, spoke of the qualifications of the jury, requiring that they be not familiar with the facts and were not opposed to capital punishment. Such qualifications did not require that the jury be really competent to decide these cases, and medical men were called in to testify as to the responsibility or irresponsibility of the defendant. Medical testimony was based not on an examination of the individual, as a rule, but upon hypothetical questions constructed by the legal gentlemen. Any person convicted of a felony should be unsexed rather than killed. No person in his right mind would commit a felony.

Dr. Sprague referred to the fact that the use of the asylum for the criminal insane was being rapidly extended throughout the country. Often the attorneys for the prosecution and defense agreed to rest the matter of commitment or trial with the medical commission of such an institution. Such a reference would be more frequent if there were more assurance that such a medical commission was composed of really expert medical men.

Dr. Lydston, in answer to a question, stated that sterilization could be effected by obliteration of the Fallopian tubes in the female, and by obliteration of the vas deferens in the male, without any effect upon the individual, save the arrest of the function of procreation.

Dr. Punton, in closing, said it was desirable that the court should properly instruct the jury in these cases.

Loss of Consciousness and Automatism in Inebriety.—Dr. Thomas D. Crothers, Hartford, Connecticut, said that the claims of no recollection or consciousness of events by inebriates indicated a paralysis of certain brain sections during which the victim might act automatically and be without consciousness of the real condition.—Histories of prominent cases confirmed this fact. Many startling crimes were committed in this condition. This was a new phase of irresponsibility which had not been recognized by the courts, and only recently had been studied by psysicians. The defense of no recollection might be a reality in some cases, and should be recognized by physicians.

Dr. B. F. Beebe stated that the essential point was to prove the fact of the unconsciousness and the automatism. An idea could not exist if the brain cell was not in a condition to receive and retain an image. Whether unconsciousness was produced by alcohol or any other poison, the result was the same.

Dr. John Punton said that the medical profession ought to know the effects of alcohol upon the nerve cells, but when this question came up in court there were as many opinions as there were doctors.

Dr. Hugh T. Patrick said it was necessary to make a very fine distinction between alcoholic automatism and automatism in the alcoholic. In many degenerates or imperfects, there was a tendency to drink too much. The automatism and the drinking might be the result of a pre-existing condition.

Dr. Crothers, in closing, stated his belief that individuals, such as he had described, should be regarded as insane.

General Streptococcus Infection of Intestinal Origin.—Dr. G. W. McCaskey, Fort Wayne, Indiana, read a paper on this subject, in which he said that there were constantly in the respiratory, genito-urinary, and digestive tracts large numbers of pathogenic germs, which might exist in any one of three states: (1) Actively virulent; (2) innocuous, but with conservation of virulence; (3) as pure saprophytes. These pathogenic germs, which included streptococci, staphylococci, the colon bacillus, and many others might be transformed from the saprophytic to the virulent state by local or general morbid condition. In the case reported, a girl, aged 20, a severe chilling of the surface led to a general infection by the streptococcus pyogenes, which apparently had its origin from the intestinal contents which were almost a pure culture of this organism. No other possible source of infection could be determined.

Hereditary Predisposition in Tuberculosis.—Dr. Charles L. Mix, Chicago, said that hereditary predisposition was usually defined as a specific predisposition toward tuberculosis. The nature of such predisposition was purely speculative. The argument in favor of hereditary pre-

disposition was as follows: Tubercle bacilli were ubiquitous; every one was constantly breathing them in. Half of the people became tuberculous; half escaped. Half were, therefore, predisposed, and half were immunes. The major premise was false, as shown by a table illustrating the number of individuals to each consumptive. The table explained the maximum incidence of tuberculosis at the ages of from 20 to 35 years. There were many fallacies in the usual statistics tending to support the theory of hereditary predisposition. The reports of the numerous joint investigation committees proved nothing. The interpretation of the family cases of tuberculosis was often faulty; family cases showed infection just as much as hereditary predisposition. Hereditary predisposition implied hereditary immunity, but the latter apparently had no existence. The conclusion was reached that there was no such thing as specific hereditary predisposition.

Dr. G. W. McCaskey agreed with the author that there was no such thing as a specific hereditary predisposition to tuberculosis. The important thing to remember was that tuberculosis was always an infection, and that no one could ever contract the disease unless infected. There was little doubt that every one living in a civilized community inhaled tubercle bacilli at one time or another, and with more or less frequency, the inoculations proving effective or otherwise, according to the local and constitutional states of the individual.

Dr. A. P. Buchman, Fort Wayne, said that one did not invariably become tuberculous upon exposure to the tubercle bacillus; otherwise, every one would be tuberculous. Often tubercle bacilli might be found in the absence of manifest tuberculous infection.

Dr. Mix, in closing, said acquired predisposition existed, and the individual might also inherit a predisposition, not only to tuberculosis, but to any of the infections. There was no specific predisposition to tuberculosis, nor any other infection.

Treatment of Tuberculous Pleurisy.—Dr. James A. Burroughs, Asheville, N. C., referred to the use of intrapleural injections of nitrogen gas, and reported some cases in which he injected the pleural cavity with salt solution for the control of pulmonary hemorrhage in tuberculosis.

Dr. N. McKitterick, Burlington, Iowa, said that injections into the pleural cavity in the presence of diseased lungs and pleura, to compress the lung, was positively dangerous. The method did not merit much consideration in the statistics given by the essayist.

Dr. Carl von Ruck, Asheville, agreed with the previous speaker as to the dangers of pleural injection. In tuberculosis of the lungs, the cavities tended to work towards the pleural surface of the lung. To prevent rupture, nature caused a thickening of the pleural surface of the lung at that point. The injection of air or fluid into the pleural cavity to bring about the control of pulmonary hemorrhage through pressure required the breaking-up of the adhesions which nature had formed, in order to accomplish compression of the lung.

The Obstetric Significance of the Transverse Diameter of the Pelvis.—Dr. Joseph B. De Lee, Chicago, in a paper with this title enumerated the various kinds of pelves, aside from spondylolisthetic and kyphotic pelves, in which there was a diminished transverse diameter. These were especially the funnel-shaped, the assimilation, the masculine, and the infantile pelves. Various methods had been employed in making the diagnosis of lessened transverse diameter of the pelvis. The essayist presented an instrument for measuring the diameter of the pelvis. He believed the transverse diameter was not infrequently reduced. In such cases there was frequently difficulty in delivery, especially in the passage of the shoulders and the extraction of the aftercoming head. In treatment, the expectant method should not be tried too long. Frequently the forceps sufficed to effect delivery. Not infrequently symphyseotomy might be indicated. In breech cases delivery might often be facilitated by the application of forceps to the aftercoming head. Illustrative cases were reported.

Dr. Henry F. Lewis, Chicago, said the contraction of the transverse diameter of the pelvic outlet was probably more frequent than was generally supposed. In these cases one should not delay the use of the forceps, which should be applied early. In cases of infection in the male type of pelvis, when the head had well advanced, if the forceps failed, symphyseotomy was often an ideal operation.

Dr. De Lee, in closing, stated that in a breech case we were formerly instructed to put the forceps in our pocket. In such cases, we would now put the forceps on to boil. As a matter of fact, the forceps would fit the aftercoming head better than when the head presented. The exaggerated lithotomy position was sometimes of value. He reported a case in which an assistant performed tracheotomy on the child in a breech case. The child lived.

Hydrotherapy in Nervous Diseases.—Dr. Charles W. Hitchcock, Detroit, Michigan, showed that water might be made a promoter of elimination and a stimulant to all the vegetative processes. Properly applied, it was a powerful tonic. It might be an excitant, but it was also the finest sedative at our command. The author presented the practical advantages of the use of water in the treatment of neural and psychic cases.

The Treatment of the Morphine Habit.—Dr. Curran Pope, Louisville, Kentucky, in a paper with this title, pointed out the peculiar state of mind of these patients and the necessity of appreciating it. A sympathetic understanding of the needs would facilitate treatment. Too much importance could not be attached to the condition of the excretory organs. Preliminary examinations were imperative in each case. There should be thorough and complete elimination before commencing the reduction of the drug, after which reduction might be painlessly carried to a certain point, and all shock avoided. All this time help should be given, not as a substitute, but in the shape of a neuro-cardio-vascular support. When the drug was entirely removed, a substitute should be used, not hyoscine. The value of the non-medicinal treatment, such as massage, vibration, electricity, hydrotherapy, isolation and moral control, could not be overestimated in these cases. The value of after-treatment and the need of keeping in touch with the patients were a part of the system. Personality also entered a great deal into the question.

Dr. Frank P. Norbury, Jacksonville, Illinois, had not always had idealistic experience in the treatment of these cases. Recovery was not always smooth, and relapses were not infrequent. It was advisable to place these patients at rest in bed at once, and after perhaps two weeks the drug might be withdrawn. Often sodium bromide was useful as a substitute for the morphine, and cannabis indica was frequently of value as a stimulant. Relapse was especially frequent in neurasthenic women.

Dr. John Punton said we must give the patient to understand at the start that the physician must have his coöperation. The idiosyncrasies of patients to the drug differed, hence it was necessary to treat the patient. Hyoscine was a most valuable drug when properly used, but it was very dangerous when used promiscuously.

Dr. Albert E. Sterne, Indianapolis, agreed with the essayist in general, but did not think he laid sufficient stress on the reduction of the basis upon which the drug habit rested. One must take into account the fundamental nerve weakness. Even the physically strong might present nerve weakness. Habituation was not purely functional. There was a structural change in the nervous system, which supplied the physical basis for the condition. The use of drugs was to be deprecated. Many of the so-called abstinent symptoms were really not such symptoms. Often hyperacidity required treatment. Furthermore, every morphine habitué was a liar and absolutely untrustworthy concerning his condition.

Dr. T. B. Greenley, Kentucky, said that many morphine habitués were able to work and earn sufficient to pay for the drug consumed, but made barely a living, and could not afford to take proper treatment.

Dr. George P. Sprague, Lexington, Kentucky, was surprised that the essayist did not begin at once the reduction of the drug, as there was every reason why it should be withdrawn immediately. The patient might be taken off the drug in from five to ten days, except in, perhaps, one case in twenty. Often the patient was sustained by a minute quantity of morphine. Some patients claimed that one-eighth of a grain was satisfactory, and the reduction to that point was not objected to by them. Often it was better not to stop the drug altogether until one had reached a dosage of one-twentieth of a grain, or less.

Dr. R. E. Haughton, Richmond, Indiana, regarded this condition as a practical toxæmia affecting the cellular elements of the brain. After deciding upon the withdrawal of the drug, we must secure absolute control of the patient, in order to be successful in treatment. We must sustain the individual and at the same time secure elimination.

Dr. T. D. Crothers said a melancholy fact was the large percentage of the profession that were victims of morphine. The treatment employed must depend upon the individual. Psychotherapeutics and hydrotherapeutics were useful. Nerve rest was important. Drugs should be avoided.

Dr. Falk said that in prison practice he withdrew the drug from patients at once. The use of ergot and of chloral and bromide at night he had found was not followed by any unpleasant results.

Dr. B. F. Beebe said the removal of the drug in one week or ten days was too rapid. The patient should be built up as the drug was withdrawn.

Dr. Pope, in closing, insisted upon four to six weeks for the after-treatment, because nutrition must be improved. Treatment during convalescence was important. When the patient stopped treatment, he should be instructed to return at once if there were any unpleasant symptoms.

Effect of Direct and Indirect Violence Upon the Skull and Brain.—Dr. Albert E. Sterne, Indianapolis, Indiana, read a paper on this subject in which he presented the following summary: (1) Injuries of the skull and brain may be classed under two heads, those of impact and those of momentum, either of which may be occasioned either directly or indirectly. (2) Injuries of impact, however extensive, offer a better immediate and remote prognosis, but must be treated with as little delay as possible, and almost always surgically. (3) Injuries of momentum show graver probabilities both in the immediate and remote effects. (4) In injuries of momentum lesions through *contrecoup* are more apt to occur, with extensive damage to brain structures and often without fracture of the skull, or external wound. (5) After trauma to the skull and brain, the immediate necessity is free drainage and avoidance of intracranial pressure. (6) The possibility of fracture should ever be kept in view after injuries to the head, and scalp wounds should, if necessary, be freely enlarged to determine the wisdom of further operative interference. (7) Progressive coma, after momentum injuries, is a strict indication for operation.

A Clinical Study of the Mental Disorders of Adolescence.—Dr. Frank P. Norbury, Jacksonville, Illinois, discussed this subject under the following heads: (1) Adolescence presents a physiological study of contrasts revealed in (*a*) normal psychology of this period, (*b*) psychophysical symptomatology, and (*c*) pathological symptomatology. (2) Clinical groupings of symptoms leading to classification of the mental disorders of adolescence; dementia præcox, katanoia, hebephrenia, hysterical excitement, etc. (3) Clinical considerations of prognosis: (*a*) Evolution of mental disorders; (*b*) recoveries, complete, partial; (*c*) terminal dementia. (4) Treatment: (*a*) prophylaxis; (*b*) immediate. (5) Conclusions: (*a*) the family physician must recognize early these important mental disorders; he must coöperate with the alienist in treatment; (*b*) prompt and energetic treatment is imperative; (*c*) prognosis should be guarded.

Insanity in Relation to Obstetrics and Gynecology.—Dr. Henry F. Lewis, Chicago, contributed a paper with this title. He stated that various types of insanity might affect the pregnant or puerperal woman, or the woman suffering from pelvic disorder. There was no true puerperal insanity, however, as such. Normal pregnancy and even normal menstruation were not devoid of certain eccentricities of temper, tastes, appetites, or even morals. Some degree of mental instability must preëxist if the eccentricities were to be exaggerated into insanity. The element of heredity was a potent factor, and could be traced in about three-fourths of the cases. Authorities differed as to the estimated frequency of obstetrical insanity. McLeod's figures gave a proportion of one case to 2,000 labors. Clouston found 10 per cent. of insane women at the Edinburgh Asylum were classified as having puerperal psychoses. Lane, from observations in the Boston Insane Hospital for the past ten years, concluded that insanity associated with childbirth occurred only half as often as insanity among all women of child-bearing age. At best, one could grant to child-bearing only an exciting causal relation in the production of an outbreak of insanity. The predisposing instability of mind, often largely hereditary, awaited some awakening impulse in an acute physical or psychical disturbance. Such disturbance might be furnished by disorders of the genital organs in the performance of their normal functions. The relation of disease of the female genital organs to mental disease had long been recognized, but the intimacy of sex relation had been the subject of wide differences of opinion. A very large number of insane women were affected with pelvic disease. A considerable number of gynecologists had operated upon insane women at asylums for their genital lesions and had secured a gratifying percentage of cures and instances of improvement. Hobbs of London, Ontario, observed over a thousand insane women and found pelvic disease of sufficient moment to justify operation on account of the pelvic disease itself in 25 per cent. of these women. All his examinations were made under the influence of an anæsthetic, and suggestion was thereby eliminated. Ovarian lesions seemed to influence the mental state the most, uterine next, and vaginal the least. Neoplasms were the least prone to cause mental disorder of all the pathological conditions.

Newer Conceptions of the Management of Bright's Disease.—Dr. Alfred C. Croftan, Chicago, Illinois, considered this disease as a cardiovascular disorder of manifold origin, involving primarily the heart and arteries; secondarily, those organs chiefly supplied by end arteries, namely, the brain, the retina, and the kidneys. The degeneration of the kidneys was, therefore, a very common and important, but not a determining, feature of the disease. Bright's disease in early stages not infrequently occurred without renal involvement. Primary nephritis with the retention of excrementitious bodies might occasionally be a cause of the cardiovascular changes. This sequence of events, however, was relatively rare. The management of Bright's disease should be directed towards the prevention or removal of factors operative to affect the heart and arteries. The treatment of the nephritis was incidental, but important. The rest cure of the kidneys, diet (dangers of exclusive milk feeding), hygiene, and medicinal treatment were discussed on the basis of the above conceptions.

The Early Recognition of Important Eye Lesions by the Practitioner.—Dr. George F. Suker, Akron, Ohio, pointed out the early diagnostic eye lesions in diabetes chronic nephritis, and locomotor ataxia. Reference was made to the diagnostic conjunctival spot in cases of measles. He spoke of the frequency of mistaking glaucoma for trifacial neuralgia; also the frequency with which simple, chronic glaucoma was confounded with cataract. He emphasized the need of recognizing the eye conditions as

a factor in chorea, functional epilepsy, neurasthenia, and hysteria. The relation between gastrointestinal derangements and certain eye lesions was pointed out, and the need of a thorough ophthalmic examination in the neurotic and chlorotic patients of this character was emphasized.

The Value of the X-Ray to the General Practitioner.—Dr. James E. Coleman, Canton, Illinois, said that as the practice of medicine was still largely in the hands of the general practitioner, it made it necessary for him to improve to the greatest extent his resources for diagnosing and combating disease. *X*-ray apparatus has become a necessary adjunct. In order that it might be satisfactory, it must be first class. Every general practitioner should have one text-book on *x*-ray therapy. The mastery of the details and technique was not difficult when studied, but success depended upon a knowledge of anatomy and proper interpretation of the screen and skiagraph. Cases were cited.

Macular Atrophy of the Skin.—Dr. Edward H. Shields, Cincinnati, Ohio, said that this rare disease was first described by Jaddoson, in 1892. No other case had been reported. The author presented the following history of a case: Eighteen months ago red macular lesions were found on the legs and thighs, with no subjective symptoms. Some weeks later the patches lost redness, became softer, depressed, and the skin over the diseased area became shriveled; atrophy continued for several weeks, when the atrophic spot became soft and pale. Owing to the marked irritability of the skin, the atrophic lesions did not appear very pale immediately after the removal of the clothing, but after half an hour of absolute rest they became quite pale, resembling those of morphine. He stated that treatment was of little value, yet in due course of time the process was arrested.

Why So Many Errors in the Diagnosis of Graves' Disease?—Dr. J. H. Stealy, Freeport, Illinois, emphasized the importance of a correct nomenclature and its bearing on errors of diagnosis. He pointed out the illogical nature of the term exophthalmic goitre as applied to the symptom-complex of Graves' disease, and showed what a remarkably large number of cases of Graves' disease could be found if sought for. He discussed the percentage of symptoms, the diagnostic importance of each, and also the symptomatology.

Echinacea.—Dr. C. S. Chamberlin, Cincinnati, Ohio, made a plea for the recognition of echinacea as a valuable therapeutic agent. He gave a brief history and description of the drug, and referred to the suspicion with which the regular profession regarded remedies introduced by irregular practitioners, and their reluctance to investigate their merits. He cited brief reports of cases, illustrating the therapeutic value of the drug as an alterative and antiseptic, and its range of application.

The following papers were also read: "Pseudo-Membranous Croup," by Dr. R. E. Carlton, Latonia, Kentucky; "Bacteriology and Immunity; What It Is, What It Teaches, What It Does Not Teach," by Dr. R. E. Haughton, Richmond, Indiana; "Two Etiological Factors in Pelvic Diseases in Women, Their Prevalence and Prevention," by Dr. J. H. Firestone, Freeport, Illinois; "Prognosis," by Dr. John M. Batten, Downington, Pennsylvania.

(To be continued.)

Lumbar Puncture in Eclampsia.—Krönig reports on the effect of this procedure in three cases of eclampsia. In the first two cases it was possible to make measurements of the cerebrospinal pressure, and it was found much increased in both instances, at times being as high as five to six hundred mm. of water, whereas the normal pressure is only about 120 mm. Various amounts of cerebrospinal fluid were allowed to escape in each case, but the author does not know whether to ascribe the improvement and recovery that followed to this element of the treatment or not.—*Zentralblatt für Gynäkologie.*

AMERICAN PROCTOLOGIC SOCIETY.

Sixth Annual Meeting, Held at Atlantic City, June 8 and 9, 1904.

Dr. Wm. M. Beach, of Pittsburg, President, in the Chair.

The President's Address, upon the subject "Things of Specialism and of This Society That Make for Optimism," was an argument in support of specialism in general and of proctology in particular. He pointed out that the favorable recognition which had been accorded this specialty was largely due to this Society, and that as a direct result, though the society was only six years old, the advertising charlatan had practically disappeared. The high type of men composing the membership was alluded to, and the continued exercise of careful circumspection in admitting new members advocated.

The Surgical Treatment of Prolapse of the Rectum.—Dr. J. M. Mathews, of Louisville, Ky., reported excellent results from drawing up the colon and suturing it to the abdominal wall. He had resorted to the method in a number of cases, and believed the operation, colopexy, was worthy of more general adoption.

Treatment of Pruritus Ani with the Röntgen Rays.—Dr. J. R. Pennington, of Chicago, from an experience covering a period of several years, had reached the conclusion that the *x*-rays were valuable in certain obstinate cases in which no cause for the pruritus was discoverable, and in which the secondary changes in the parts affected were most marked. He had succeeded in a number of instances in effecting a cure after every other form of treatment had failed.

The Present Status of the Treatment of Cancer of the Rectum.—Dr. Lewis H. Adler, of Philadelphia, considered four methods of treatment: (1) The *x*-rays; (2) radium; (3) extirpation; (4) colostomy. Speaking from his own experience, he condemned both the first and second, the *x*-rays as aggravating the disease and apparently hastening death, radium as being non-effective. With reference to extirpation, he said that cancer of the rectum, at the stage usually discovered by the surgeon, was far less amenable to operative treatment than cancer occurring elsewhere; that extirpation, even when thorough, was followed by cure in only a small percentage of cases, owing frequently to prior metastasis; that the danger attending excision of growths situated above the lower two or three inches was very great; and that the results as to freedom from pain in successful cases were usually far from satisfactory. He personally had been unable to advise excision in more than 5 per cent. of cases. Colostomy the author regarded a valuable palliative operation, the patient living in comparative comfort an average of three or four years. Personally he did not advise colostomy as early now as formerly.

The Flexible Rectal Tube was condemned by Dr. S. T. Earle, of Baltimore, as impracticable and of limited utility. His investigations of the subject had led him to conclude that as ordinarily employed by nurse or patient, the instrument curled upon itself in the lower rectal chamber and very rarely entered the sigmoid. This difficulty might be overcome in a measure by attaching the nozzle of a fountain syringe to the tube and allowing enough water to enter the bowel to distend it in front of the advancing tube. In inexpert hands the instrument was capable of harm and, except in the hands of the physician himself, the writer thought it should give place to the ordinary enema nozzle and elevation of the patient's hips, by which method the same results could generally be obtained.

Polyadenomata of the Rectum.—Dr. G. B. Evans, of Dayton, O., presented a paper on this subject, in which he referred to the comparative rarity of the disease and emphasized the importance of early and complete removal of the tumors, their tendency to undergo malignant changes being the chief danger. With the more general employment of instruments of precision in rectal examinations the writer predicted that polypi would be more frequently encountered in future.

Some Observations on the Treatment of Rectal Diseases.—Dr. W. L. Dickinson, of Saginaw, Mich., spoke of the great prominence diseases of the rectum had gained in the past twenty-five years. When he was a student the entire subject was disposed of in one lecture by the professor of surgery, "piles" being the only disease alluded to. Improvements in the office treatment of these conditions were discussed at some length, the author showing that it is possible in a large number of cases to do good, thorough work without general anæsthesia and confinement of the patient to bed.

Rectal Valves, with Report of Operative Cases, was the title of an essay by Dr. L. J. Krouse, of Cincinnati. The author discussed the indications for valvotomy and endorsed it as a justifiable operation in properly selected cases, reporting a series of cases in which great and permanent benefit had followed its performance.

Treatment of Simple Rectal Fistula by Excision and Suture without Cutting the External Sphincter Muscle.—Dr. Howard A. Kelly, of Baltimore, read a paper on this subject, in which he described the technic of an operation devised by himself and successfully employed in a number of cases. The procedure was applicable only when the fistula was simple and direct, and consisted in dissecting out the tract, beginning at the external opening. The rectal orifice was then carefully excised through the wound so as to make a transverse opening parallel to the sphincter fibers. The wound was closed by interrupted silk-worm-gut or silver-wire sutures, taking care to draw the circular fibers together above and below the rectal orifice.

Sterile Water Anæsthesia in the Radical Treatment of Rectal Diseases, was the subject of a paper by Dr. S. G. Gant, of New York. (See page 691.)

Papers by Dr. Leon Straus, of St. Louis, and Dr. A. Tierlinck, of Gand, Belgium, in the absence of the authors, were read by title.

Officers.—The following officers were elected, after which the Society adjourned to meet in Pittsburg, May, 1905: *President*, Dr. J. R. Pennington, Chicago; *Vice-President*, Dr. L. H. Adler, Philadelphia; *Secretary-Treasurer*, Dr. A. B. Cooke, Nashville; *Executive Council*, Drs. W. M. Beach, Pittsburg, S. G. Gant, New York, and G. B. Evans, Dayton.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, October 10, 1904.

Dr. Thomas E. Satterthwaite, President, in the Chair.

Mosquitos, Malaria, and Yellow Fever.—Major Junius L. Powell, Surgeon, U. S. Army, who read this paper, said he would limit himself to the subject of mosquitos in their relation to malaria only. At Fort Hamilton, L. I., where he was stationed, he had made a very careful study of this subject, and had been almost forced to the conclusion, heretical though it might seem, that *Anopheles* was not the sole transmitter of the malarial parasite. Two varieties of mosquitos were very common at Fort Hamilton, namely, the ordinary Atlantic coast variety known as *Culex sollicitans*, and *Culex pungens*, and only in a single instance had he been able to discover a specimen of *Anopheles*, in spite of thorough and repeated search. Notwithstanding the absence of the *Anopheles*, fully a score of cases of malaria had developed at the garrison since the first of May of the present year. The question therefore arose, were there any other methods of conveying the malarial organism than through the medium of the mosquito? Similar observations to the above, Major Powell said, had been made at Camp McKinley and other garrisons, where malaria had developed in spite of the fact that no *Anopheles* could be discovered.

Tropical Malaria.—Dr. John V. Shoemaker of Philadelphia, presented this paper. He said he employed the term "tropical malaria" as indicative of the behavior of the plasmodium in cases occurring in the tropics. His observations were based upon fifty-three cases brought to the Medico-Chirurgical Hospital, in Philadelphia, from Cuba, Porto Rico, and various camps in this country during and immediately after the Spanish-American war. Many of these cases were of the ordinary intermittent type, but a certain number presented a more profound and unusual intoxication. Most of the cases were distinguished by the severity of the symptoms and the irregular course of the fever. All were accompanied and followed by extreme prostration. According to the histories that were obtained, they began more or less insidiously with headache, which was in some instances excessive, backache, general weakness, anorexia, and in some cases a general soreness. One patient suffered from a dull feeling at the lower border of the left rib, and pain in the lumbar region. In a number of instances, vertigo occurred. In one case it was noted that the eyes suddenly became very painful. Some patients complained of pain in the bones. In some the fever supervened without any well-marked chill; in others the chill was a prominent feature. One man suffered from a prolonged chill every day, accompanied by fever of the remittent type. Sometimes, but not always, the fever was followed by profuse sweats. One interesting case displayed a chill every morning and every afternoon for two weeks, each chill being succeeded by fever and sweats. The temperature charts departed widely from that of ordinary or benign malaria. In one case in which the initial chill was severe it had been preceded by intense pain in the head and back; the chill returned every day for three days. One patient stated that his attack began abruptly with a chill, which was repeated upon the following day. One man's illness began with a rigor which lasted for half an hour, followed by fever and profuse sweating; his headache was violent; chills occurred every other day; upon one occasion the chill lasted fully two hours. Another patient had a chill every other day, lasting an hour and a half and followed by high temperature. One man went to sleep at night with a violent headache, and awoke to find himself in a cold sweat which was followed by a chill and fever, a reversal of the ordinary succession. Another patient had a violent chill, after having been ill for four days, and subsequently suffered from a repetition of chills every day for twelve days. In many of the cases there was such a blending of succeeding paroxysms with the febrile rise and fall that the report approached that of a continued fever. Several cases were accompanied by acute bronchitis, and gastro-intestinal symptoms were marked in a considerable proportion of the patients. All experienced loss of appetite and loathing of food. As a rule, the tongue was heavily coated. Nausea and vomiting were common, and some of the men complained of abdominal pain. In some of the histories, mention was made of diarrhœa, and in others of dysentery. Gastric symptoms were prominent in some instances. In some attacks the bowels were unaffected; in others, constipation was the rule. The spleen was more or less enlarged in most of the men; in some there was tenderness over the spleen without much increase of size. In several patients, the color of the skin was noteworthy: the discoloration varied from a sallow hue to the deepest jaundice, and testified to the alteration of the hæmoglobin by the malarial parasite, and its liberation from the red cells. In many of the cases there were recurrences after a defervescence of ten days or two weeks. In numerous cases there was a decided diminution in the secretion of urine; it was high colored, contained urea, uric acid, bile-pigment, and, in some instances, albumin. In one case there was hæmaturia. In two cases the deep yellow shade of the whole body, the vomiting, and diarrhœa, were highly suggestive of yellow fever. There was no genuine black vomit, although the material ejected from the stomach was dark in color. Dr. Shoemaker said that in the treatment of these severe cases of tropical malaria, quinine was his main reliance. In the worst cases, however, the stomach was so irritable and vomiting was so incessant that the drug was not retained when given by the mouth. Under such

conditions he made use of suppositories, inserting a five or ten-grain quinine suppository into the rectum every two or three hours, according to the severity of the symptoms, and thus endeavoring to anticipate the paroxysm. In cases accompanied by constipation, small, repeated doses of calomel placed upon the tongue produced movement of the bowels, and at the same time allayed the gastric irritability. When diarrhœa was present, he combined equal quantities of quinine and salol. In some cases ipecac, in quarter-grain doses, was incorporated in the suppository, conjoined with quinine; this union lessened the irritability of the intestinal mucous membrane, and increased the secretion, and also had a sedative action upon the nervous system. When nervous symptoms were prominent, cannabis indica or the monobromate of camphor was combined with the quinine. If the bowel was irritable, he used an enema of starch water and laudanum before inserting the suppository. When the fever was high, the patient was sponged. In the worst cases it was necessary to place the patients upon a milk cases it was necessary to place the patients upon a milk diet. Notwithstanding the profound malarial intoxication of some of these cases, happily none had a fatal termination.

Is Mortality Necessarily Higher in Tropical Than in Temperate Climates?—Colonel Valery Havard, Assistant Surgeon General, U. S. Army, presented this paper. He said that while it was a fact that mortality had been and still was much higher in tropical than in temperate climates, the question arose whether this difference was due entirely to meteorological conditions, or to the violation of sanitary laws, and therefore preventable. A careful study of the statistics seemed to indicate that mortality was due to many causes, of which latitude was one, but not the only one. That mortality did not decrease with the distance from the equator could easily be shown by comparing the death rate of certain large cities; for example, St. Petersburg was 10° farther north than London, and still its death rate was considerably higher. The meteorological elements in the tropics that were capable of affecting the health were, first, great continued heat, and, second, a high degree of humidity. The death rate in Manila, although it had been largely reduced under American rule, was still about 40 per 1,000, according to the report for the year ending April, 1904. Fifty-seven per cent. of these deaths occurred in infants, most of them under one year of age, this frightful mortality being chiefly due to the careless manner in which the infants and children were brought up by their parents, suffering, as they often did, from exposure, want of proper clothing, food, and lodging. The most common cause of death in infants was convulsions: other causes were bronchitis, pronchopneumonia, diarrhœa, and inanition. In Havana, children were much better taken care of, and the infant mortality was less, comprising only one-fourth or one-fifth of the total number of deaths, which was a more favorable ratio than that of New York City. The death rate from tuberculosis was high, both in Manila and in Havana. These cities were apparently saturated with tubercle bacilli, as a result of the unsanitary conditions to which they had long been exposed. Next to tuberculosis, cholera was responsible for the greatest number of deaths in Manila. Cholera, as was well known, was a water-borne disease, and was easily preventable. Dysentery was one of the most dreaded of the endemic diseases of the tropics: in Manila it still continued its ravages among the natives, but was comparatively rare among the American and European residents. Beriberi was still common in certain parts, attacking mostly natives whose constitution was undermined. The disease would doubtless become preventable when its mode of transmission became better known. Yellow fever, once so dreaded, had been practically exterminated in Cuba. Its transmitter, the *Stegomyia fasciata*, probably did not exist very far north. Malaria was common in all warm countries, although there was probably not a single State in the Union where the *Anopheles* could not be found. The speaker said he was unable to say whether the virulent type of malaria at times met with in the tropics was due to the climate, or whether it was a fever distinct from malaria that had thus far been unrecognized. The positive results obtained by the use of mosquito bars, as well as doors and window screens, in Cuba, Italy, and the Philippines, demonstrated that malaria, whether of the mild or pernicious type, could be easily prevented. Many of the natives, however, had not yet learned how to exclude mosquitos without at the same time excluding air. Bubonic plague was not known in Cuba, and was responsible for only one death among the Americans in the Philippines. Smallpox could be prevented by vaccination in the tropics as well as in the United States, and not a single case of this disease had originated in Cuba since 1890, when vaccination became obligatory there. Cancer and pneumonia were most common in temperate climates. Diphtheria and croup were practically absent in the tropics. Colonel Havard said it appeared from his study of statistics that the death rate of the tropics was swelled by a large infant mortality, and was due to diseases that were pretty well understood and largely preventable. It was only a question of time before yellow fever would be completely eradicated from this continent, and if, as was generally believed, malaria resulted from the sting of the *Anopheles*, the reduction of that disease to a negligible quantity could be confidently looked forward to. Tuberculosis still remained as the greatest scourge, both in temperate and tropical climates, and better results probably followed its treatment in warmer than in colder climates. Mortality, as a whole, depended more upon civilization and government than upon climate.

Tropical Fruits and Tropical Diet.—By Dr. H. W. Wiley, Chief of the Bureau of Chemistry, U. S. Department of Agriculture, sent this paper, which, in Dr. Wiley's absence, was read by the Secretary. The writer stated that the question of a proper diet in the tropics was one of the greatest importance. With a change of environment, the food must also be changed. In the tropics, it should be of a less heat-forming character than that used in temperate and especially in polar regions. So far as was known, the fats and oils were the chief heat-producing foods. In this they differed from the carbohydrates, which were active both in building up tissue and in furnishing energy. In the tropics, fats should comprise only a moderate portion of the diet, and the quantity of nitrogenous food should be decreased. Nature, as a rule, furnished the food best suited for the nourishment of the people in the particular region where they lived, and in the tropics the fruits largely answered that purpose. Dr. Wiley's paper then gave a list of the more important tropical fruits, with their constituents. This showed that the cocoanut was the chief natural oily food of the tropics, while the cassava was the principal starchy food. The natural tropical food was one containing a large excess of carbohydrates, of which the sugar predominated.

Dr. N. S. Jarvis called attention to the large reduction of mortality in Cuba and the Philippines since the Spanish-American war, under the able administration of the medical officers of the U. S. Army, who had accomplished what European medical officers had failed to do in the colonial possessions of those countries. While the American medical officers had not received the honors which were usually given to men on the firing line, they had accomplished greater results than the men with the rifle.

Dr. Shoemaker, in reply to a question as to whether he had tried the hypodermic method of administering quinine in cases in which its administration by the stomach was deemed inadvisable on account of gastric irritability, said that the method had been given a trial in some of the cases he had referred to in his paper, but the injections gave rise to so much inflammatory reaction on account of the debilitated condition of the patients that it was abandoned. The use of quinine suppositories was found much more efficacious.

Colonel Havard, in closing the discussion, said that while *Anopheles* was rarely met in comparison with *Culex sollicitans* and *C. pungens*, even a single specimen of *Anopheles* might do a lot of mischief before it was discovered. Furthermore, in order to transmit malaria, the *Anopheles* must first become infected, and, while Major Powell, at Fort Hamilton, had observed malaria without the presence of this mosquito, the speaker said he had been in localities where the members of this species were comparatively numerous, but where there was no malaria.

College of Physicians of Philadelphia; Section on General Medicine.

At a stated meeting held October 10, Dr. Joseph Sailer reported "A Case of Miliary Tuberculosis Which Gave a Positive Widal Reaction." The patient was an intelligent colored man, 29 years old, without a previous history of typhoid fever, who presented symptoms of thoracic and abdominal tuberculosis. At first there was no reaction to the agglutination-test, although subsequently this reaction was obtained with the blood-serum and the serous fluid withdrawn from the abdomen and the chest. Death took place and examination disclosed the lesions of tuberculosis, but none indicative of typhoid fever, although inadvertently cultures were not made from the spleen.

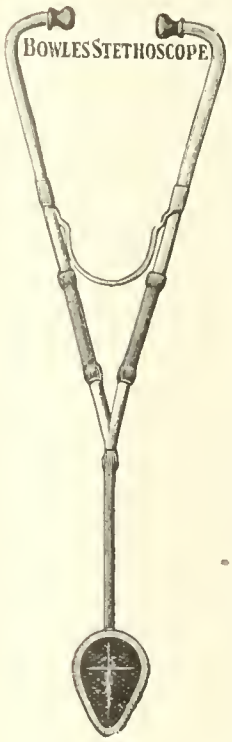
Dr. J. H. Musser read "A Note on Chronic Parotitis," reporting a series of cases in elderly and middle-aged individuals, in some of which repeated attacks of inflammation of the parotid gland and sometimes also of other salivary glands occurred, while in others persistent swelling of the gland followed an attack of acute inflammation. Drs. M. H. Fussell and C. A. Fife reported "A Case of Uncinariasis," and they exhibited specimens of the uncinaria. The patient was a young white man of English extraction, born in the West Indies, who had worked on various plantations as a millwright. Presenting himself with symptoms of marked anæmia of obscure origin, examination of the intestinal discharges disclosed the presence of ova and mature uncinariæ, together with the tricocephalus dispar and lumbricoides. The number of eosinophile cells in the blood was increased. Under vigorous treatment with thymol both the ova and the parasites disappeared from the stools, the anæmia subsided, and improvement in the general condition took place.

Caesarean Section and Serious Dystocia Following Ventrofixation and Suspension.—Frank W. Lynch thinks that it should be inquired whether operations likely to result in fixation of the uterus to the anterior abdominal wall are ever justifiable during the childbearing period. The untoward results following ventrofixation clearly indicate that the operation should be abandoned, while the few cases in which unintentional fixation has followed supposed suspension of the uterus, render it questionable whether even this more conservative operation should be employed. The writer declares that he is inclined to take the ground that neither procedure is justifiable until after the menopause, as it does not seem proper to undertake an operation for the cure of a condition which does not threaten the life of the patient and merely exposes her to a certain amount of discomfort, when it is known that it may give rise to most serious dystocia should she become pregnant. Which will prove the most suitable operation for the cure of displacements of the uterus during the childbearing period, the writer states, cannot yet be definitely predicted, although he believes that some of the procedures which aim to maintain the organ in position by shortening the round and the utero-sacral ligaments, will eventually prove to be the operation of choice. It is possible that Alexander's operation may prove the ideal procedure when the uterus is movable; but when it is adherent the abdomen must be opened, in order to free it, and under such circumstances some intra-abdominal methods of shortening the ligaments would appear most rational.—*Bulletin of The Johns Hopkins Hospital.*

New Instruments.

A NEW PATTERN OF BOWLES' STETHOSCOPE.

By R. C. M. BOWLES., C.E.,
BROOKLINE, MASS.



At present the Bowles Stethoscope is manufactured in two sizes, one of 2-inch diameter and one of 1⅜-inch. The larger being used when examining a substantially large area, the latter for smaller areas, such as above the clavicle, the apices, intercostal spaces, etc. In the latter cases, the larger is unavailable on account of its diameter, and the smaller not entirely satisfactory on account of its decreased vibratory surface.

To meet these conditions at least partially, I have constructed an instrument of pear or flat-iron shape of diaphragm, whereby is obtained the maximum vibration of the larger style of stethoscope, with the adaptability of the smaller instrument; also the volume of sound can be varied at the will of the operator, according to the degree of contact with the body.

This instrument is made by Geo. P. Pilling & Son, Philadelphia.

Uncinariasis in the Mountains of North Carolina.—W. P. Ivey thinks that great care should be taken to use the technical term, and to avoid the term hookworm, or hookworm disease. He gives the history of various cases which have come under his observation. In the first case he mentions the symptoms were anæmia, œdema, severe headache, and pain in the stomach. The color of the fæces was decidedly reddish, showing plainly the presence of blood. The thymol treatment was given, and plenty of small, threadlike creatures were found, about the size of a No. 10 thread. Another patient was so waterlogged that she could hardly breathe, and could not sleep in the recumbent position. The next night after the thymol treatment she was much improved, and the second night she slept naturally as well as usual. One patient was afflicted with femoral phlebitis, with a very large, tender and painful leg. The writer has recently examined twenty suspected cases, and has found the disease in every case. These cases have been in the same county, which is not a sand district, but is right in the mountains, with a clay soil, with here and there a mixture of sand and clay on a clay subsoil. One of the most common complaints for which these patients seek aid is a supposed heart disease. Next to the cardiac symptoms in frequency stand disorders of menstruation, in some cases amenorrhœa, in others menorrhagia. All of these cases of uncinariasis are much benefited by the treatment for anæmia alone, but the benefit it not lasting. The writer declares that he knows of no disease of like importance that is so quickly and certainly relieved by treatment as the disease under consideration. But reinfection often takes place quickly. He believes that most of the cases, especially among children, ought to be given a course of thymol at least every three months. There must be preventive as well as curative treatment. The writer concludes by emphasizing the importance of recognizing the disease and giving some of its effects. It causes death. It makes mental underlings. It makes physical dwarfs. It curtails producing power. It steals dollars from our wealth. —*Charlotte Medical Journal.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgement will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE ART OF CROSS-EXAMINATION. By FRANCIS L. WELLMAN. 8vo, 404 pages, muslin. The Macmillan Company, New York. Price $2.50.

STATE OF NEW YORK, STATE COMMISSION IN LUNACY, FIFTEENTH ANNUAL REPORT, October 1, 1902, to September 30, 1903. 8vo, 1011 pages, muslin.

ANATOMISCHE UND PHYSIKALISCHE UNTERSUCHUNGSMETHODEN. Von Drs. OESTREICK und O. DE LA CAMP. 8vo, 266 pages, paper. S. Karger, Berlin.

LES ACTUALITES MEDICALES. LES RAYONS N. ET LES RAYONS N'. PAR LE DR. H. BORDIER. 12mo, 95 pages, illustrated, cloth. J. B. Bailliere et Fils, Paris.

A TEXT-BOOK OF HISTOLOGY. By FREDERICK R. BAILEY, A.M., M.D. 8vo, 481 pages, illustrated, muslin. William Wood & Company, New York. Price $3.00 net.

DUALITY OF THOUGHT AND LANGUAGE. AN OUTLINE OF ORIGINAL RESEARCH. By EMIL SUTRO. 12mo, 277 pages, muslin. The Physio-Psychic Society, New York.

THE SURGICAL TREATMENT OF BRIGHT'S DISEASE. By GEORGE M. EDEBOHLS, A.M., M.D., LL.D. 8vo, 327 pages, illustrated, muslin. Frank F. Lisiecki, New York.

THE PATHOLOGY OF THE EYE. By J. HERBERT PARSONS, B.S., D.SC., F.R.C.S. Vol. I. HISTOLOGY.—Part I. 8vo, 388 pages, illustrated, muslin. G. P. Putnam's Sons, New York.

LEHRBUCH DER PHYSIOLOGIE. VON L. HERMANN. Dreizehnte, durchgehends umgearbeitete und vermehrte Auflage. 8vo, 762 pages, illustrated, paper. August Hirschwald, Berlin.

LIGHT ENERGY. ITS PHYSICS, PHYSIOLOGICAL ACTION AND THERAPEUTIC APPLICATIONS. By MARGARET A. CLEAVES, M.D. 8vo, 827 pages, illustrated, muslin. Rebman Company, New York.

THE WOMAN'S HOME LIBRARY. BEAUTY THROUGH HYGIENE. COMMON SENSE WAYS TO HEALTH FOR GIRLS. By EMMA E. WALKER, M.D. 12mo, 306 pages, illustrated, muslin. A. S. Barnes & Co. New York. Price, $1.00.

ENLARGEMENT OF THE PROSTATE. ITS TREATMENT AND RADICAL CURE. By C. MANSELL MOULLIN, M.D., F.R.C.S. Third Edition. 8vo, 204 pages, illustrated, muslin. P. Blakiston's Son & Co. Philadelphia. Price, $1.75 net.

MANUAL OF PHYSIOLOGICAL AND CLINICAL CHEMISTRY. By ELIAS H. BARTLEY, B.S., M.D., Ph.G. Second Edition. Revised and Enlarged. 8vo, 188 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price $1.00 net.

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A SYSTEM OF PRACTICAL SURGERY. By PROF. E. VON BERGMANN, M.D., PROF. P. VON BRUNS, M.D., and PROF. J. VON MIKULICZ, M.D. Vol. V. Translated and Edited by WILLIAM T. BULL, M.D., and EDWARD MILTON FOOTE, M.D. 8vo, 780 pages, illustrated, half-morocco. Lea Brothers & Co., New York. Price, $8.50, net.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 22, 1904:

	Cases.	Deaths.
Measles	57	3
Diphtheria and Croup	317	30
Scarlet Fever	123	7
Small Pox		
Chicken Pox	41	
Tuberculosis	337	143
Typhoid Fever	125	17
Cerebro-Spinal Meningitis		18
Typhus Fever		
Yellow Fever		
Cholera		
Totals	1,000	218

A Radical Operation for Malignant Neoplasm of the Urinary Bladder.—Albert Ashton Berg describes such an intraperitoneal operation which offers certain advantages, as follows: It affords the freest access of any to carcinoma of the posterior wall and base of the bladder. It is the only method by which the indurated lymphatics and glands along the internal iliac artery can be removed. It permits us to remove the ureter when diseased, and at once to reimplant it into the bladder or into the opposite ureter. It allows of accurate suture of the defect created in the bladder wall. It permits of excellent drainage below. The objections may be raised that we expose the patient to greater and graver risks of infection than by the extraperitoneal method of resection. This cannot be denied; but, as it is impossible to remove the glands and lymphatics by the extraperitoneal method, we must either give up all attempts at radical cure of vesical carcinoma or resort to the intraperitoneal method as outlined. The danger of infection is reduced to the minimum and very little blood is lost during the operation. The dissection of the pelvic floor is not an easy one. The writer has practised this operation upon two patients in the past year.—*Annals of Surgery.*

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended October 22, 1904.

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Illinois, Chicago	Oct. 8–15	6	..
Massachusetts, North Adams	Oct. 8–15	1	..
Michigan, at 42 Places	Oct. 1–8	Present.	..
Minnesota, St. Paul	Oct. 3–10	7	..
Missouri, St. Louis	Oct. 10–17	7	3
New York, New York	Oct. 8–15	1	..
Pennsylvania, Philadelphia	Oct. 8–15	1	..

SMALLPOX FOREIGN.

Africa, Cape Town	Aug. 27–Sept. 3	1	..
Austria-Hungary, Prague	Sept. 25–Oct. 2	2.	..
Brazil, Bahia	Sept. 3–24	45	4
Rio de Janeiro	Aug. 28–Sept. 18	997	434
China, Shanghai	Sept. 10–17	..	3
France, Paris	Sept. 25–Oct. 1	7	1
Great Britain, Leeds	Sept. 25–Oct. 8	5	..
Manchester	Sept. 25–Oct. 1	6	..
Newcastle-on-Tyne	Sept. 25–Oct. 1	3	..
Nottingham	Sept. 25–Oct. 1	3	..
India, Bombay	Sept. 13–20	..	2
Mexico, City of Mexico	Sept. 25–Oct. 1	4	1
Russia, Moscow	Sept. 17–24	7	2
St Petersburg	Sept. 17–24	5	3
Warsaw	Aug. 20–Sept. 10	..	55
Spain, Barcelona	Sept. 1–30	..	6
Turkey, Beirut	Sept. 25–Oct. 1	Present.)	
Constantinople	Sept. 26–Oct. 2	..	19
Venezuela, La Guaira	Oct. 1	(Present.)	

YELLOW FEVER.

Mexico, Coatzacoalcos	Sept. 2[illegible] 8.	16	5

CHOLERA.

India, Bombay	Sept 13–20	..	13
Calcutta	Sept 10–17	..	3
Persia, Resht	Sept. 17	(Epidemic.)	

PLAGUE.

Africa, Cape Colony	Sept. 3–10	2	1
Australia, Brisbane	Aug. 13–20	3	2
	Aug. 20–27	2	..
Brazil, Bahia	Sept. 3–24	..	12
Rio de Janeiro	Aug. 28–Sept. 18	53	14
India, Bombay	Sept. 13–20	..	51
Calcutta	Sept. 10–17	..	2
Karachi	Sept. 11–18	4	5
Madras	Sept. 10–16	..	1

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Original Articles.

CANCER OF THE LARYNX.*

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LONDON
PHYSICIAN EXTRAORDINARY TO HIS MAJESTY THE KING.

Mr. President and Gentlemen.—The keynote of the observations which I shall have the honor of addressing to you was struck in a discussion on malignant disease of the larynx at the meeting of the American Laryngological Association in 1902, when Dr. Bryson Delavan stated that it was time "that the discussion of these subjects upon theoretical grounds should give place to careful studies of what was actually being accomplished by practical men." Self-understood as this desideratum might seem to be, I am afraid that it has been far from being acted upon universally. Indeed, the future historian of the progress of laryngology in our own times will have rather a strange tale to tell, not merely of the diversities of opinion still existing in the different civilized countries in the year 1904 as to diagnosis and treatment of malignant disease of the larynx, but even more of the disregard of the practical results obtained in one country, by eminent specialists practising in other parts of the world. It is this aspect of the question with which I shall deal in the course of my remarks. At the same time I do so, I confess, in some fear and trembling. It is not only because I speak under the eagle eye of my friend Dr. Jonathan Wright, the implacable enemy of medical controversy in any shape or form, but more still because I feel that it might seem ungracious that, in return for the magnificent hospitality of which I have been, and still am, the recipient in this country, I should criticise, as will be my duty, the emphatic views recently expressed on diagnosis and treatment of cancer of the larynx by an eminent American laryngologist, my old friend Dr. John Mackenzie, of Baltimore. But after mature consideration, I have come to the conclusion that I can only do full justice to the task you have so kindly confided to me by endeavoring in the frankest possible manner to show the untenability of his objections to the methods by which British laryngologists have obtained very satisfactory results in dealing with this scourge of mankind. This may be the only occasion in my life on which I shall have the privilege of addressing on this subject—which I have at heart and on which I have worked for fully twenty years—a meeting of American experts, and I strongly feel that a scientific discussion on such a topic ought after all not to be of the nature of a mutual eulogium, but an earnest endeavor to clear the atmosphere and to let the better cause conquer.

It is a matter of history that the case of the late German Emperor represents the turning point of modern knowledge of cancer of the larynx. Until then that knowledge had been sadly incomplete and unsatisfactory. Very little was known about the early symptoms and early laryngoscopic appearance of the disease and as a rule its existence was only recognized when it was in an advanced stage. Up to 1878 many cases were in such circumstances treated by thyrotomy, an operation which, though positively ideal in early stages, is quite insufficient, as we now know, when the disease is more advanced. The results were naturally disastrous, and led, after Paul Bruns' sweeping condemnation in 1878,[1] to almost complete abandonment for a time of thyrotomy in malignant disease of the larynx. The more severe forms of radical operation—total and hemi-laryngectomy, enthusiastically welcomed when first introduced, did not at once justify the hopes which had been raised, and in the early eighties of the last century the outlook for the unfortunate patient afflicted with laryngeal cancer was grave in the extreme.

Such is the barest outline of the state of matters before 1887. I have on more than one previous occasion[2] insisted on the necessity of every laryngologist being thoroughly acquainted with these historical facts, because it is only from their knowledge that the present state of matters and the untenability of some of the objections raised against modern thyrotomy can be fully understood. For my purpose to-day it must suffice to simply remind you of the facts just enumerated and to refer those who wish for fuller information to previous publications of mine in which these questions have been treated at greater length.[3] It is true that no sensational incident, such as the sad illness of the Emperor Frederick, was required to induce larnygologists and surgeons to try to improve from both the diagnostic and the therapeutic points of view the unsatisfactory state of matters just described. Already in 1886 I had, when bringing the well-known case of the late Mr. Montagu Williams before the Clinical Society of London, drawn attention to several so far unknown, or, at any rate, undescribed laryngoscopic signs, which had enabled me in various cases to diagnose laryngeal cancer at an earlier period than was at that time usual. Again, my late friend, Professor Eugen Hahn, of Berlin, had already, previous to the illness of the then Crown Prince, materially improved the technique, especially of partial extirpation of the larynx and had by the invention of his excellent sponge cannula greatly diminished the mortality previously resulting from septic infection of the lower air passages during and after operation. But although these and similar studies had done pioneer work for a better understanding and more efficient treatment of cancer of the larynx, they had remained isolated attempts, and there can be no

*An address delivered before the Laryngological Section of the New York Academy of Medicine on Nov. 2, 1904.

doubt that the sympathetic interest with which the whole world followed the melancholy course of the Emperor Frederick's illness gave a sudden and universal impetus towards a closer study and better understanding of that formidable disease. First came the revival of the deplorable doctrine of the late Mr. Lennox Browne[4]—viz., that benign laryngeal growths were specially liable to undergo malignant degeneration after intralaryngeal operation. This was followed by the publication of my "Collective Investigation,"[5] undertaken with the help of most of the prominent laryngologists of the world, to test the truth of this assertion. The material thus collected enabled me not only to show the complete want of foundation of Mr. Browne's contention, but also to establish more definitely than had hitherto been done the differential diagnosis between benign and the early stages of malignant neoplasms of the larynx and to discuss fully the position and relative importance of the microscopic examination of intralaryngeally removed fragments of new growths for the differential diagnosis between the benign and malignant forms.

Before the report of the "Collective Investigation," which was published in installments, had been concluded, Professor Bernhard Fraenkel, of Berlin, published his remarkable paper, "Laryngeal Cancer, its Diagnosis and Treatment,"[6] in which, besides studying the histological characteristics of laryngeal cancer, he advocated anew in suitable cases the treatment by intralaryngeal operation which he had first proposed in 1886. In reply, I lost no time in urging in the concluding chapter of the "Collective Investigation" some of the objections which seemed to me obvious against adopting intralaryngeal instrumentation as a suitable means of combating laryngeal cancer. About the same time Mr. H. T. Butlin[7] inaugurated a new era in the treatment of intrinsic cancer of the larynx by showing that owing to our diagnostic progress it was possible to obtain the same results in early cases by thyrotomy, which had previously been believed to be unobtainable by anything short of hemi-laryngectomy. From this time onwards the remarkable national cleavage took place which characterizes our present situation. Previous to the Emperor's illness, however imperfect and unsatisfactory our knowledge of laryngeal cancer may have been, there had at any rate been no national differences, and the opinions with regard to diagnosis and treatment which dominated our actions were, whether right or wrong, entertained by the whole laryngological world. From 1889 all this changed. A number of German laryngologists, headed by Jurasz[8] and following Fraenkel's lead, advocated, and still advocate, intralaryngeal operations in apparently suitable cases of malignant disease of the larynx. They have found allies in France, in Spain, and in America, whilst, apart from myself, the employment of intralaryngeal surgery in cases of malignant disease of the larynx has been deprecated by Schrötter, Chiari, and Paul Bruns. On the other hand, my own statements concerning the diagnostic importance of some of the early signs of laryngeal cancer have met, I am afraid, with but little attention in other countries besides Great Britain and, similarly, it is astonishing to observe how little impression the reports of British successes obtained by thyrotomy in suitable cases seem to have made upon the minds of operators on the continent of Europe and in America.

In 1900 Dr. John Mackenzie read at the meeting of the American Laryngological Association a paper entitled "A Plea for the Early Naked-eye Diagnosis and Removal of the Entire Organ, with a Neighboring Area of Possible Lymphatic Infection in Cancer of the Larynx." The contentions of this remarkable paper, with but few exceptions, run straight against all established teaching. The author demands naked-eye diagnosis of malignant disease of the larynx in its early stages to the complete exclusion of the intralaryngeal removal of a fragment for the purposes of microscopical examination. The latter he rejects *in toto,* and urges against its employment that the removal of tissues for examination subjects the patient to the dangers of auto-infection at the point of incision and to metastasis elsewhere, that it stimulates the local growth of cancer, and that the method is often inconclusive, misleading, and sometimes practically impossible. In the further course of his observations he emphatically condemns thyrotomy, and his teaching culminates in the statement that there was only one rational method, in the majority of cases at least, of dealing with cancer of the larynx: "Early total extirpation of the entire organ with its tributary lymphatics and glands, *whether the latter be apparently diseased or not,* is the only possible safeguard against local recurrence or metastasis." When I first read this paper I was not inclined to take it seriously. Throughout it substitutes theory for practice to such a degree, threatens hypothetical dangers which experience has shown practically to be non-existent, totally disregards the actual results obtained by trustworthy observers, and indiscriminately demands extreme measures where experience has shown milder ones to suffice, that I considered a detailed refutation unnecessary, and therefore referred to it in a chaffing spirit in the course of some lectures I delivered in 1901.[9] But, to my regret, the matter has not ended there. In 1902, Dr. Mackenzie, in a further discussion on cancer of the larynx, which took place at the meeting of the American Laryngological Association, declared that he abided by his views, and since then I have been credibly informed that these views have exercised a perturbing influence upon not a few minds on this side of the Atlantic. A proof of this appears to me the surprising scarcity of contributions from the United States confirming the favorable results we have obtained in Great Britain by thyrotomy. In these circumstances the opportunity offered through your kind invitation—viz., to investigate the correctness of Dr. Mackenzie's contentions and to try to bring about a more satisfactory state of matters—was extremely welcome to me. I will do my best to do justice to my task, but the subject is too large and the number of questions involved is too considerable that I could in the limited space of an address critically analyze every sentence to which I take exception. I shall, therefore, content myself with discussing the four most important of Dr. Mackenzie's assertions only. These are the following: (1) That the naked-eye method of diagnosis is a comparatively neglected method; (2) that the microscopical examination of a fragment intralaryngeally removed is

to be totally rejected; (3) that early total extirpation of the entire organ with its tributary lymphatics and glands, whether the latter be apparently diseased or not, is the only possible safeguard against local recurrence or metastasis; and (4) that thyrotomy is not up-to-date surgery, is in direct defiance of the rules that should govern us in the treatment of laryngeal cancer, and is a reversion to, and a resurrection of, a method of procedure that was discredited and abandoned half a century ago.

1. According to Dr. Mackenzie the naked-eye diagnosis is a comparatively neglected method. What is the real state of this question? In the introduction I have referred to my endeavors to promote the knowledge of the subjective signs and laryngoscopic appearances of the early stages of malignant disease of the larynx. Having in 1886[10] and 1888[11] enumerated in two communications of mine some of these signs I reverted to the subject at greater length in the "Collective Investigation" I undertook in 1888 and devoted an entire chapter of my report to a systematic description of the minute details which in a number of cases had enabled me to diagnose laryngeal cancer at a comparatively early period. This description has, so far as I know, remained up to this moment the last word on the subject. I am not aware that one single trustworthy sign has been added to those I enumerated in that chapter, and these signs have continued to enable me, and those who trusted my statements, to arrive at an early diagnosis in most of the cases which have since come under our observation. At the same time I have been particularly careful not to over-state my case nor to assert that any one of these signs, or even several taken in conjunction, could, in all cases, infallibly establish the diagnosis.[12] When I returned eight years afterwards to this question[13] I stated, even more emphatically than I had done in 1888, verbatim as follows: "Unfortunately, with the only exception of those cases in which it is possible to intralaryngeally remove a fragment of the new growth and to establish its epitheliomatous nature by the help of the microscope, *not one single sign* in the early stages of malignant neoplasm of the larynx is in itself so characteristic that it establishes with absolute certainty the malignant nature of the formation. The contour, the seat, the condition of the surface, the color of the new growth itself, the condition of the neighborhood, the mobility of the vocal cord, the age of the patient, other subjective symptoms, they all may and will *assist* the experienced eye in making the diagnosis, particularly when several of them *jointly* raise such suspicion, but all of them are not *absolutely* characteristic in the earliest stages, and the possibility of a mistake is not excluded in some less characteristic cases." Butlin, too, has correctly characterized the situation when he said in his introductory paper on the occasion of a discussion on the early radical treatment of laryngeal cancer,[14] that "we were still in this position, and were likely to remain in it for a good many years to come, that we must admit that there are three classes of cases: the first, in which anyone and everyone can make the diagnosis; the second, in which the better instructed or more experienced make it, and others do not; and the third class, in which the conditions are so obscure that no one can make the diagnosis, unless the larynx is opened, and in some of which it is even then difficult to be sure of the nature of the disease."

That, gentlemen, is, I maintain, a true description of the present state of matters. However much we all desire—and I do not yield to Dr. Mackenzie in that respect—further to advance our clinical knowledge of the early stages of laryngeal cancer, we have not made diagnostic progress since 1888. Although, no doubt, in the great majority of cases an experienced observer will make the correct diagnosis of intrinsic cancer of the larynx in its early stages from clinical signs alone, the possibility of occasional errors is anything but excluded. They have occurred in the practice of other experienced observers, and they have occurred in my own. And what is most important in view of Dr. Mackenzie's light-hearted advice—viz., to perform extirpation of the whole larynx with its tributary lymphatics and glands on the strength of naked-eye diagnosis alone is the fact noticed by others[15] as well as by myself, that when an error in diagnosis is committed it is more commonly on the side of regarding an innocent growth as a malignant one than a malignant growth as an innocent one. Let me illustrate this from my own experience. I have always considered it my duty to put my diagnostic mistakes on record to serve as a warning to others. Now, once only in my life, so far as I know, have I at first considered a growth which ultimately turned out to be a malignant one to be innocent. This was the case which Mr. S. G. Shattock and I described in 1891 and 1893 as an "Anomalous Tumor of the Larynx" in the Transactions of the Pathological Society of London. On the other hand, I have in two cases performed thyrotomy in elderly persons for an apparent epithelioma, whilst in reality the affection was papillomatous.[16] In one case I have been not a little surprised when a tumor, which I had believed to be carcinomatous, turned out to be tuberculous;[17] in two cases I have operated without being absolutely certain of the nature of the tumor with which I had to deal. In one of these cases the disease was indeed found to be malignant;[18] in the other one, however, even after opening the larynx, inspecting the ulcerating growth in its entirety, and having a microscopic examination made by Mr. Shattock whilst the patient was kept under the anæsthetic, it was impossible to decide there and then whether the neoplasm was tuberculous or malignant. I therefore operated as if the case had been a malignant one. Fuller microscopic examination, however, proved it to have been tuberculous.[19] In one case which I saw together with Mr. Butlin,[20] and in which he subsequently performed an external operation, it was found that an apparently malignant growth was in reality a leucoma, and in another case, also seen in consultation with Mr. Butlin, it was found, when he opened the larynx, that what we had feared to be a malignant growth was in reality a simple extravazation of blood into and around a vocal cord.[21] Thus out of eight doubtful cases in one case only did I regard a malignant growth as an innocent one, whilst in seven cases I committed the opposite error! In other words, if I had proceeded on the lines of Dr. Mackenzie's advice I should, in my own practice alone, have mutilated on the strength of a false diagnosis four patients for life, provided they had survived the operation. I shall return to that aspect

of the question further on. In the present connection, speaking on the strength of large personal experience, I only wish to say that I maintain most strongly that our clinical knowledge of these stages is not yet perfect and that occasional diagnostic mistakes are unavoidable. Dr. Mackenzie himself admits that "there is unfortunately no solitary unequivocal symptom or laryngoscopic sign of cancer," and seems to allow that "after weighing carefully all the facts of the case in our possession a reasonable doubt may remain as to the diagnosis." Just so; but what is the logical conclusion, gentlemen, to which all the foregoing drives us? Surely that it is the positive and imperative duty of every observer to resort to *every* method of diagnosis that could possibly help him in establishing a certain diagnosis before radical operation of any kind is performed. Such a method the great majority of us are convinced we possess in the intralaryngeal removal, whenever possible, of a fragment of a suspected growth for microscopic examination, duly keeping before our minds that this method, like most other human methods, is anything but infallible and must be used with discretion and discrimination. But to this Dr. Mackenzie says: "In the face of all authority to the contrary," emphatically "No."

2. Here we come to the second of his contentions—viz., to the total rejection of the microscope as a diagnostic help in cases of suspected laryngeal growth. His reasons for opposing intralaryngeal removal of a piece for microscopic examination are that such removal "subjects the patient at once to the dangers of auto-infection at the point of incision and to metastasis elsewhere, that it stimulates the local growth of cancer, and that the method is often inconclusive, misleading, and sometimes practically impossible." The first of these statements he supports in his next sentences, by saying that "the moment the continuity of a growth is broken, in that very moment the pathway is opened for self-poisoning," and that cancer being an infectious process "incision through the cancerous mass opens up at once a broad avenue for auto-inoculation." I need not say that the second of these statements is in no sense a proof of the first; it is merely a repetition in other words. The occurrence of auto-infection in cancer of the larynx is an event of the greatest possible rarity. There are, so far as I know, only three authenticated cases of this kind on record. Two were reported by Dr. David Newman, of Glasgow, in a discussion on cancer, published in the *Glasgow Medical Journal*, 1886, p. 94, and in a discussion in the Clinical Society of London, published in the *British Medical Journal* of January 19, 1889. The third was published by Mr. Shattock and myself in 1888, when we showed before the Pathological Society of London a specimen of a case of epithelioma of the right half of the larynx in which an epithelial insula existed on the middle of the left vocal cord, opposite the primary focus. We made the following remarks on this part of the case:[22] "Lastly, as to the isolated growth on the left vocal cord. Is this due to contact or to metastasis? Infection by contact is a question which is *sub judice*, and it is difficult by clinical observation only (as in so many other cases) to arrive at any indisputable conclusion: the direct proof must be delegated to experience. There is no theoretical reason, however, why contact-carcinoma should not occur where the surface opposite to the primary growth is excoriated or ulcerated, as might arise from its contact with decomposing cancerous discharge; for as the secondary glandular growths in carcinoma arise from the direct transference of elements from the primary tumor, there seems no reason why the direct implantation of infective epithelium to a granulating surface might not lead to the growth of a second tumor as well, seeing also that the grafting of normal epidermis is so readily effected on a similar surface. That cancer might be communicated to an intact epithelial surface is also conceivable, though in either case it might be held in argument that the spot opposite to the primary tumor was prepared only by the ensuing inflammation to become cancerous, for the same general reason which lay at the bottom of the original disease."

From this quotation it will be seen that I fully admit the possibility of auto-infection in laryngeal cancer, particularly when the surface opposite to an ulcerating new growth should have lost its covering epithelium. But when this theoretical possibility has been admitted and when the practical question is now asked: How often has such inoculation been actually observed? I am happily in the position to state that, so far as my literary knowledge goes, the three cases just mentioned are the only ones ever recorded as examples of local auto-infection in laryngeal cancer. And mark you, gentlemen, this refers not only to cases in which the surface of the laryngeal growth has been broken by the *surgeon's* instrument, but to the infinitely larger number of cases in which, without any surgical interference, the growth in the natural course of events has ultimately broken down *spontaneously*, offering the greatest possible opportunities for local auto-infection. What is quite beyond dispute is, that not one single case exists in laryngological literature in which local auto-infection has been described as having been due to intralaryngeal surgical interference. Seeing the enormous number of cases in which during the last forty years fragments of growth have been intralaryngeally removed for purposes of microscopic examination, this one fact suffices for me, and, I venture to think, will suffice for most men of a practical turn of mind, to dismiss Dr. Mackenzie's alarming assertion as too theoretical to come within the range of practical politics.

Exactly the same applies with regard to the next theoretical danger with which he threatens us. He says that probatory intralaryngeal removal of a fragment subjects the patient to metastasis elsewhere. I wish he had somewhat more definitely stated what he means by the word "metastasis" when used in this connection. Does it imply that through the instrumental interference in the larynx, torn-away particles of growth might penetrate into the bronchial tubes or lungs, or, having been coughed up, be swallowed, enter the œsophagus or the stomach, and set up secondary tumors in these parts? Or is it meant in the sense that the circulation being quickened by the local injury done to the larynx by application of forceps or similar instruments, infectious elements were likely to reach distant parts of the body by way of the circulation? Or, thirdly, is it intended to say that by removing a fragment one might stimulate the local growth of cancer, and

thereby accelerate the ordinary process of metastasis through the lymphatic channels, which, in the ordinary course of events, would probably have spontaneously taken place at a later period? As the paper does not contain any reply to these questions I must consider every one of them.

All three contingencies just named must, of course, be admitted as theoretical possibilities. But here again practical experience comes to our aid and enables us to ask the question: Where and when have the first two of these theoretical possibilities ever become real facts? The production of a secondary growth in the air- or food-passages by means of implantation of a torn-off fragment could, of course, only be interpreted as auto-inoculation in a more distant region. Where is one single proof to be found in laryngological literature that such a case has ever been observed? I know of none, and here again, gentlemen, I beg you to remember how frequently these exploratory removals have been performed during the last 40 years and how certain it would have been, seeing the conscientiousness of our profession, that some of those, at any rate, to whom such an exceptional misfortune had occurred would have considered it their duty to put it on record. The same obtains of dissemination by means of the circulation. I have just had the privilege of looking through the manuscript of a monograph on laryngeal cancer from the pen of Mr. Philip R. W. de Santi, which will soon be published, and from which the author has allowed me to quote the following fact. He has been able to collect altogether hardly 20 cases in the whole laryngological literature in which dissemination by means of the circulation has taken place. Considering that already at the time of the "Collective Investigation," that is to say, in 1888, no less than 1,550 cases of malignant disease of the larynx were on record, the total number of the cases reported at present must be, at the most modest computation, between 3,000 and 4,000, very likely more than that. Yet in less than 1 per cent. of all these cases has dissemination been observed. What makes the argument even more forcible are the following two facts: In the first place, in the majority of the cases of dissemination through the circulation collected by Mr. de Santi no operation had ever been performed. Secondly, if through the breaking of the continuity of the growth the pathway had been opened for self-poisoning one would naturally anticipate that the result of such metastasis or dissemination should occur in those organs, the blood supply of which was intimately correlated with that of the larynx—viz., in the respiratory passages. From Mr. de Santi's collection, however, it is incontestable that in the few cases of dissemination that have ever been reported the abdominal viscera were fully twice as often affected as the lungs. In view of these actual facts I refuse to be frightened by the two first of the possible contingencies dealing with "metastasis elsewhere" with which Dr. Mackenzie threatens us. He would, however, be on more justly debatable ground if he had used the word "metastasis" in that sense, that by removing a fragment one might stimulate the local growth of the cancer and thereby accelerate that process of metastasis through the lymphatic channels, which, in the ordinary course of events, would probably have taken place spontaneously at a later period. It will be best to discuss this question in connection with the second objection raised by Dr. Mackenzie against the probatory intra-laryngeal removal of a fragment of a suspicious growth—viz., the fear that by irritating the growth through partial removal the rapidity of the local progress might be increased. This fear is, of course, no new one. Already in the last chapter of the "Collective Investigation" the question was discussed at considerable length. Dr. Newman, of Glasgow, had described two cases, in one of which 10 days and in the other 17 days after the probatory intralaryngeal removal enlargement of a cervical gland was detected on the corresponding side of the neck, whilst no such enlargement had previously existed.[23] These two cases have, so far as I know, remained solitary. Nevertheless, the actuality of such an occurrence having been shown, it is the less permissible to leave it out of consideration because Newman's observations are certainly in accordance with the common surgical experience that after incomplete extirpation of cancer in other parts of the body the rate of growth of the remaining part usually quickens. Personally I am under the impression—for it is no more than an impression—that in a few of my own cases after probatory intralaryngeal removal of fragments the neoplasm seemed to increase in size somewhat more rapidly than before. I am therefore quite ready to accord a respectful reception to this argument of Dr. Mackenzie's.

But here, again, practical experience helps us in refuting this plea. I can hardly imagine that nowadays one single laryngologist should when meeting with a suspicious laryngeal growth pounce at once upon removal of a piece for microscopic examination and should when this examination had corroborated his clinical fears fold his hands in his lap and tell his patient with a regretful shrug of his shoulders that there could unfortunately be no doubt that he suffered from cancer and that the little intralaryngeal operation meant "the beginning of the end." Surely the proper attitude of a practical man when he discovers a suspicious growth in the larynx is to tell his patient that an operation would probably be required in any case and that it was of the greatest importance to remove if possible a small fragment from within in order to decide whether the operation could be completed by intralaryngeal means or whether immediate external operation was required. Should the patient under such circumstances refuse to consent to any external operation I should consider it my duty to fully explain the situation either to him, or to his family, or to his usual medical adviser. (No rule applicable to all cases can be laid down as I know from large personal experience.) Should he even then persist in his refusal I should certainly not proceed to intralaryngeal instrumentation as this could only do good in the event of the growth proving to be innocent, but might expose the operator, if unfortunately the microscope proved malignancy, to all sorts of recrimination. This practical attitude, which was first recommended by Dr. Newman, does justice, I venture to think, to the interests of the patient as well as to the conscience of the medical attendant. As a matter of fact, I have found that in exceedingly few cases only will external operation be absolutely rejected when the situation is clearly although kind-

ly explained to the patient. Seeing that the microscopist's opinion may be expected within a few days from the performance of the intralaryngeal removal, I feel sure that in cases of intrinsic laryngeal cancer the danger of metastasis occuring within that interval is so exceedingly remote that it need not be taken into serious consideration. The whole question is, in fact, whether the practical advantage to be gained is outweighed or not by the theoretical dangers to which the little intralaryngeal operation exposes the patient. Seeing the help that the microscope has so often given me in difficult cases of this kind I personally have no hesitation in following my great teacher's, the late Professor Traube's, principle, that when one is confronted with two evils one ought to select the smaller. In other words, I am absolutely in favor of microscopic examination whenever this is possible.

But Dr. Mackenzie says, thirdly, that "the method is often inconclusive, misleading, and sometimes practically impossible." Here I must again refer to the "Collective Investigation" and express my regret that our author should have so entirely disregarded the lessons taught therein. What I particularly object to in his statement is the use of the word "often." That *occasionally* microscopic examination of an intralaryngeally removed fragment might be inconclusive and misleading is, of course, known to every laryngologist in the world. The shortcoming may be due to the fact that a non-characteristic piece of the growth had been removed or that the latter was a composite one and that the fragment caught in the branches of the forceps happened to be of a nondescript or even apparently innocent character. Occasional errors in such circumstances are, of course, unavoidable. Again, that in some cases it is practically impossible to remove a piece for microscopic examination must also be freely admitted. But is a valuable method to be altogether rejected because in some cases it is inconclusive and misleading and because in others it cannot be employed? That means rushing into indefensible extremes. We possess so few methods absolutely infallible in our art that it appears to me positively unpardonable if we omit to avail ourselves of a method of the greatest value in a good many cases for no other reason than that it was not infallible in all and I may, if the defects of the microscope are emphasized, perhaps be allowed to gently remind its opponents of the instances in which its evidence upsets the most cocksure clinical diagnosis. Amongst my own diagnostic errors, to which I referred in a previous part of this address, is the case which last year I reported at length at Swansea. In that case two distinguished laryngologists had not the least doubt that the growth was of a malignant nature, nor did this seem doubtful when the larynx had been opened and the growth removed by thyrotomy.[24] The pathologist's verdict, however, was: innocent papilloma. I was not at all inclined to credit this at the time and the less so when within a year recurrence took place. The patient was again seen by two experienced laryngologists who felt sure that the disease was malignant. He refused renewed operation and lives now, I have just ascertained, two years after the first operation, in perfect health. Such a case teaches humility. Another instance of a similar kind just comes under my notice, whilst I am preparing this address. It has been described by Dr. Garel of Lyons, in the *Annales des Maladies de l'Oreille et du Larynx* (November, 1903). In this case the patient was a girl, aged 18 years, who suffered from a growth on the left vocal cord. A piece was intralaryngeally removed and the pathologist diagnosed cancer. This was disbelieved on account of the youthful age of the patient and no radical operation was performed. The patient succumbed to her disease, which later clinically proved to be undoubtedly cancerous, within two years from the beginning of the illness, and Dr. Garel, in his concluding remarks, frankly expresses his regret that he should have been misled by the clinical experience having been at cross-purposes with histological evidence. Cases like the two just mentioned are so eloquent in the lessons they teach that comment is superfluous. Within the limits of this address I cannot enter more fully upon this question. It has been thoroughly threshed out in the "Collective Investigation" and its result has been summarized in the following conclusions, which I translate verbatim:—

Microscopic investigation of intralaryngeally removed fragments in cases of doubtful laryngeal neoplasms is a valuable, but not infallible, help to clinical diagnosis. It ought to be used in all cases in which it is possible. This is by no means always the case, inasmuch as in cases of sub-mucous infiltrating cancer, intralaryngeal removal of fragments is impossible. If such removal is available one ought never to forget: (1) that it is by no means certain that the examination may at all yield results characteristic of any definite form of tumor; (2) that even when the examination yields apparently characteristic results the possibility must be kept in view that we have to do with a mixed form of new growth. This is particularly important in cases in which the tumor is clinically suspicious, and in which the microscope apparently proves its benignancy. But the reverse is also possible, as shown by a case of Schmiegelow's. It will therefore be always desirable to transfer the microscopic examination, if it be possible, to an expert pathologist. The pathologist, however, can only give an opinion on the fragment submitted to him, and not on the disease itself from which the patient suffers, except when he finds in this fragment *positive* characteristics of malignant new growth. Examination must not be limited to the investigation of one single section, but must be extended over the whole fragment, which accordingly has to be cut up into sections, unless already previously the diagnosis of malignancy can be established with certainty. If necessary cautious intralaryngeal removal and microscopic investigation of fragments of suspected growth must be repeated several times, *unless meanwhile clinical symptoms which are incompatible with our present knowledge of the symptomatology of benign growths, establish with certainty the malignant character of the suspected growth.* In such cases radical operation, if otherwise indicated, is *not* to be postponed until the diagnosis has been confirmed by the microscope.

I feel sure, gentlemen, that if you will proceed upon the lines of this advice, which is derived from the collective experience of the most prominent laryngologists of the world, you will serve the interests of your patients infinitely better than if you reject the help of the microscope on the strength of theoretical dangers. As to the methods which Dr. Mackenzie proposes to substitute for the aid given by the microscope—viz., exploratory thyrotomy, I have not a word to say against it so long as its use is restricted to cases which really demand it,—i.e., to cases in which clinical experience leaves the nature of a suspicious growth doubtful, in which microscopic examination is either impossible or inconclusive, and in which the conditions of the individual case make it imperative to arrive without delay at a correct diagnosis. If, for instance, in circumstances such as those just described, the growth

were situated very near the posterior wall of the larynx and threatened to invade that part I would certainly propose exploratory thyrotomy, as by waiting longer the chances of effecting a cure by less serious radical operation might be lost and total extirpation of the larynx ultimately become unavoidable. But, speaking from large experience, I can truthfully say that it is only in a minority of cases that exploratory thyrotomy is indicated, and though the operation need no longer be regarded as a very serious one in itself still it is not altogether devoid of risk when the class of patients is considered who form the bulk of these cases—middle-aged or elderly men, often enough with all sorts of complications which render any operative interference anything but desirable. In addition, it must not be forgotten that no guarantee can be given that some impairment of voice might not result from thyrotomy. I should therefore not agree to its immediate routine use in all cases in which clinical experience leaves the nature of a suspected growth doubtful and be rather guided as to its employment by the circumstances of every individual case. With this I leave the diagnostic side of Dr. Mackenzie's proposals and come to his therapeutic suggestions.

3. The first of these is that early total extirpation of the entire organ with its tributary lymphatics and glands, whether the latter be apparently diseased or not, should be performed as the only possible safeguard against local recurrence or metastasis in practically all cases of malignant disease of the larynx as soon as the diagnosis had been established. It is true that in the last part of the paper it is admitted that there may be "exceptional" cases in which a "very small growth, distinctly circumscribed, remote from the middle line, and not of a specially malignant type may possibly be removed with safety" by extirpation of half of the larynx and the lymphatics on the corresponding side." But even this admission is made grudgingly, and from the whole tenor of the paper and the context of the paragraph in question it is perfectly obvious that operation for cancer of the larynx, to be in the author's opinion complete, ought to embrace nothing less than removal of the whole organ with its lymphatic vessels and glands. This recommendation is based upon the author's contention that the severity of surgical interference, when dealing with cancer, ought to be the same in whatever part of the body a malignant growth may be met with. This contention again shows a profound disregard of practical experience. Whilst no sane person has ever asserted that cancer is one thing in one part of the body and another thing in another, both careful clinical observation and the results of surgical interference have incontestably shown that—other circumstances being equal—both the severity of the required interference and recurrence after operation depend to a degree, the practical importance of which can hardly be over-estimated, upon the question of the primary localization of the malignant new growth. Every surgeon when called upon to give a prognosis and to operate in a case of epithelioma of the lip, the ear, or the penis knows that the prognosis with regard to recurrence is infinitely better, the amount of interference required much smaller than in a case of epithelioma of the tongue, or pharynx, or in a case of cancer of the breast. These facts are so fundamental and so generally admitted that I hardly think a single surgeon will be prepared to deny them.

Now the larynx with regard to this question occupies a very peculiar position, indeed. Exactly 25 years ago the late Professor Krishaber of Paris[25] proposed to divide malignant growths of the larynx into two categories, "intrinsic" and "extrinsic" forms. In the former are included tumors originating from the vocal cords, the ventricles of Morgagni, the ventricular bands, and the subglottic cavity within the borders of the larynx proper. The term "extrinsic" is applied to tumors originating from the epiglottis, the posterior surface of the cricoid plate, the arytæno-epiglottic folds, and the interarytænoid fold. This classification is much more than one of mere convenience. It signalizes a fact of the greatest possible clinical importance and one which has been confirmed by a quarter of a century's clinical observation—viz., that in the intrinsic variety the disease remains for a long time a purely local affection and shows only at a comparatively late period a tendency to metastasis, whilst in the extrinsic variety, owing to different conditions of lymphatic anastomosis, the neighboring glands are already affected at a very early period, and, indeed, are usually found to be invaded when the patient first comes under observation. There is nothing mysterious or inexplicable about this remarkable difference; it simply depends upon the fact that the lymphatics of the region, which constitutes the intrinsic variety, form much more a network of their own and anastomose much less freely with those of their neighborhood than those which supply the upper parts and external parts of the larynx. It is true that no complete agreement reigns as to the details of these conditions of the lymphatic supply amongst the various observers who have particularly studied this question, such as Luschka, Teichmann, Sappey, Poirier, Most, Cunéo, and de Santi.[26] Whilst they all are unanimous in declaring that the lower parts of the larynx, and the vocal cords in particular, are less richly supplied with lymphatics than the vestibular regions of that organ and that the lymphatics of each half of the larynx are relatively independent of one another, some of them are inclined to introduce subdivisions of a confusing character which are rightly rejected by de Santi in his recent paper, to which I would particularly draw your attention.

In all circumstances, however, the broad clinical fact is certain—that cancer occurring in the intrinsic region remains much longer a purely local disease, and is therefore amenable to less severe radical treatment than the same form of malignant disease when originating in the extrinsic region. Incidentally, I may here perhaps be allowed to remind you that this local difference arising out of the different conditions of lymphatic supply and anastomosis in the different parts of the larynx is not limited to what we observe in malignant disease. Exactly the same conditions obtain in diphtheria. Whilst early considerable implication of the cervical lymphatics forms one of the most conspicuous phenomena of diphtheritic infection when localized in the pharynx and the extrinsic region of the larynx almost the whole intrinsic regon might be lined with false membrane without any enlargement of the cervical lym-

phatics being present at all. The older generation will remember that this very fact was made one of the main arguments against the identity of diphtheria and croup.

I am extremely gratified that with regard to the all-important question just discussed I find myself in complete agreement with the leading authority concerning total extirpation of the larynx, Professor Gluck, who in his latest contribution to the question expresses himself verbatim as follows:[27] "If the anatomical character of the tumor, be it medullary carcinoma or scirrhus, is not without importance for the extent of the operation, the topographical relations according to the anatomical seat of the new growth are especially decisive. In particular, if we consider the region of the neck, every surgeon will nowadays admit that we can obtain in cases of circumscribed cancers—for instance, of the vocal cords—which have been diagnosed in time lasting results by conservative excisions, performed in a healthy neighborhood. In the case of the pharynx and pharyngeal part of the œsophagus, the conditions are quite different, owing to the lymphatic supply, and here we should place ourselves *cum grano salis* as a matter of principle on the radical point of view discussed when speaking of cancer of the uterus—i.e., even if the tumor be relatively small extensive operation must be performed if recurrence is to be excluded with any amount of certainty." It is the disregard of these practical facts which has led Dr. Mackenzie to his wholesale demand for total laryngectomy in all cases of laryngeal cancer.

Now let us consider this demand. I am glad, my views on this particular point having on more than one occasion been misunderstood, that I have the opportunity of stating plainly what I think of that operation after having seen a good deal of its immediate and more remote results. Nobody can recognize with greater admiration than I do, gentlemen, what enormous progress has been made in the technique of total laryngectomy since its first inception by Patrick Heron Watson in 1866. The work of Professor Gluck, of Berlin, in particular must be ranked with the greatest surgical triumphs of our days. When one has seen, as I have, cases of his in which the whole of the larynx with the neighboring lymphatic glands, part or the whole of the tongue, a large part of the œsophagus, several of the most important nerves and vessels of the neck have been removed for malignant disease, the patient surviving an amount of interference which seems well-nigh incredible, one can but bow before such achievements, and one must feel deeply grateful that surgical art should have made it possible to prolong life to those victims of the cruel disease who wished to live at any price or who are compelled to do so from higher motives. But, gentlemen, when this ungrudging homage has been given to the merely surgical aspect and when we now come to consider the extremely grave question of the further existence of these patients, a deep gulf opens between some of my surgical friends and myself. Professor Gluck, whose surgical achievements are equalled by his warm-heartedness, summarizes his views in his recent great paper[28] by saying that "if we can do things in surgery to-day which appeared impossible yesterday, we must in the first place consider it the paramount duty of medicine to prolong life," and some followers of his, M. Le Bec and M. Real,[29] note with approbation the following statement made by the same authority last year at Swansea:[30] "First of all, we must seek to prolong the life of our patient. Do not worry too much about his post-operative condition. Restoration of the function is a secondary consideration: the important point is, first of all, to do away with the imminent disease: this is my surgical faith."

Well, gentlemen, whilst willingly recognizing that this is a question in which opinions might legitimately differ, I confess that I cannot unreservedly go the length of Professor Gluck's conviction. It is no doubt our duty to prolong life, but when he says that we ought not to worry too much about the patient's post-operative condition and that restoration of function is a secondary consideration, I firmly maintain that at the time when the question of operation arises the further question ought to be taken into most serious consideration, whether the life thus prolonged is worth living. It is one thing to perform a brilliant operation, and thereby to prolong a patient's life; it is another to see him a few months afterwards dragging on a most pitiful existence. I do not speak here of the dangers of recurrence, particularly when these tremendous operations are undertaken in advanced cases. Proverbially "beggars are no choosers," and when a man has before him the prospect of certain death within a few months under great sufferings, and, on the other hand, a chance, although remote, of remaining free by submitting to a serious operation I should, *if the post-operative existence could be rendered worth living,* not only consider it legitimate for such an operation to be undertaken, but should strongly advise it. Even if, in such circumstances, a small percentage only of all those afflicted could be saved, this would be a gain, and if I were the patient myself I should certainly take my chance. But matters, in my humble opinion, are widely different if, in addition to the danger of recurrence, there is that—to my mind extremely sad—after-existence which has to be endured after successful removal. There are certain operations which mutilate not merely the body, but, as I expressed it on a previous occasion,[31] "take away a part of human existence." I know of none coming more under that head than total extirpation of the larynx. I shall not indulge in harassing descriptions and lay myself open to the accusation of sensationalism, but, soberly speaking, one must have seen a number of these patients some time after the operation with their difficulty of making themselves understood by other persons, with their difficulty in not a few cases in swallowing, with their total inability of following an ordinary occupation, and one must have witnessed the instinctive horror with which they are looked upon by other people, whereby in addition to their physical disabilities, grave mental distress is caused to the more sensitive amongst these poor patients, to realize what kind of existence it is that has been gained by this prolongation of life.

I may be told that this picture is too gloomy, that the after-existence is not invariably so sad as just described, that some patients were quite content with their lot. I do not doubt this. All I can say is that I have faithfully described the impression, which I have received from my personal experience, that this impression is deepening with every fresh case I see,

and that I firmly believe that my description applies to the great majority of all cases thus operated upon. Yet, gentlemen, with all this I do not wish it to be understood that I am an opponent of total laryngectomy. Far from it. Quite apart from the fact that I should consider it absolutely unpardonable to force my own opinions upon my patients because they happen to differ in their views of the value of life from my own, there are circumstances in which I should be most anxious to assist them in prolonging their life, however sad the after-existence may be. I have the profoundest admiration for the heroism of a man who, fully conscious what will be his lot in the event of a successful termination of the operation, yet wishes to prolong his life for the benefit of those dear to him. Thus a patient might desire to submit to operation because his family would get a pension if he could survive but one year more; thus another might do likewise because he wished to finish a scientific work, or to perfect an invention, the proceeds of which would benefit his family; thus a third, who had insured his life for a certain number of years, might desire to be operated on because in the event of his surviving for another year or two a material increase of fortune would be secured to his family. All these sentiments are simply admirable and considerations as to the kind of post-operative existence undoubtedly must be subordinated to them.

From the foregoing observations I trust you will have seen that I am certainly not an extremist, and I may further tell you that, acting upon my views, I have, in the course of the last year alone, myself sent three patients suffering from advanced malignant disease of the larynx, and in whose cases operative interference had been refused by British surgeons, to Professor Gluck. Even the fact that unfortunately two of them have within a few months after operation developed recurrence would not deter me from consenting to, or even advising in, future operation in similar circumstances. But one thing, gentlemen, I think is absolutely certain—i.e., that such grave operations ought only to be undertaken under two conditions: (1) that the diagnosis was absolutely certain; and (2) in the event of there being no possibility of saving the patient by a less mutilating operation.

With regard to the first of these conditions, it is one of the most surprising omissions in Dr. Mackenzie's paper that he should not have referred by one single word to the terrible situation which would be created for both the patient and the surgeon in the event of so serious an operation as that proposed by him being undertaken on the strength of a mistaken diagnosis.

I trust I am not an over-sentimental person, but if I had in any of the cases mentioned by me before in which I have myself committed errors in diagnosis advised total removal of the larynx I should be harassed by the recollection of that case to the end of my days.

But supposing that the diagnosis of cancer had been positively arrived at, is there really no possibility of saving the patient otherwise than by total extirpation of the larynx with its tributary lymphatics? I hold that to be disastrous teaching. Every case ought to be judged on its own merits, and, above all, Krishaber's classification must be taken into consideration. If a malignant tumor is situated on the posterior wall of the larynx; if the glands on both sides of the neck are already enlarged when the case comes under observation; if, although the disease may have begun as intrinsic carcinoma, it has already passed the borders of the intrinsic region, has involved both sides of the larynx, and has infected the cervical lymphatic glands on both sides, no doubt the only chance of possibly saving the patient lies in total removal of the organ with extirpation of the affected and the neighboring glands. But if the growth when first detected is confined to the intrinsic region, is limited in circumference, and has neither infiltrated the framework of the larynx nor infected the neighboring lymphatics, practical experience has taught us that it is indeed possible in a large number of cases to save the patient without resorting to the extreme measure of total extirpation of the organ with its tributary lymphatics.

Four methods here come into consideration: intralaryngeal removal, subhyoid pharyngotomy, thyrotomy, and hemi-laryngectomy. With regard to the intralaryngeal method, I have unfortunately had to differ on so many points from Dr. Mackenzie that it gives me genuine pleasure to say that at any rate I am at one with him when he says that "operation for laryngeal cancer through the mouth done almost universally to-day, it seems to me should no longer come within the range of serious consideration." I have on more than one occasion, and only last year again at Swansea, expressed myself in a similar sense, and therefore need to-day but briefly summarize the reasons of my objection. I reject intralaryngeal operations in cases of laryngeal cancer—which, by the way, I believe to be not nearly so universally practised as Dr. Mackenzie assumes—not because I deny the possibility of curing a few patients by this method, but because, in my opinion, the game is not worth the candle. I hold that it is a false ambition to claim cases of cancer of the larynx, even if in an early stage, even if circumscribed, even if situated on a vocal cord, as proper objects for intralaryngeal operation, because this method, whilst excellently adapted for the removal of growths from the surface, gives no guarantee whatever for the complete eradication of neoplasms infiltrating the mother soil and of removing a sufficient area of healthy tissue all round the new growth. The adoption of any method which does not permit the surgeon to remove with certainty not only the malignant growth itself, but also a sufficiently large healthy zone round it, is unsurgical, and is a contravention of the general rules of surgery in cancer. A further important consideration is that malignant disease of the larynx when once the organ has been opened is in the great majority of cases found to be considerably more extensive than had appeared to be the case from laryngoscopic examination, and finally, even after an apparently successful intralaryngeal removal of a malignant laryngeal growth, it will be imperative to keep the patient for a very long time under periodical supervision at short intervals in order to detect and, if so, at once to treat apparent recurrence, which, however, in most cases of that kind ought to be more properly called incomplete eradication. Taking all these circumstances into consideration I say with Dr. Mackenzie

that operations for laryngeal cancer through the mouth should no longer come into the range of serious consideration.

The second contingency—subhyoid pharyngotomy—can be dismissed in very few words. In malignant disease of the larynx it is only applicable in cases in which the disease is confined to the epiglottis, or to the arytæno-epiglottic folds and in which the neighboring lymphatics have not yet been infected. Apart from the fact that these contingencies are extremely rare, the operation in such cases had hitherto been attended, so far as public records go, by singularly large fatality, and although I have lately heard privately that better results have been obtained more recently, I am waiting for confirmation of these tidings before I see my way to recommend adoption of this method in cancer of the larynx.

4. But how about thyrotomy? Here we come to the last and, perhaps, the most extraordinary of Dr. Mackenzie's assertions. As already stated, he unreservedly condemns this operation in the following terms: "Thyrotomy with curettement or removal of all apparent (visible) parts diseased is not up-to-date surgery, is in direct defiance of the rules that should govern us in the treatment of cancer, and is a reversion to, and a resurrection of, a method of procedure that was discredited and abandoned half a century ago." I do not think that my characterizing this assertion as "extraordinary" is a bit too harsh when it is contrasted with another enunciation of Dr. Mackenzie's pronounced in 1895. In that year, on the occasion of a discussion on cancer of the larynx at the meeting of the British Medical Association in London, Dr. Mackenzie stated verbatim:[32] "I do not wish for one moment to depreciate the value of the removal of laryngeal cancer by thyrotomy. To do so would be to fly in the face of all experience." I do not know what has happened between 1895 and 1900 that has induced Dr. Mackenzie to do in 1900 the very thing which he deprecated in 1895—viz., to fly in the face of all experience. One thing, however, appears to me quite certain, and that is, that if an author not merely completely disregards the practical experiences of trustworthy members of his own profession and sweepingly condemns their procedures, but additionally flatly contradicts himself, he is bound to give reasons for his sudden change of front, instead of mere assertions, expressed in a manner which he must have foreseen could not but hurt the feelings of those who had obtained the most satisfactory results by the method which he so unconditionally condemns. But, incredible as it may seem, no reasons whatever are adduced in his paper for the attitude assumed and the suggestions which he made in the discussion of 1902—viz., that "in considering apparent cures from this, as well as other incomplete and therefore hazardous and unsurgical operations, two mighty possibilities should be for ever borne in mind: mistakes in diagnosis and the simple accident of good fortune"—are again not in the nature of proofs but of further assertions and can but add fuel to the flame. I know that Dr. Mackenzie is absolutely incapable of deliberately making a misleading statement, but in speaking of thyrotomy as being not up-to-date surgery, as being in direct defiance of the rules that should govern us in the treatment of cancer, and being a reversion to, and a resurrection of, a method of procedure that was discredited and abandoned over half a century ago, he none the less creates as wrong an impression in the mind of the uninitiated reader as if he had intended to produce it.

In the introduction to this paper I have reminded you that thyrotomy for laryngeal cancer was in 1878 discredited and subsequently practically abandoned because in these days advanced and therefore *á priori* unsuitable cases were subjected to an operation the technique of which at that time was anything but methodically developed. If twenty years afterwards, with improved technique, that operation has again been resorted to in a class of cases totally different from those in which it has been unsuccessfully employed at a previous period, it surely is not fair to describe a progressive and beneficial development of that character as "a reversion to, and resurrection of, a method of procedure that was discredited and abandoned half a century ago." And when Dr. Mackenzie speaks of thyrotomy as an "incomplete and therefore hazardous and unsurgical" operation, I must say that this description is very unjust. The advocates of thyrotomy take their stand on the basis of the same celebrated dictum of Virchow's, which Professor Gluck[33] has quoted as his guiding star: "If cancer be at its commencement, and often for a long time a purely local disease, it must be possible to cure it during that period by local treatment." Clinical experience has conclusively proved that intrinsic cancer of the larynx is prominent amongst those forms of malignant disease in which the disease not merely commences as a purely local affection, but remains, as a rule, for a comparatively long time limited to its original focus. If during that period its true nature be recognized, and an operation be performed, which not merely removes the tumor itself, but a sufficient area of healthy tissue in all directions round it, the patient has a reasonable chance of being lastingly cured. Such an operation is modern thyrotomy as first suggested by Mr. Butlin. Fifteen years' experience has shown that by its employment the disease can be completely and lastingly eradicated, and to describe it as an "incomplete and therefore hazardous and unsurgical" operation is wide of the mark.

The "two mighty possibilities" which Dr. Mackenzie invokes for the explanation of what he calls "apparent" cures—viz., "mistakes in diagnosis and the simple accident of good fortune"—can only raise a smile. Surely Dr. Mackenzie himself cannot seriously believe that not only Butlin and myself, but the whole British school of laryngologists, and additionally Chiari, Schmiegelow, and Moure, should for 15 years have been persistently favored by the "simple accident of good fortune"? As to the "mistakes in diagnosis," which are advanced as another "mighty possibility," I am unwilling to believe that Dr. Mackenzie could entertain such a low opinion of European pathological experts as to imagine that they should not be capable of diagnosing an ordinary epithelioma—by far the most common form of laryngeal cancer—when the entire growth has been submitted to them after radical operation. But whatever the meaning of his various explanations may be, I think I may assure you that no such wholesale mistakes as those alleged by him have

been committed, and as a proof thereof I beg to submit to you the microscopic preparations of 18 cases of my own, in 15 of which I performed thyrotomy, and in one hemi-laryngectomy, whilst in the two remaining cases the operations were successfully performed by my friend and former assistant, Mr. Ewen C. Stabb.[34] I should have liked to make the series quite complete and to submit to your inspection specimens of *all* the cases operated upon by me, but it really could not be foreseen, after I had for years made it a methodical practice to demonstrate my cases whenever possible, and often enough years after the operation, before the Laryngological Society of London, together with the microscopic preparations belonging to them, that it could be suggested that "apparent" cures by means of thyrotomy might be due to either good luck or mistaken diagnosis. Thus not in every case of mine have microscopic preparations been preserved. The number of slides, however, shown to-day is, I trust, representative enough to convince anybody who does not deliberately shut his eyes to plain facts that my operations have not been performed on the basis of a mistaken diagnosis.

And now as to the results of the operation so much deprecated by Dr. Mackenzie. Last year at Swansea I reported from my own practice 20 thyrotomies,[35] with or without removal of small fragments of cartilage in cases of undoubtedly malignant disease of the larynx, with 19 recoveries, two quite doubtful recurrences, and one death.[36] In two of the cases then reported the operation had been too recently performed to allow one to speak of lasting cures. In one of these cases the patient has remained perfectly well, in the other it was found that the operation had not been extensive enough[37] and a second thyrotomy was performed within two months from the first. After the second operation the patient has remained well. As in both these cases more than a year has now elapsed since the performance of the operation, there being not a trace of recurrence, and as I am firmly convinced from personal experience that no recurrence need be feared if the patient has remained well for a full year after operation, I am now—irrespective of the incomplete operation which had to be repeated—in possession of a material of 20 thyrotomies performed for undoubted malignant disease of the larynx, between 1891 and 1904, with one death, two doubtful recurrences, and 17 lasting cures, bringing the percentage of successful cases in my own practice within that period up to 85 per cent.

I state these results with a feeling not of vain-gloriousness but of deep and sincere thankfulness that I have been privileged to preserve a number of valuable lives by an operation the character of which is little dangerous, and the results of which allow the patient not merely to live on but to lead a life in all respects worth living. In this connection it deserves particularly to be mentioned that the great majority of cases have regained a surprisingly good, although, of course, more or less husky voice, and that in a few cases only have their vocal powers been reduced to a whisper. Out of the seventeen patients who permanently recovered from the operation three died several years afterwards from affections altogether unconnected with the original disease: one, six years after operation from an acute abdominal affection; the second, three and a quarter years afterwards from embolism of the heart or lungs; and the third, four years afterwards from pneumonia. The remaining fourteen are all alive and well, as I have ascertained only recently by renewed inquiry. My oldest successful thyrotomy now dates back to June 2, 1891—i.e., more than thirteen years ago, and I have other patients living, and in good health, in whom the operation was performed twelve, ten and nine years ago. In addition to the 20 cases just named, I have performed three further thyrotomies in the course of the present year. All three patients have made an excellent recovery. In one of them, however, in which the patient had, in spite of my urgent advice, unduly postponed the operation, recurrence has unfortunately taken place and I have had to perform partial laryngectomy on the eve of my departure for America. The other two cases are of too recent date to be included as yet in the class of permanently cured cases.

It appears to me that no better reply could be given to Dr. Mackenzie's contention than the plain and well-authenticated facts which I have just stated to you. I have nothing to add to my former descriptions[38] concerning the technique of the operation, except that in my last four operations I have used with great advantage the excellent shears, which I am showing here, invented and recently described by my friend, Mr. Ernest B. Waggett,[39] for the purpose of cutting through the ossified thyroid cartilage.

From the foregoing facts it will not surprise you if I most warmly recommend the performance of thyrotomy in suitable cases of intrinsic laryngeal cancer. But in doing so permit me, gentlemen, to submit to you two serious words of warning. Already once before I said[40]: "Thyrotomy with simple removal of soft parts has been discredited by being expected to do impossibilities. I would not like this fate to be repeated through my fault." I stated this with special reference to the necessity of extending thyrotomy into hemi-laryngectomy if in the course of the operation it should be found that the disease was more advanced than had been concluded from mere laryngoscopic examination. Nevertheless, I am afraid that this warning has not been universally taken to heart. Last year at Swansea I referred to eight cases of thyrotomy reported on the occasion of the Madrid International Medical Congress by Dr. Botella from Professor Cisneros' clinic. In no less than six of these cases recurrence had taken place from within one month to two years after operation. Whilst being unable in the absence of details of the cases to give a satisfactory explanation of this astounding record of failures, I suggested that there must have been something wrong with either the selection of the cases for thyrotomy or with the technique of the operation itself. Since then Professor Cisneros has published a paper[41] on Thyrotomy in Laryngeal Cancer in which he states (page 315) that he treats pedunculated tumors which are situated on the border of a vocal cord and which do not impede or at any rate completely paralyze the movements of that cord by intralaryngeal treatment, whilst he performs thyrotomy in cases of tumors implanted on the whole or greater part of a vocal cord with *complete paralysis of the latter* (the italics are my own).

From this description it appears to me that Professor Cisneros treats those cases which I would treat by thyrotomy by means of the intralaryngeal method, and performs thyrotomy where I, in the majority of cases, would probably perform hemi-laryngectomy. For when a vocal cord is completely fixed—this, I think, is what he means by speaking of "complete paralysis"—the presumption seems justified that the infiltration had already extended very deeply. Want of success of simple thyrotomy when performed under such circumstances is not surprising. Permit me, therefore, earnestly to repeat my advice that thyrotomy should be performed only when the new growth is still limited to the intrinsic region of the larynx, is still circumscribed, is not too extensive, and does not infiltrate too deeply, and that in such circumstances a sufficient zone of healthy tissue should be included in the area to be removed *everywhere* in sufficient distance from the new growth. Should it be found in the course of operation in a case which seemed on laryngoscopic examination to fall under this category, that the disease is more extensive than had been presumed from laryngoscopic appearances, the operator must not hesitate to extend his operation into hemi-laryngectomy, or if both sides of the larynx should be involved into total extirpation. It is only by the observance of this cardinal rule that thyrotomy will gain the place which is due to it amongst radical operations for cancer of the larynx.

The second request I have to make is this: whilst thyrotomy is still on its trial everywhere except in Great Britain let me ask you to proceed strictly on the lines suggested by Mr. Butlin and myself. I do not believe in the finality of our present technique, and I willingly admit that it may be possible, when once thyrotomy has everywhere gained its place amongst recognized operations for laryngeal cancer, to improve upon the method of operation by means of which we have obtained such satisfactory results. But whilst the operation is still on its trial do not complicate matters by prematurely introducing modifications! I am more particularly induced to make this observation because during a very recent discussion of this question[42] it has been suggested to altogether omit tracheotomy and the introduction of a tampon cannula in the course of the operation. I am not at all inclined to dispute that at some future period this suggestion may be successfully carried out. As matters stand, however, at present it ought to be remembered that every failure will, without consideration of its special cause, be laid at the door of the method itself, whilst thyrotomy is fighting for its very existence. If, on the other hand, you will proceed exactly on the lines suggested by Mr. Butlin and myself, with regard to both diagnosis and technique, I firmly hope that in the near future we shall hear of similarly good results being obtained in America as it has been the privilege of British laryngologists to report during the last 15 years. I may perhaps be permitted here, speaking before an American audience, strongly to repeat a former recommendation of mine[43]—i.e., that only chloroform, not ether, should be employed in these operations. Their one real danger consists in complications on the part of the respiratory organs and every irritation of these parts should therefore be strictly avoided. That it is the tendency of ether to produce such irritation is known to everybody. I am induced to make this observation because I have learnt from Dr. J. Solis Cohen that ether narcosis is almost exclusively used in the United States in these operations.

The only remaining operation to be discussed is hemi-laryngectomy, or partial extirpation of the larynx. Already last year at Swansea I expressed my conviction that partial extirpation of the larynx will come to be more rarely performed in proportion to the diagnosis of malignant disease being arrived at more and more early, when thyrotomy will suffice. It should, in fact, only be employed when the disease is found to be too advanced and too deeply infiltrating to be eradicated by thyrotomy with removal of soft parts only. That, in such circumstances, its results are not likely to be so satisfactory as those of thyrotomy in early stages is obvious; the disease having been so much longer in existence there is reason to fear that it may no longer be purely local and that metastasis may already have occurred. My own experience, limited as it is, bears out that consideration. I have only performed four hemi-laryngectomies. In one case, the patient, as previously reported, died 24 hours after the operation from ether poisoning, the anæsthetic having been administered per rectum. In the second case, a year and a half after the operation, the cervical lymphatic glands above the clavicle, *not* those in the immediate neighborhood of the larynx, were found to be enlarged and there was evidence of infection of the mediastinal glands. The patient is still alive, but going down hill, and the fatal end, I am afraid, will not long be delayed. In the third case the patient remained free for fully four years after the operation, but then began to expectorate blood and died with unmistakable symptoms of cancer of the liver, whilst there was at the same time dulness at the base of the right lung. In that case the cervical lymphatic glands remained perfectly free throughout. The fourth case is, as previously stated, of quite recent date. In view of the possibility of a development, such as occurred in my second case, I should not offer any objection to extirpation of the corresponding lymphatic glands even if apparently unaffected in cases of hemi-laryngectomy for cancer, although, as my third case shows, even that measure, when once metastasis has actually occurred, does not give the patient a guarantee against recurrence. That such extirpation should, as a matter of duty, be performed in cases of hemi-laryngectomy if the glands are in the least shotty or visibly enlarged goes without saying, but in such cases the prognosis anyhow is unfortunately very doubtful.

And now, gentlemen, I am at the end of my task. I have, as promised, nailed my colors to the mast of practical experience as against theoretical possibilities. At the same time I trust I have succeeded in showing you that the principles upon which my views are based are not purely empirical, and are in all points in concord equally with the experiences of practice and with the achievements of science. Let me summarize, then, what I have endeavored to establish under the form of the following theses, which may serve as a basis for the discussion which I understand is to follow the reading of this address.

1. It is of the greatest importance that the diagnosis of laryngeal cancer be made at the earliest possible moment. For this purpose it is most essential that the still prevailing notion—viz., that malignant disease of the larynx is from the first attended by all sorts of grave constitutional symptoms—be completely eradicated and that the attention of the general practitioner should again and again be drawn to the fact that there are no more promising cases for radical operation than those in which the disease is at first manifested by nothing else than by obstinate hoarseness, occurring, without any apparent cause, in middle-aged and elderly persons.

2. Clinical diagnosis arrived at from the history and subjective symptoms of the case, from laryngoscopic examination, from accessory circumstances of importance, such as the patient's age, etc., has reached a certain degree of perfection, and enables us in a good many cases to make a correct diagnosis at an early stage of the disease; it is, however, by no means absolutely perfect, and occasional mistakes occur even in the practice of those most experienced.

3. In these circumstances clinical diagnosis ought, whenever possible, to be confirmed before radical operation of any kind is undertaken, by the intralaryngeal removal and microscopic examination of a fragment or fragments of the new growth. This, however, should only be done if the patient previously consents to immediate radical operation being undertaken in the event of the microscope confirming the clinical diagnosis. Should this be the case the practitioner's position will have been materially strengthened. The microscope, however, is by no means infallible in these cases. Should its evidence be negative or inconclusive, the intralaryngeal removal and microscopic examination of fragments should either be repeated, if necessary, several times, or, if the clinical symptoms do not warrant postponement, exploratory thyrotomy should be undertaken.

4. The intralaryngeal method is from its very nature unsuitable for the radical removal of malignant new growths of the larynx.

5. Subhyoid pharyngotomy, apart from being applicable in a very small number of cases only of malignant disease of the larynx, is still *sub judice* with regard to its advisability in such cases.

6. Thyrotomy, if undertaken in suitable cases, and at a sufficiently early period, and if performed on the modern lines which experience has shown to be successful, is a perfectly ideal operation in intrinsic cancer of the larynx.

7. Hemi-laryngectomy comes into question only when it is found after opening the larynx that mere thyrotomy will not suffice. When performed it may be accompanied by removal of the tributary lymphatics, even if apparently not diseased.

8. Total laryngectomy should be exclusively reserved for extrinsic, and for those cases of intrinsic, cancer, in which both sides of the organ are affected, and in which the disease has proceeded too far to be eradicated by milder measures. When performed it should be accompanied by the removal of the laryngeal lymphatics on both sides of the neck.

It the adoption of these principles should meet with your approval, gentlemen, there will be an end to the deplorable schism which has of late separated the surgeons and laryngologists of various countries with respect to the diagnosis and treatment of malignant disease of the larynx, and we may justly hope that in striving shoulder to shoulder we shall advance science and benefit our patients.

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34. These two cases are *not* counted amongst my own thyrotomies.

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36. I take this opportunity to correct a slip of the pen which I just find is committed in my paper published in Fraenkel's "Archiv" in 1897. It is stated there (p. 412) that I had lost "two" patients from thyrotomy performed by myself. On reference, however, to my original article (loc. cit.) it will be seen that one of those cases (Case 6 of the tables) was not one of thyrotomy, but of partial extirpation of the larynx.

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THYROIDECTOMY FOR EXOPHTHALMIC GOITRE. BASED UPON FORTY OPERATIVE CASES.

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The subject of goitre is still an unsettled question, at least in many of its phases, although there have been written over fourteen hundred articles and books upon the subject. While it is quite probable that nothing new may be presented, still discussion develops suggestions which may prove of benefit at this time, as our more advanced knowledge of the lymphatic system and the glands both with and without ducts, renders the subject of internal secretions of exceeding interest.

We will not enter into a description of the anatomy, pathology, or symptoms of Graves' disease, but, to avoid much repetition, will assume at once, for the sake of brevity, that those interested understand what is meant by the disease in question.

These patients present themselves to the physician for the relief of symptoms which he attributes to exophthalmic goitre, or they come to have a confirmation of diagnosis, and relief, if possible. While there are many symptoms of Graves' disease, more or less of which may be present, the one symptom common to all is tachycardia without other known cause, and with this is usually associated the goitre and the prominent eye which is so characteristic. These two symptoms, from their late or non-appearance, have often delayed the early diagnosis of the disease. A not uncommon type is one in which the symptoms of Graves' disease are suddenly grafted upon a patient who has had colloid cystic goitre for some years. It is also true that patients without, as well as with goitre, seem at times to develop very many of the symptoms of exophthalmic goitre, and yet recover very soon, often without any special treatment.

We must assume that there may be a combination of causes for exophthalmic goitre, accepting the gastrointestinal toxæmia of certain medical writers as a part with the thyroid element the major, and the nerve theories as not the least in the combination of circumstances. To read the medical side of this question it would seem that the internist and surgeon are gradually drifting apart. The internist attempts to convict the surgeon with his own reports of multiplicity of operation, large mortality, and the not infrequent failures, and lauds the medical, hygienic, and diathetic treatment. Judging from personal knowledge, it is probable that most of these cases which finally see the surgeon, have already run the gauntlet of all known remedies for the disease, and usually at the hands of several practitioners. We think that it would be rare indeed for a surgeon who was capable of making one of the operations for its relief, to recommend operation at the inception of an attack of Graves' disease, unless it were possibly a case grafted upon an already goitrous patient.

Practically, all surgeons have passed years in general practice, and have seen the ordinary exophthalmic patients improve under medical treatment, electrical treatment, no treatment, and the mental suggestion of Christian Science. We all know that some cases resist all efforts at relief; what shall be done for them?

From the experiments in blood pressure, shock and resuscitation carried out by Dr. Crile, it would seem that blood pressure is maintained by the vasomotor system as a direct nerve type and by the internal secretions as a blood type, acting upon the vessels even when the head is removed. From what little knowledge of the internal secretions we now possess, this equilibrium of the blood pressure must be in great part sustained by the opposing action of the secretion of thyroid and suprarenal glands. One of the functions of the suprarenal gland secretion serves to greatly increase blood pressure, and through its action upon the capillaries, it greatly reduces all peripheral circulation. While a tension is occasionally noticed in the pulse of Graves' disease, it is more often low, especially when the disease is active.

Were it possible that these secretions in effect served to maintain an equilibrium of certain blood elements, it would readily explain the effects of an excess of thyroid in one case, and an excess of suprarenal in another. Thus the loss or absence of thyroid tissue in the young is followed by cretinism from the unobstructed action of the suprarenal glands, contracting all peripheral capillaries and preventing growth and development. In adult life, the same conditions cause intellectual degeneration, and myxedema. While it is contended that the thyroid secretion does not, when given to the system, cause Graves' disease, it is certain that some of the prominent symptoms may be thus produced. We must admit also, that the thyroid employed is changed and given in an abnormal manner, as compared with the constant delivery of the internal secretions by means of the lymphatic system acting in great part as ducts. The hard and practically dry gland of this disease, as compared with the juicy colloid cystic variety, would indicate unusual activity as well as delivery of the contents of the acini, while in the colloid goitre the secretion may be retained, at least in part, and even in cases without goitre, a careful examination usually discloses a small unilateral or bilateral tumor, which lies deeper, but is firmer than normal.

What has been done surgically? First, exothyropexy, or the permanent exposure by incision, of the thyroid lobes lifted external to the skin. This operation is now rarely performed. Second, ligation of the thyroid arteries. Third, operations upon the cervical sympathetic ganglia, after the suggestion of Edwards, and developed by the work of Jaboulay and Jonesco, for the relief of several diseases. Fourth, thyroidectomy, which we will discuss later. Fifth, the apparent phychological effect of operations upon distant parts of the body we will not consider.

It has been our fortune, or misfortune from its difficulties, to operate upon several cases of cervical adentitis which had been exposed for many times to the *x*-ray. It was noted that the lymph system was greatly sclerosed. As this was in line with the reported action of the *x*-rays upon glandular activity, we applied this treatment to ten cases of very marked exophthalmic goitre during the past year, to first reduce glandular activity, and second, reduce absorption by its possible effect upon the lymphatics. While I would not as yet say that any of these cases are cured, they have certainly been markedly benefited; first, in the general nervousness; second, in tremor of the muscles; third, in tachycardia; and last, in the exophthalmus. The benefit is sufficient to soon give this method a place in the treatment of

Graves' disease, or at least make it a preparatory treatment to a prospective surgical method at a later period.

The symptoms were well developed in all; all improved. The three cases presenting the most marked symptoms had been under observation from one to two years at the beginning of *x*-ray treatment, having materially improved, but reached a stationary condition under medical treatment and rest. All three had marked exophthalmus, choreiform, jerking, and pulse from 120 to 140. In the three cases, choreiform movements disappeared; exophthalmus markedly diminished in one, improved in one, and almost disappeared in the third. Pulse—patient at rest—68 to 70 in one, 75 to 85 in another, and 90 to 98 in the third. Circumference of the neck, taken around the most prominent part of the goitre—diminished from ½ to 1¼ inches. One lost 15 lbs., one gained 10 lbs., and one gained 49 lbs. Two cases of well-developed symptoms, but no exophthalmus, so far recovered that a diagnosis would be impossible at the present time. We still have confidence in belladonna in improving the tachycardia and nervous symptoms, preparatory to operation in certain cases of doubtful operative risk.

Curtis' report of Kocher's operative cases in this line, gives twenty-nine cases of ligation of the thyroid vessels, with one death, and thirty-eight of partial thyroidectomy, with three deaths. Our experience is from one hundred and twenty-eight operations upon the thyroid gland, with eight deaths. Of these, one followed the removal of a cancerous thyroid from collapse of the trachea, one from pneumonia in colloid goitre, and the other six deaths were in the exophthalmic cases, of which there were forty. Two of these deaths were of patients who should not have been operated upon, as their condition was so aggravated as to almost class them as moribund previously to operation, one dying upon the table. All had received prolonged medical treatment. During the past year, two such cases were seen with regard to the advisability of operation, but with a knowledge born of bitter experience, both were refused. One died in a week, the other lived a few weeks, but both deaths were medical. In the last twenty-five cases operated for exophthalmic goitre, there were but two deaths. The shortest duration of the disease was five months, and the longest several years.

The anæsthetics have been cocaine, chloroform, and ether, preceded twenty minutes by one-sixth grain of morphine hypodermically. Ten cases were completed under cocaine infiltration, two cases required, in addition, chloroform, before completion. We choose cocaine for some of the worst types of nervous cases, especially with a rapidly fluctuating or irregular pulse; but can see no difference in the character or degree of shock or thyroidism in local or general anæsthesia. Cocaine is also used if one lacks confidence in the anæsthetist. Our preference is for ether. During the anæsthesia, should much mucus accumulate in the trachea and bronchi, the patient is allowed to come out of the anæsthetic sufficiently to clear the throat, and the chloroform is substituted. The Kocher collar incision is used, and a complete exposure of the gland made, cutting everything which impedes access to it. One-half of the gland, and possibly the isthmus, is taken.

According to Dr. Sifton, the anatomist of Milwaukee, the right recurrent laryngeal nerve closely approaches or is in contact with the right inferior thyroid artery, while on the left it is over one-fourth of an inch back, and an effort would be required to injure the nerve upon that side. The method of removal by extirpation is the rule, as in these cases there is usually very little capsule, and enucleation is out of the question. What can be left of the posterior capsule is a great protection, especially upon the right side, for the reasons stated above.

Thyroidism of some degree is common. It is not from rough handling of the unbroken tumor and forcing secretion into the veins. If so, it would be equivalent to hypodermic injection into a vein with immediate effect, when in reality it comes after some hours, and is due, apparently, to absorption of the wound serum, with some thyroid secretion in suspension. Thus many of the symptoms of Graves' disease are not uncommon for the first few days following the removal of ordinary colloid cystic goitre. For this reason, we drain exophthalmic goitre wounds as freely as we would a septic process. If there is anything which increases absorption, in wound or gland, it is loss of blood. Therefore, should the patient unavoidably lose a quantity of blood, every effort should be made early to replace the quantity lost, or more, by salt solution. This is true also of operations upon exophthalmic patients who are operated upon for other necessary surgical conditions. We have had one patient, afflicted with Graves' disease, die four days after the removal of a twisted pedicle ovarian cyst, with all the characteristics of a death following the removal of the goitre, excepting the delay for two days, of the severe symptoms. For the relief of the thyroidectomy and increased tachycardia, suprarenal extract has a marked effect, but seems to be somewhat difficult of permanent control. The benefit obtained from atropine and morphine is often very satisfactory.

We do not wish to be understood as objecting to operations upon the cervical sympathetic, as it is very certain that good results are thus obtained; still such operations have considerable mortality, and also the same disagreeable symptoms often following extirpation. We have, therefore, chosen to work directly upon the organ we have considered affected in operating for the relief of this condition. Could we eliminate more of the hopeless and yet operate upon medium and severe types of Graves' disease, the results of thyroidectomy would justify the operation and compare favorably with those obtained by other methods.

Our own cases show marked improvement of all who survived the operation. Of these, 50 per cent. made a very early recovery, especially of the severe symptoms—tachycardia, nervousness, and tremor; 25 per cent. did so after several months, and 25 per cent. were improved, yet suffer from irregular recurrence of some of the major symptoms.

The improvement noted was first a relief of the nervousness, the irregular twitching and jerking, not unlike chorea, next the tachycardia, and the tremor, while the exophthalmus, if at all marked, seemed last to disappear, although relieved in some extreme cases.

Our rules concerning the cases of Graves' disease which come to us for operation, are to operate, if their condition is fair, but, if the pulse is from 130 to 160, or if it suddenly fluctuates in tension and rapidity, if there is anæmia, with swelling of the feet, the patients are placed upon the belladonna treatment for some days. The more severe types are also given *x*-ray exposures in addition, which is continued from two to six weeks.

Of the six deaths, one occurred upon the table as the final skin sutures were being placed, two occurred at from fifteen to eighteen hours ofter operation, and three deaths occurred at from twenty-four to seventy-two hours. They suffered from an exaggeration of the previous symptoms: the jerking,

tremor, increasing rapidity of pulse and exophthalmus. The degeneration of the heart muscle will account for some of the sudden deaths, as pointed out by Prof. Fenger, while the absorption of thyroid, shock, anæmia, and general nerve exhaustion will account for most of the other deaths which were not due to the anæsthetic.

TWO CASES OF CHRONIC NEPHRITIS TREATED SURGICALLY.

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I WISH to report the results of decapsulation of the kidney in two cases of chronic Bright's disease which came under my observation last year.

CASE I.—C. W., age 54. Came under observation May 31, 1902. Family history negative. Previous history, had an attack of illness similar to the present one some eight years ago from which he thinks he recovered. Otherwise he has had good health up to about three weeks ago, from which time he dates the beginning of his present trouble. Is a moderate drinker. He is a large framed, well-nourished man. He has moderate dyspnœa, pallor is rather marked, there is some loss of strength, some ascites is present, and there is a moderate sclerosis of the radial and temporal arteries. The area of the heart dulness is increased downward and outward from 2 to 3 cm. The valve sounds are normal save for a booming sound at the apex. Is passing an increased amount of urine, averaging from 2,300 c.c. to 2,400 c.c. daily, of a specific gravity of 1.010, containing 27 grains of albumin per litre (Esbach), and a few granular casts and leucocytes. There is some œdema of the legs. He has some headache, and there is partial loss of appetite, and nausea following the taking of food. The diagnosis is made of chronic interstitial nephritis.

Under rest, diet and medication the œdema of the limbs disappeared and the ascites lessened, but there was no improvement in the general condition. The course of the disease was slowly downward. The patient had now been under observation for a period of nine and a half months. Decapsulation was advised in hopes of relief.

Operation was performed on March 18, 1903, under chloroform anæsthesia. The right kidney was selected. The oblique lumbar incision was used. A horizontal incision was made over the outer part of the twelfth rib and the outer two-thirds of it resected. The kidney was reached and drawn down into the incision, and the thick covering of fat divided and pushed to the sides. The kidney was found to be contracted to about one-half normal size. The capsule was closely adherent to the cortex, and was removed with considerable difficulty. A blunt-pointed dissecting forceps was found useful to catch up the projecting edges of the capsule which was detached in fragments. Numerous urinary cysts varying in size from a pea to a small hazelnut were present on and in the cortex. The kidney was replaced in its envelope of fat. The incision was closed save for a small opening through which an iodoform gauze wick was carried down to the posterior surface of the kidney for drainage. There was a large outflow of serum and urine lasting for several days.

Following the operation for some three weeks or so the case did well. Some collections of pus formed under the skin near the margins of the incision. These were opened and drained. The percentage of albumin in the urine increased decidedly. There was no diminution in the secretion of the urine until towards the first part of the fourth week, when it began to decrease rather rapidly. The headache, nausea and loss of appetite became more pronounced. Towards the end the albumin ranged from 95 to 100 grains per litre. Uræmic symptoms set in and resulted in death May 3, 1904.

At the autopsy the clinical findings were confirmed. The kidney from which the capsule had been removed appeared smaller than at the time of operation, and was closely covered with a white fatty scar tissue closely adherent to the cortical substance. The cortex was pale and thin and readily broke down under pressure. The urinary cysts were less numerous than at the time of the operation. The left kidney was also much reduced in size but not to so great a degree as the right one, and showed no cysts. The capsule was also less adherent.

CASE II.—W. C., colored, age, 51, came under observation December 16, 1902. Family history negative. He has had yellow fever and has had more or less rheumatism all the time for three years. Has had attacks of headache for the past three years. At first the attacks would come on about once every week, but later they became more frequent. He is not a drinker. He is a man of large stature and is well nourished. The abdomen is very fat, the lower eyelids are puffy, there is some enlargement of the heart downward and to the left, and the aortic second sound is somewhat accentuated. He is passing an increased amount of urine, specific gravity, 1.010, containing a large amount of albumin, some red corpuscles, a few leucocytes, and some epithelial cells. He is suffering with a severe occipital headache which is nearly always present, but becomes much worse at frequent intervals. The diagnosis was made of chronic parenchymatous nephritis.

Under treatment there was some abatement of the headache, but after a time drugs had no effect on it. The amount of urine was irregular. A marked decrease in amount was generally followed by the return of severe headache. On March 30, a note was made that his condition had grown steadily worse; he was then passing from 1,750 to 2,000 c.c. urine daily, containing three and three-fourths grains of albumin per litre (Esbach). Operation was advised.

The operation was performed on April 15, 1903, under chloroform anæsthesia. The right kidney was selected. An oblique lumbar incision was made with a horizontal one over the twelfth rib, with resection of the outer two-thirds of the rib. The patient was very fleshy, and the kidney was reached and brought down into the incision with some difficulty. The kidney was enlarged. The capsule was split and detached easily with the fingers. The incision was closed save a small opening for drainage through which an iodoform gauze wick was carried down to the kidney. The outflow of serum was small, and the drainage was removed in a few days and the opening healed by granulation. Following the operation there was almost complete relief from the severe headaches which continued so, save for a slight return at intervals.

April 25. Urine averages from 1.000 to 2.000 c.c. per day since operation and contains three and a half grains per litre of albumin.

May 13. The patient is feeling much improved. The urine contains two and a half grains of albumin per litre.

May 25. The headache has about disappeared. The urine shows five and a half grains of albumin per litre.

June 10. The patient declined operation on the other kidney. He has improved much since the operation and is slowly improving. Albumin is present, one-third grain per litre. This patient was last heard from (by letter)in August, 1903, and was following his vocation, that of a stevedore, and reported himself as feeling well.

It is interesting to note that in Case I. there was a decided increase of albumin in the urine following the operation, while in Case II. there was no increase of albumin, but rather a decrease. An interesting feature in Case II. was the almost instant relief from the headaches following the operation. This was most marked and continued so. This patient could not be considered recovered at the time discharged, as only one kidney had been decapsulated, but that he was greatly benefited could not be doubted. It is to be regretted that an unforeseen emergency prevented the double decapsulation in this case, as was originally contemplated.

I think the above cases represent fairly well the two classes of cases we have to consider in the surgical treatment of this disease. Class one, those which are benefited and finally cured. Class two, those which are not benefited by surgical intervention. Case II. of the above would fall in the first class, and Case I. in the second class. After the disease has advanced beyond certain limits, not yet well defined clinically, it would be harmful to operate. What is desired is to have this limit established. For this reason time must elapse to demonstrate the value of this operation. Surely it opens up a field in surgery which promises considerable good.

With regard to the way in which decapsulation benefits. The autopsy in Case I. showed the kidney operated on to be covered with a rather dense, smooth, white scar tissue, which seemed to offer a poor means of transmitting an increased blood supply to the cortical substance. Perhaps we should look more to the theory that the decapsulation relieves internal cellular pressure and thereby allows the compressed cells to return to their normal relations and functions.

PARALYSIS OF THE LEFT RECURRENT LARYNGEAL NERVE IN A CASE OF MITRAL STENOSIS.

By JOHN G. SHELDON, M.D.,
Telluride, Colorado.

Mrs. H., 38 years of age, came to me in March, 1902, for a diagnosis of a pelvic condition from which she had suffered for several years. At this time I found she had a well-defined, but compensating, mitral stenosis. Ten months later I was called to see the same patient, suffering from an attack of cardiac insufficiency. She complained of dyspnœa, cardiac palpitation, irritability of the stomach, and swelling of the lower extremities.

The patient was poorly nourished. The pulse was rapid and irregular, and a moderate degree of cyanosis was present. The cardiac impulse was easily seen. There was no systolic retraction of the chest walls. Percussion showed the area of relative cardiac dulness markedly increased, especially in the transverse diameter. The dulness extended one inch to the left of the left nipple line, and one and one-half inches to the right of the right border of the sternum. The apex was in the sixth intercostal space. A well-defined thrill could be felt. It was most intense in the fourth interspace to the left of the sternum, and terminated with a pronounced shock as the cardiac impulse occurred. Auscultation showed a presystolic and a systolic murmur; a "snappy" first sound and accentuation of the second pulmonic sound. The liver was diffusely enlarged and was tender. There was slight œdema of the lower extremities. The remainder of the examination revealed nothing of importance.

The patient was placed in bed and cathartics and digitalis were ordered. She soon recovered from the incompetency and resumed her occupation as a housewife. About six months later she took a rather long walk in the hills, and that evening experienced considerable difficulty in breathing. The next morning she was dyspnœic and could not speak above a hoarse whisper. She complained of little cough and had no pain in the region of the larynx. Examination showed a mitral stenosis, with a rapid and irregular pulse, and with enlargement and tenderness of the liver. The left vocal cord was in the cadaveric position and was immovable. The larynx showed no evidences of inflammation.

The patient was put to bed and digitalis was ordered. In 48 hours the symptoms of incompetency began to disappear, and there was a slight improvement in the voice. She improved rapidly, and at the end of one week felt very well and could speak in a normal tone. Laryngeal examination at this time showed that she had control of both vocal cords.

The presence of the mitral stenosis, the intermittent paralysis of the left recurrent laryngeal nerve, synchronous with the cardiac incompetency, and the absence of signs or symptoms of aneurysm, tumor, or adhesions, led me to make a diagnosis of temporary paralysis of the left recurrent laryngeal nerve, caused by the left auricle pressing the nerve against the aorta and pulmonary artery.

Cases of mitral stenosis with involvement of the left recurrent laryngeal nerve are occasionally reported, but they are of rare occurrence. Osler has seen two cases; Ortner and Alexander report cases, and Herrick reports one case of left recurrent laryngeal paralysis in a patient having mitral stenosis and concretio cordis. The reported cases are few, but they may not represent accurately the relative frequency of the condition. It is probable that some cases of intermittent paralysis, corresponding to the one reported by Alexander (*Berliner klinische Wochenschrift,* No. 6, Vol. XII.) and to the case herewith reported, have been overlooked or incorrectly diagnosed.

I am of the opinion that these cases can be diagnosed correctly in most instances. The presence of left recurrent laryngeal paralysis, as shown by the voice symptoms and by laryngoscopic examination, would indicate the necessity of a thoracic examination to reveal the cause. Russell has shown that the recurrent nerve has a double cortical supply. It is not known that unilateral or bilateral vocal paralysis can follow unilateral cortical lesions; and, so far as I am able to determine, we have no record of the occurrence of a vocal paralysis, resulting from nuclear or cortical lesions, that was not associated with

paralysis of other nerves situated close to the recurrent centers.

These statements warrant us in practically excluding cerebral lesions in determining the cause of unilateral vocal paralyses when unassociated with involvement of other nerves in the paralytic process. The pressure of an enlarged left auricle, causing left recurrent paralysis, must be distinguished from the pressure resulting from aneurysms, tumors, or adhesions. These do not produce intermittent paralysis of the recurrent laryngeal nerve, the condition where it has once supervened being permanent. Of course, if a mitral stenosis should become permanently incompetent and the auricle press continuously on the nerve, the paralysis would not differ from that due to the presence of a tumor, an aneurysm, adhesions, or any other permanent condition. However, it is reasonable to expect an incompetent heart to respond to treatment, and the recurrent paralysis should be expected to be intermittent if the mitral stenosis alone were responsible for its occurrence. Alexander's case and the case herewith reported are in accordance with this theory.

TWO CASES OF LOCOMOTOR ATAXIA IN MAN AND WIFE.

By E. STAEHLIN, M.D.,
NEWARK, N. J.

I WISH to report two cases which proved interesting to me because (*a*) of the indirect way in which I arrived at the diagnosis, and (*b*) because they are both directly traceable to syphilis as the etiological factor.

CASE I.—A man of about 46 years of age, married, presented himself, with the statement that there was something wrong with his urine. Investigation into the previous history revealed nothing, and the man professed good health in every respect.

The sample of urine, freshly passed, had the appearance of yellow paint—very thick, very offensive, opaque—and on examination was found to contain pus cells and triple phosphate crystals in abundance, and on standing the glass was three-fourths full of a thick, tenacious mucus. It was plain the man had cystitis, but the cause was not evident.

I could not account for the absence of bladder tenesmus in so marked a case of cystitis; the man could go twelve hours and feel no inclination to pass urine—a significant point, which I did not interpret at the time. Washing out the bladder was evidently in order, and on introducing a catheter (Nélaton No. 20), I met with an obstruction at the triangular ligament. A No. 12 passed into the bladder, when, to my surprise, a large quantity of residual urine of the character described was passed.

I considered the situation nearly solved, and that I was dealing with a cystitis, caused either by urethral stricture (at this stage he admitted having had gonorrhœa) or an enlarged prostate. The latter, however, was not found on digital examination.

The bladder was daily washed out with a weak solution of permanganate of potassium, alternating with the silver salts, and sounds were passed to dilate the stricture. In two weeks the patient was much improved; the urine looked like lemon juice; there was less mucus and fewer crystals of triple phosphates. The man had also been taking a urinary antiseptic. And so we continued for three weeks longer, with little or no change in the condition of the urine.

CASE II.—About this time a woman presented herself, the wife of the patient, claiming to have kidney trouble. Having been under treatment for three months with no relief, she decided to call on me. Her color indicated that she might have chronic diffuse nephritis. She complained of swelling of her feet, which was not discovered on examination, however. Examination of the urine gave negative results in repeated examinations, and the heart's action was normal. The blood showed a marked reduction in hæmoglobin and the presence of a few malaria plasmodea.

She was put on tonic treatment, and soon said she felt better, but insisted that her legs were swollen and heavy; œdema was, however, never found. One day, about two weeks after her first visit, in going down stairs she stumbled. There was no obstruction in the hall, and the woman volunteered the information that she recently stumbled even on smooth pavement. I recalled her, with the misgiving of having overlooked something, and examined her reflexes. The patellar reflex proved absent. I then examined her pupillary reaction, and found that her pupils did not react to light. Romberg's symptom (the swaying of the body while eyes are closed and feet placed close together) was pronounced. Fortified with these cardinal symptoms, I called for her husband and pronounced his wife's case one of locomotor ataxia. We had a very plain talk, in which he admitted that he contracted syphilis about ten years ago, and in spite of great care had infected his wife, and that she had passed through the successive stages of the disease. The husband, too, presented the cardinal symptoms of locomotor ataxia—absence of patellar reflex, Argyl-Roberts in pupil, and Romberg's symptom—all of which were overlooked, owing to the absence of subjective symptoms, excepting the bladder trouble. There was not even a semblance of ataxia.

Within a year the man has died of an intercurrent disease; the woman is steadily becoming worse and more ataxic.

Both claimed to have been subjected to antisyphilitic treatment for a period of two full years from the very week of secondary signs.

403 HIGH STREET.

Paraffin Injections for Overcoming Wrinkles and Minor Facial Imperfections.—Charles C. Miller explains that it is but seldom that the glabella is sufficiently undeveloped to permit of correction by the deposit of a considerable mass of paraffin. Consequently, the result must be attained in some other way. The paraffin should be placed as near the true skin as possible without placing it in this structure. In the case of a single line-like wrinkle on each side of the median line, or a single wrinkle only on one side, it can be corrected very often by placing a thin layer along immediately beneath the wrinkle. This will stiffen the tissues at the point where the wrinkle forms, and it will thus be overcome. In the case of several wrinkles well down between the brows, the condition can be corrected by placing the paraffin beneath the inner fourth of the eyebrow on each side, and in some cases a V-shaped deposit will secure a perfect result, one bar of the V extending along beneath the brow and the other obliquely upward and outward toward the frontal eminence. In certain cases in which there are a number of wrinkles extending well above the glabella, they can best be corrected by placing 3 or 4 delicate streaks of the drug across the site of the wrinkles. Aseptic precautions in all this work should be absolute. It is well to use a special syringe, which acts by a screw. A small needle is less painful than a large needle. When the paraffin has been deposited, the operator may mould it according to will. The punctures are sealed with sterile collodion. In some cases the result will be a failure, and there is no contra-indication to repeating the injection.—*The Cincinnati Lancet-Clinic.*

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THORACIC SURGERY.

THE wave of progress which followed the practical application of the principles of asepis owed its importance in large measure to the new regions that were made accessible to the scalpel. This was especially the case with the abdominal cavity which had previously been *terra incognita,* but now proved to be a veritable Eldorado for its first surgical explorers. To-day there is hardly an organ below the diaphragm that cannot successfully be subjected to operative treatment, but this muscular septum has been in some measure a barrier to the further advance. Most thoracic diseases are still inaccessible to the hand of the surgeon, partly through their nature, though tumors, wounds, and hemorrhages occur here as in other regions, partly through the difficulties attending accurate diagnosis, for the ordinary methods of physical examination and even their latest adjunct the *x*-ray often give only presumptive evidence, but most especially through the physical conditions prevailing in the chest cavity. The physiological difference in pressure between the lung and the pleural cavity is disturbed as soon as air enters the latter, the lung collapses and pneumothorax with all its dangers is caused. The fact, established through experiment on animals and sad experience with man, that unilateral pneumothorax is dangerous and bilateral pneumothorax is almost inevitably fatal, has practically excluded operative work under conditions in which this casualty might have to be reckoned with.

Numerous suggestions have been made by different authors to overcome this difficulty but without satisfactory results, and though a few daring operators have recorded successful suture of the heart, pulmonary cavities have been drained, and even small portions of the lung resected, in the main the operations have been confined to pleural conditions such as empyema and the operators have striven to isolate the proposed field of manipulation either by preliminary injections of irritants to produce adhesions or by suture of the pleura before incising it.

For some time work has been done in the surgical clinic of v. Mikulicz and in the pharmacological institute of Filehne in Breslau, with a view to solving this problem, and Sauerbruch (*Mitteilungen a. d. Grenzgebieten d. Medizin u. Chirurgie,* Vol. 13. No. 3) now supplements several preliminary publications by an exhaustive résumé of what has been accomplished.

After an extensive series of observations on animals it was found that all sorts of artificial respiration, whether carried on through the larynx by means of apparatus similar to that of Fell-O'Dwyer or of Matas, or through a cannula inserted directly into the air passages after a preliminary tracheotomy, produced such serious circulatory and respiratory disturbances as to preclude their practical employment. It was further found that the dangers of pneumothorax were mainly due to the collapse of the lung, and this less on account of its functional restriction than owing to other effects accompanying its change in size (congestion, vagus reflex). In order to prevent this collapse the author enclosed the chest of the experiment animal in an air-tight chamber of glass and exhausted the air within slightly by means of an air pump. The hands, introduced through apertures in a rubber sheet stretched over one end of the cylinder, were free to perform the necessary manipulations within while the head of the animal remained outside. Under these conditions extensive operations involving the opening of both pleural cavities could be done without collapse of the lung or any marked circulatory or respiratory disturbance. This plan has been developed by degrees, until now a full sized pneumatic operating room for human subjects has been built and has been used by v. Mikulicz in operating on ten cases. The construction is of heavy sheet iron with large plate-glass windows and suitable means for keeping up a constant negative pressure of 10 mgs. of mercury, while at the same time fresh air is admitted continuously. The patient's body is within the cabinet but the head projects outside through an opening in the wall made to fit closely to the neck by means of a perforated curtain of rubber. Within the cabinet are electric light connections, telephone, water pipes, and the valves and gauges necessary for controlling the air apparatus. In order to avoid disturbing influences on the general circulation the patient's body below the waist is enclosed in a rubber bag communicating with the outer air. When the apparatus is working the entire chamber, with the operator and his assistants, becomes simply an extension of the patient's pleural cavity; as soon as this is opened collapse of the lung does not occur, and respiration proceeds normally. No inconvenience is experienced by those within the cabinet, for the decrease in pressure is no greater than that regularly existing at an altitude of three hundred meters. No details are given of the operations already performed, but these will no doubt soon follow and the surgical world will be enabled to judge of the possibilities of the method.

RECENT EXPERIENCES WITH GUNSHOT WOUNDS.

IN the *Journal of the Royal Army Medical Corps* for August Lieut.-Col. G. H. Younge analyzes 1,053 cases of rifle bullet wounds seen by him during the Boer War. As a rule, but far from invariably, the Mauser wounds were "humane." When the bullet came into contact with bone, however, the injuries were often very severe, extensive splintering not infrequently occurring, and occasionally portions of the shaft were blown clear away. The rapidity of healing of simple flesh wounds was often surprising. In ninety-two cases the wounds were of the head, and, with few exceptions, perforating. In several cases the bullets traversed the brain without produc-

ing any immediate symptoms. In two cases cited there was no unconsciousness, and, besides the wound itself, effusion of blood into the orbit, with consequent protrusion of the eye, was the only thing noticeable.

Penetrating wounds of the chest were noted in eighty-five cases. In the fatal cases death ensued rapidly from internal hemorrhage. This danger once escaped, recovery took place often with wonderful rapidity. The symptoms and the gravity of the cases depended largely on the proximity of the wound to the root of the lung. When the apex or the outer section was alone involved, the symptoms were often quite negative. As a rule, dyspnœa was not a prominent symptom, and in the absence of hemorrhage into the pleura, was of short duration, or even entirely absent. Hæmoptysis was often altogether absent, and when present was generally slight and of short duration. Superficial emphysema was very rare, being marked in only one case. Hæmothorax was also exceptional, being indicated when present by rapidly increasing dulness and loss of vocal resonance. One man with a Mauser wound through the heart lived more than a week.

Wounds of the abdomen occurred sixty-six times. Of these twelve were rapidly fatal from shock, and two from hemorrhage. In the rest hemorrhage was absent or too slight to be detected by physical examination. When the intestines were perforated, blood as a rule passed per anum, usually in small amount. Its absence, however, did not exclude intestinal injury. No case showed protrusion of viscera or escape of fæces or of flatus through the wound, owing, no doubt, to the small Mauser aperture. That a bullet could pass through the abdomen without fatal injury was opposed to all previous experience, but in the Boer War recovery from such wounds under simple expectant treatment was by no means uncommon. The general experience of the campaign showed that laparotomy is applicable in the field only under rare and special circumstances. Younge gives his impressions as to the proper surgical handling of these cases, speaking with special reference, of course, to the conditions of military surgery. If a bullet passes through the epigastric or umbilical regions and the symptoms justify a diagnosis of perforation of the stomach or small intestines, operation is urgently demanded, provided the patient can thereafter be immediately transferred to a stationary hospital. If, however, as occurs in most battles, six or eight hours have elapsed, laparotomy is more apt to hasten death than to relieve. In wounds of the splenic region, with symptoms of steadily increasing internal hemorrhage, immediate laparotomy offers probably the only chance. In those of the hypogastric region, involving the bladder, the conditions in each case must govern. If the exit wound is large enough and so situated as to allow of drainage of urine, the wound should be allowed to heal by granulation, but if urine accumulates in the peritoneal cavity the patient cannot escape without operation. On the other hand, in bullet wounds of the lateral abdominal regions, involving the ascending or the descending colon, the liver, or the kidneys, operation is not usually called for, as many, if not most, of these cases do well under expectant treatment.

The treatment at the field hospital consisted in immediate examination and a cleansing of the wound with bichloride (1:1000), if necessary; the first field dressings were left alone in simple flesh wounds, when the dressings were found clean and undisturbed. The wounds were then dusted with iodoform, covered with a thick layer of boric or salicylic wool, and firmly bandaged. Bullets deeply imbedded were left for future removal. Hemorrhage was usually absent, but occasionally ligature of an artery was necessary. Fractures were carefully put up in extemporized splints. The uniform rule was to perform no operation not absolutely necessary for immediate safety. The result was that many limbs were saved when at first sight such a result seemed impossible. Only eight amputations were performed (four major and four minor). In some gunshot wounds of the lung, with hemorrhage, ergotin was given hypodermically with apparent benefit. Morphine hypodermically was given freely, and apparently with the best results. Younge says that he looks upon morphine as more or less a necessity in severe and painful gunshot wounds, for it relieves pain, diminishes the risks of shock, and has a beneficial action on the wounds. In cases of abdominal wounds it was given freely, and was the main item in the treatment.

A point of interest and importance was that of the large number of wounded, many of them very severely and with lacerated wounds often fouled by earth and other septic material, no case of sepsis or tetanus occurred. Considering that in the Crimean War three out of every five deaths after operation were due to septicæmia, these results are gratifying. The death rate at the field hospital was 3.3 per cent., which included all the men who had left the field alive, some of whom, however, were dead upon reaching hospital.

Sir Felix Semon.

The eminent exponent of laryngology, whose paper on cancer of the larynx in the present issue of the Medical Record will read with interest and profit, is, in his many-sided character, among the most noted, and deservedly so, of those who follow that specialty to-day. A pupil of Sir Morell Mackenzie, Sir Felix Semon was a contemporary with the pioneers in laryngology in the old world and a companion of those in the new, being, we believe, the oldest corresponding member of the American Laryngological Association, itself the first of the national societies devoted to a study of that branch of medicine. As such he has been warmly welcomed by his confrères in this country, and has been entertained by individuals and societies in all the large cities of eastern America, from New York to St. Louis and from Washington to Chicago and Montreal. But he has won distinction not only as a practising laryngologist but as a medical editor as well. A type among special journals and one to serve as an example for all others of its kind is the *Internationales Centralblatt für Laryngologie,* founded and raised to its present commanding position by the editorial skill of Sir Felix Semon. No advance in this specialty has been made in any part of the world since the foundation of the journal that is not there chronicled, and no one who would inform himself on any subject connected with the study of the upper air-passages can fail to find the information he desires in the files of this periodical.

Progeria; A Form of Senilism.

Under the designation of progeria Hastings Gilford (*Practitioner,* August, 1904) describes a condition in which the degenerative processes that constitute the state of senility occur prematurely and are morbidly accelerated. He reports two well-defined cases of the affection, and a third of less pronounced character. In all three the disorder began without evident cause and was characterized by a curious mixture of immature development on the one hand and premature old age on the other. Death resulted, apparently from senile decay, at the ages of 17, 18, and 43 years, respectively. In the two more pronounced cases the patients were like children in stature, although in other respects they looked like old men. They were lean, weak, decrepit, and bald, with the exception of a sparse growth of gray or colorless hair. The skin was dry, wrinkled, and wasted, and it did not conceal the underlying tendons and veins. The patients seemed to be somewhat precocious in intelligence, but a few years behind their age in sexual development.

In the skiagrams the shafts of the long bones were seen to be thin and delicate, their ends thick, and the fusion of the epiphyses a little premature. The same mixture of youth and old age was found to characterize the various internal organs in one case in which a post-mortem examination was made. The liver was large and healthy, the kidneys and adrenal bodies were slightly degenerated. The brain was healthy, but the stomach and intestines were of paper-like tenuity. The thymus gland was persistent, but degenerated, while the thyroid, pituitary, and pineal bodies appeared to be healthy. Some of the lymphatic structures were normal, while others were wasted. The coronary arteries, the aorta, and the valves of the left side of the heart were markedly atheromatous and the seat of calcareous degeneration.

Ignored Syphilis.

Dr. C. F. Marshall writes in *Treatment* for September 1904, on the futility of inquiring for a history of syphilis. He quotes largely from Fournier's views on the subject of ignored syphilis. Fournier gives the following chief causes for ignored syphilis: (1) Benign Secondaries. The chancre may be small or simply an erosion, the roscola may be transient, and the buccal erosions mistaken for aphthæ. Nothing further may occur till tertiary manifestations occur. (2) Extragenital Contagion. Syphilis may be conveyed by the barber's brush, by pipes and drinking utensils, by the water-closet, by tattooing, and by domestic and professional contamination. (3) Ignorance. Certain women are absolutely ignorant of venereal disease. (4) Medical Dissimulation. This is a common cause of ignored syphilis. For instance, a married man infects his wife with syphilis, and implores the doctor to keep the matter secret for the sake of avoiding scandal, and perhaps the breaking up of a hitherto happy domestic hearth. The doctor finally acquiesces, and the patient is treated without being informed of the nature of her malady. If, later on, symptoms of syphilis appear, and the wife consults another physician, she will naturally deny having had syphilis, if the doctor is bold enough to ask the question.

Fournier estimates the frequency of ignored syphilis at 3 per cent. in men and 18 per cent. in women. Hence it is six times more frequent in women than in men. These figures result from statistics based on 4,257 cases of tertiary syphilis, of which 3,862 occurred in men and 395 in women. Out of these there were 120 cases of ignored syphilis in men and seventy-one in women. From these figures we get the percentage of 3.1 in men and 17.9 in women.

Dr. Marshall therefore concludes that inquiry into a history of syphilis is frequently a waste of time, and that the acceptance of statements on this point made by patients is detrimental to the patient and to the reputation of the doctor.

Medical Military Attachés.

Military attachés, and to a lesser extent naval attachés, are recognized as a more or less necessary means for the various nations to keep in touch with the latest phases of warfare. In all wars between large countries military attachés are appointed by the several governments to the different armies in the field to watch the course of events and to report thereon. In this manner the latest developments of the science of war are carefully noted by experts, so that the knowledge gained may in the case of need be employed to the best advantage. It would appear that there should be plenty of scope for the services of medical military and naval attachés in a struggle like that, for instance, now being waged in the far East; yet it was only a few days ago that the Army General Staff decided to dispatch American army surgeons and attachés to the Japanese and Russian armies in the far East, provided the consent of the authorities can be secured.

The field is, so to speak, practically unlimited. In a long-continued war, especially under the climatic and sanitary conditions prevailing in Asia, diseases of all kinds will abound. For the study of typhoid fever, dysentery and diarrheal affections, cholera, and perhaps bubonic plague and beriberi, the opportunities must be unique. Much was learned concerning typhoid fever in the Spanish-American and Boer wars, but the present war offers a far more extended range of observation. So far as preventive medicine is concerned, the facilities for gaining knowledge in a thoroughly practical way are obviously unequaled. The value of medical naval and military attachés from a surgical point of view needs no comment. Much has been learned in recent wars concerning the effects of wounds produced by the modern excessively swift small-bore bullet, and by modern artillery. The war in the far East presents an infinitely wider opportunity in this respect. The perfection of the Japanese medical organization, moreover, has won world-wide admiration, and it is not only a matter of surprise that this country has been so slow to make use of the opportunities for observation afforded, but it is to be regretted that even now but one surgeon is to be detailed to each army.

Nasal Suppuration.—J. Mackie submits the following propositions: (1) That the essential cause of nasal suppuration is defective drainage. (2) That defective drainage is mainly due in childhood to adenoids and lymphoid hyperplasias. (3) That later it is the result of hypertrophies and deformities resulting from lymphoid hyperplasias during the period of active growth and development. (4) That by adopting this view of the natural history of nasal suppuration the whole subject becomes more intelligible, and a simpler and more rational treatment becomes possible. Acting on these principles, he declares that in many cases of sinus disease the removal of a portion of the middle turbinal will afford proper drainage to the various sinuses and render many of the so-called "radical" operations unnecessary. He believes that the ethmoidal cells are the most frequent seat of sinus suppuration. Cases illustrative of the truth of his contentions are given.—*Journal of Laryngology.*

News of the Week.

A Dinner to Sir Felix Semon was given at Delmonico's on Tuesday evening of this week by the Laryngological Section of the New York Academy of Medicine. Over one hundred members of the Section and of the American Laryngological Association and invited guests were present. Addresses of welcome were made by Dr. Francis J. Quinlan, Chairman of the Section, Dr. Andrew H. Smith, President of the Academy of Medicine, and Drs. George M. Lefferts, Clarence C. Rice, William Kelly Simpson, and Emil Mayer, and were responded to by the distinguished guest of the evening. On the following evening an adjourned meeting of the Laryngological Section of the Academy was held, at which Sir Felix read the paper on "Cancer of the Larynx" published in this issue of the MEDICAL RECORD. On Thursday afternoon he delivered a lecture on "Acute Septic Inflammations of the Throat and Neck" before the senior class of the Long Island College Hospital in the Polhemus Clinic, corner of Henry and Amity streets, Brooklyn.

Prize Awarded at St. Louis to Dr. Baruch.—The Superior Jury of Awards of the Louisiana Purchase Exposition has awarded a silver medal to Dr. Simon Baruch, of this city, for his exhibit, consisting of drawings, plans of construction, and explanatory texts and statistics showing the economic value of free cleansing baths, the cost of construction and maintenance, etc. The object of the exhibit was to impress upon sanitary authorities of the various municipalities the importance of free cleansing baths, offering ample facilities for personal cleanliness to the working people. This idea was first broached by Dr. Baruch fourteen years ago, and after seven years of propaganda the first free baths in this city were opened in Rivington Street in 1897. New York has now a number of such baths, and Chicago has five. In recognition of Dr. Baruch's work one of the new free public baths in Chicago has been called "The Simon Baruch Bath." There is no other country in the world in which a bath with soap and warm water can be had by any one without cost; but that is not the fault of Dr. Baruch, for he had an exhibit at the Paris Exposition in 1900, similar to that at St. Louis, which was awarded a silver medal and diploma.

Honorary Degrees from Columbia.—During the celebration of the one hundred and fiftieth anniversary of the foundation of Columbia University the following medical men received honorary degrees: *Doctor of Laws*, Drs. Edward Gamaliel Janeway, Francis Delafield, William Mecklenburg Polk, John Green Curtis, William Henry Welch, and Walter Belknap James; *Doctor of Science*, Drs. William Stewart Halsted, Moses Allen Starr, Luther Emmett Holt, and George Sumner Huntington.

Medical License Requirements in Illinois.—A resolution was adopted at the October meeting of the Illinois State Board of Health amending the rules of the State Board of Health adopted July 11, 1899, relative to the character of examinations, as follows: On and after January 1, 1905, the Illinois State Board of Health will accept as an equivalent of a part of the examination required satisfactory evidence of five or more years of reputable practice of medicine and surgery since graduation, and will allow a credit of five per cent. on the required average of seventy-five per cent. for each period of five years of such practice on the part of a candidate for a certificate.

The Fourth Pan-American Medical Congress, as we have before noted, convenes in Panama the first week in January next. The delegates will leave this country by the Atlantic, Pacific, and Gulf Coasts the last week in December. They can return by the same ruotes, or make round trips. The Public Health Association meeting will take place the following week in Havana, and those desirous of attending both meetings can arrange to do so.

There are two routes for the physicians to take from Panama to Havana. The first is by way of Jamaica to Santiago de Cuba by boat and overland by rail to Havana. The second is by water from Panama to Vera Cruz and thence to Havana. From Havana, the return trip can be made directly north to New York by water or via Miami or Tampa, Florida, or New Orleans. The connections and dates of sailing are now being arranged. The Panama Government has appropriated $25,000 for the Scientific Session and the entertainments. The Congess will be held from the second to the sixth of January. The afternoons will be devoted to the Scientific Sessions and the mornings and evenings to trips and social functions. So far as can be learned, the program in Panama will be a reception on the first day by President Amador, and the formal opening session of the Congress the same evening. On the second day, an excursion to the Canal in the morning, meeting of the various sections in the afternoon, and a banquet in the evening. On the third day, an excursion down the Bay to Taboga Island, where a Panama breakfast will be served, scientific sessions in the afternoon, and a ball in the evening. On the fourth day, an excursion to the U. S. Army barracks in the morning, section meetings in the afternoon, and the formal closing session in the evening. On the fifth day, an excursion to the plantation of the United Fruit Company; and on the afternoon of this day, those who intend going to Cuba by way of Jamaica to attend the meeting of the Public Health Association, will sail for Kingston, while those who intend going by way of Vera Cruz, or returning home by way of New Orleans or New York, will remain until the following Tuesday. The Secretaries of the Sections of the Congress for the United States are Drs. A. H. Doty, of New York, Hygiene and Quarantine; Judson Daland, of Philadelphia, Medicine; R. Matas, of New Orleans, General Surgery; Bert Ellis, of Los Angeles, Eye; Hudson Makuen, of Philadelphia, Throat; Frederick Jack, of Boston, Ear; C. H. Hughes, of St. Louis, Nervous Diseases; George Goodfellow, of San Francisco, Military Surgery; H. P. Newman, of Chicago, Gynecology; John Ridlon, of Chicago, Orthopedic Surgery; D. W. Montgomery, of San Francisco, Dermatology; C. G. Kerley, of New York, Pediatrics; Noble P. Barnes, of Washington, Therapeutics; Walter Chase, of Boston, Pathology; E. G. Zinke, of Cincinnati, Obstetrics. Communications from physicians in the United States interested in any one of these branches can be sent directly to the respective Secretaries. Delegates intending to attend the Congress, desirous of obtaining information concerning it, should communicate with the Secretary of the International Executive Committee in the United States, Dr. Ramon Guiteras, 75 West Fifty-fifth Street, New York City.

Action Taken Against Club Practice.—At a recent meeting of the Fulton County (N. Y.) Medical Society an amendment to the by-laws was unanimously adopted forbidding the members to practise for clubs at cut-rate prices. The by-law provides that "on and after the first day of January, 1905, no member of the society shall accept the position of club, society, or organization physician, or agree, or continue to do any medical or surgical work for any club, society, or organization at a less rate than the

regular or customary charges for like services rendered by other physicians for patients not members of such club, society, or organization." The by-law does not forbid the taking of a smaller fee than customary in proper cases, and exception is also made in the case of any one acting as city, county, or town physician or health officer. Any violation of the by-law is to be considered unprofessional conduct and render the guilty member liable to suspension or expulsion, as the society may determine.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1905, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College, Dr. Thomas R. Neilson, on or before May 1, 1905. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1904 was not awarded, no essay of sufficient merit, in the judgment of the committee, having been submitted in competition.

Free Distribution of Milk in St. Louis.—Pure milk stations for the free distribution of pure milk to the poor in St. Louis was discontinued on November 1. The use of pure milk during the summer demonstrated that the mortality rate in children under five years could be reduced by furnishing pure milk. In 1903 there were 404 deaths of infants under five years, while in 1904 the number of deaths was 236. This includes all causes. The deaths from causes over which the use of pure milk would have an influence were 123 in July, 1903, and 92 in July, 1904. In addition to furnishing pure milk to the poor the health department exercised great vigilance over milk peddlers and prosecuted a number for selling impure milk.

Smallpox in Illinois.—Carelessness as to vaccination and other sanitary precautions brought about by the mild type of the disease and the decrease in the number of cases during the last year is responsible for the present epidemic of smallpox, according to the latest bulletin of the Board. The bulletin issued to local health authorities says that, as foretold by the State Board of Health in its warnings, the virulent type of smallpox has returned. During the month of September, in one infected district, ten patients among fifty afflicted died in a period of four days, one death in every five. In another, twenty-five among two hundred, one death in every eight. During August a few cases of smallpox, improperly diagnosed as some harmless disease, were found in a certain town in Illinois. No precautions were taken to prevent contagion. Vaccination was neglected. In a few weeks contagion had spread into five adjoining counties, and the malignant type of the disease appeared. Panic reigned; travelers avoided the town, and business was practically suspended. Human lives were sacrificed to pay for the failure of the local authorities to appreciate and act upon the repeated warnings of the State Board of Health. The Board urges that every effort be made to induce managers and owners of manufacturing and other plants or establishments employing large numbers of persons to unite in a determined fight against the disease, by insisting upon evidence of satisfactory vaccination of every employe.

Chicago Gynecological Society.—This society recently held its annual meeting, when the officers elected for the ensuing year were as follows: *President*, Dr. J. Clarence Webster; *Vice-Presidents*, Drs. Frank T. Andrews and Henry F. Lewis; *Secretary*, Dr. Palmer Findley; *Editor*, Dr. Rudolph W. Holmes; *Treasurer*, Dr. Charles B. Reed; *Pathologist*, Dr. Gustav Kolischer; *Councilor*, Dr. Emil Ries.

The Medical Colleges of California all opened with large classes. In several of them the attendance is from 25 to 50 per cent. greater than in previous years, and an unusually large part of the classes is made up of young men from the East.

Dr. H. N. Rucker, former superintendent of the insane asylum at Stockton, Cal., has been appointed to the superintendency of the Masonic Home at Decoto, to succeed Dr. Aiken, recently resigned.

Yellow Fever in Mexico.—There are six new cases of yellow fever at Texistepe. There are in all twenty-four patients. The last patient has left the hospital at Tehuantepec, but Merida reports two new cases, and Salina Cruz four new cases.

Diphtheria at the Navy Yard.—Diphtheria has broken out in the marine barracks at the Brooklyn Navy Yard. Most of the cases are in a mild form, but the condition of one man is said to be serious. All of the sick men are in the Naval Hospital.

Generosity Urged for Medical Colleges.—At the meeting of the New York University Council, Chancellor McCracken in his annual report pointed out the indifference of wealthy men to the needs of medical institutions. "What is the matter with New York in its treatment of medicine?" he asked. "I have observed the situation for twenty years, and can find no word to express it better than disgraceful. The disgrace attaches to the wealthy men of New York. I can count on my fingers every large giver to medicine in New York in the last twenty years."

Discriminating Against the Tuberculous in Denver.—According to a newspaper report consumptives are hereafter to be barred from the positions of letter carrier and postal clerk in the Denver Post Office. A special order to that effect was received there last week.

Remarkable Action of the Police.—The police of Lancashire have presented to the townships over which they have jurisdiction forty-six handsome ambulances, many of them costing $500. The money was raised by means of football matches and other athletic sports.

Awards for Charity Exhibits.—The International Jury of Awards at the St. Louis Exposition has awarded two grand prizes to the Charity Organization Society of the City of New York—one for its general exhibit, and another for the special exhibit prepared by the Committee on the Prevention of Tuberculosis. Several of the workers in the society also received personal awards as collaborators, or in recognition of special services in some field of philanthropic activity.

A Doctors' Race.—An amusing feature of the closing day of the North Georgia Fair held at Chickamauga in the third week of October was a "doctors' race." The twelve physicians who took part in the contest had their horses stabled nearby and were themselves undressed and in bed. At the stroke of

the gong they had to dress, hitch their horses to their vehicles, and drive one mile to a supposed patient. The race was won by Dr. Rudesell. Dr. Elder was second and Dr. Hunter third.

A Threatened Epidemic Among Texas Cattle.—Alarm is felt among cattle rangers over a fatal disease that has appeared in several North Texas communities. The death of more than two hundred head of cattle has been reported, the sickness being aggravated by the heavy rains and cold weather.

Condensed Milk of Poor Grade.—The State Commissioner of Agriculture is to take action against the manufacturers of certain inferior grades of condensed milk which have been discovered on sale in this city. Standard condensed milk should have about 9 per cent. of butter fat and 28 per cent. of milk solids. Most of the stuff complained of has 1 per cent., or even less, of butter fats, and the percentage of solids varies from 10 to 20. Most, if not all, of the low-grade milk, it is said, is made outside of this State.

In Memory of Dr. N. S. Davis.—Eulogistic speeches and words in sympathy with his great life work were listened to by more than a thousand persons gathered at Powers' Theatre, Chicago, on Sunday afternoon, October 23, at the memorial meeting for the late Dr. N. S. Davis. The principal speakers were Bishop John Lancaster Spalding, of Peoria, Illinois, and Bishop S. M. Merrill, of Chicago. Dr. John B. Murphy, President of the Chicago Medical Society, presided. Short addresses were also made by Drs. Frank Billings and John H. Hollister. In view of Dr. Davis' work in Chicago, the South Park Commissioners have named a park in his honor at Forty-fourth street, Forty-fifth street, Marshfield and Hermitage avenues, known as Davis Square.

Obituary Notes.—Dr. O. S. Belden died at Camden, N. J., on October 26, at the age of 70 years. He was a veteran of the Civil War, and served as surgeon in the Fifth New Jersey Volunteers.

Dr. Frederick Shade, of St. Louis, died on October 18 of heart disease. He was a graduate of the University of Tübingen, Germany, in 1852, and had retired from active practice, although he continued to give attention to the sick poor without charge. He was 79 years of age, and at one time was very wealthy, but spent most of his money in charitable undertakings.

Dr. Franklin S. Whaley died recently at Compton, Cal., aged 85. He was born at Lockport, N. Y., May 8, 1819, sixteen days before the birth of Queen Victoria, a distinction of which he spoke with increasing pride in his old age. He came to San José in 1852 and engaged in practice there until 1870, when he removed to Compton. He retired from active practice about ten years ago on account of the infirmities of age.

Dr. Thos. F. Prewitt of St. Louis, Mo., died at his home on October 18. He was seventy-two years old at the time of his death and had retired from practice two years previously. He was graduated from the St. Louis Medical College in 1856. For twenty-five years he was chief surgeon of the St. John's Hospital and was Dean of the Missouri Medical College, and later professor of the principles and practice of surgery in the Medical Department of Washington University. He served as president of the Missouri State Medical Association and of the American Surgical Association.

Dr. Edwin E. Webster died at his home in St. Louis on October 27 from senility. He was graduated from the St. Louis Medical College in 1856, and was eighty-two years old. For twenty-seven years he was physician to the Old Ladies' Home and was well known among the poor for his charities.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE VISIT OF FRENCH DOCTORS TO LONDON—INSPECTION OF HOSPITALS AND SCIENTIFIC INSTITUTIONS—ENTERTAINMENTS, WELCOME, FAREWELL—ITEMS.

London, October 14, 1904.

Our French guests arrived in London on Sunday evening and have occupied most of our attention up to Wednesday evening, when they were entertained at the dinner. About thirty of them brought their wives, and to entertain these ladies a committee of London doctors' wives was formed, to whom the French physicians expressed their most cordial thanks. The number of our visitors has exceeded our expectations, but we have done our best to show them our institutions and make the occasion one to be remembered with pleasure. On arrival they were met by the executive committee and conducted to the Hotel Russell, where they were received as guests in the most informal manner. Leaders of French and English medicine met and chatted together with the free-masonry of the profession. The visitors selected the institutions they wished to inspect and lists were prepared in readiness to facilitate their choice.

At 10 a.m. on Monday the visitors were received at the Royal College of Surgeons by the President, Mr. John Tweedy, who wore his robes of scarlet and violet, braided in gold, and a doctor's cap. With him were the vice-presidents, Messrs. Robson and Butlin, also in robes, and a number of the council. A procession, preceded by the mace, was formed, and Mr. Tweedy made a brief speech in French, welcoming the French guests as of one family with their British colleagues, the family of Asklepios, and also the successors of Hippokrates, Galenos, Paré, Bichat, Harvey, and of John Hunter, whose genius was associated with the college and great collection they were about to enter. Dr. Lucas Championnière spoke in acknowledgment, and the party distributed themselves in the museum, chaperoned by specialists in various sections. Afterwards some went to King's College Hospital and others to Charing Cross Hospital. About fifty went to St. Bartholomew's, and were received by the staff and the president of the Royal College of Physicians, Sir W. Church, who is on the consulting staff. Other groups went to the National Hospital for the Paralyzed and Epileptics, to the Royal Free Hospital, and other medical institutions. The *Lancet* gave a luncheon, at which about seventy English and French doctors met and interchanged many compliments. In the evening a reception was given by Dr. Dundas Grant.

Early on Tuesday our guests set off on further explorations. About eighty went to the French hospital, where Dr. Triboulet expressed their pleasure in visiting a hospital which to many sick, poor Frenchmen must seem like a corner of their own beloved country. He further expressed the thanks of his colleagues to the staff of "those Anglo-French physicians," and said what they had seen showed that they must delete the words "perfide Albion" from their vocabularies.

At St. Mary's Hospital Dr. A. E. Wright, speaking in French, gave an account of the treatment of tuberculosis and staphylococcus invasion by inoculations with the corresponding bacterial vaccines. He showed some cases which, he said, appeared to be almost hopeless before being submitted to the treatment.

At Queen Charlotte's Lying-in-Hospital another group examined the wards, the pathological laboratory, and the arrangements for sterilization.

The greater number went to see the laboratories of the university founded two years ago. The leading physiologists teaching in London had then agreed to give gratuitous courses of lectures, chiefly on the subjects they had personally investigated. In the first fifteen months twenty students had carried on researches here, which had resulted in twenty-three communications to scientific journals. Botanists and zoölogists are following this example, and the principal, Sir A. Rücker, takes it as a hopeful sign that the more popular educational work is thus being supplemented by masters of science dealing with its highest aims.

Dr. Waller pointed out the various departments directing special attention to the electro-physiological section, and showing his apparatus for administering chloroform.

At noon a luncheon was given by the dean of the faculty of medicine, to 230 guests—quite an international assembly. The usual toasts were honored. In replying to "Our Guests," Professor Poirier said he and his colleagues were struck by the results of individual and collective initiative, as shown in the institutions visited. In France they were under the tutelage of the state and, without comparing the two systems, they must admit that Republican France could learn something from Monarchial Britain. French-

men always called Englishmen phlegmatic and stiff. Phlegmatic they were, but not stiff, as witnessed the sympathetic reception given by them to their visitors. Might their collaboration in science help to secure peace, health, and happiness. The speech elicited great applause.

In the afternoon groups visited more hospitals—Guy's, St. Thomas's, Middlesex, where the cancer wards and the chart of cases treated since 1746 elicited great interest, the Samaritan, West London, St. Mark's, and one or two others. In each the lions of the place were shown by the staff and officials, and great satisfaction was generally expressed by the visitors.

One thing we exhibited on this day that we would fain have hidden from our French friends—a London fog. It was not one of our worst, but rather bad. A few brave Frenchmen were undeterred by it from their project to see one of the largest of our poor law infirmaries—that at Highgate, which is one of the newest and equipped with all modern appliances. It gave them the opportunity of contrasting our voluntary and state-supported hospitals, though I doubt if they all appreciated the difference between the two systems.

On Wednesday we had more favorable weather to show our visitors—clear, crisp, as becomes October—so they can dispel the fable that we are always in a fog. They resumed their visits to the hospitals with ardor. About forty at different times went to King Edward VII. Hospital for Sick and Wounded Officers. This institution has a brief but remarkable history, and as I have not previously said much about it, may now tell you that it was founded in the first year of the South African War, by Miss Keyser, in her own residence, at Grosvenor Gardens. She acted as matron herself, had five nurses, and has ever since maintained her hospital with only the help of personal friends. The visitors expressed no little surprise that a private house, while retaining all its amenities, had been converted into such a complete hospital.

The Imperial Cancer Laboratory, on the Embankment, attracted a considerable number. Many objects had been prepared for their inspection—specimens of cancer in mice and in fish, with microscopic sections illustrating the growth of cancer and the extent of the disease in the animal kingdom.

The Lister Institute, which owes its origin to Pasteur, naturally attracted a goodly group.

A number of gynecologists were over to the Chelsea Hospital for Women, where the operating theater and sterilizing rooms were greatly improved by the alterations only completed as late as August last.

A group of thirty alienists were entertained by the County Council at the splendid asylum at Clabury, which has accommodation for 2,450 lunatics, conveyances meeting them at Woodford station. Dr. Mott, pathologist to the council, was present and conducted the visitors over the laboratory, in which he has done such important work. It has been specially built for its purpose, and stands apart from the main building. Many preparations were shown, including some from cases of sleeping sickness. Luncheon was provided, and in response to the welcome, Professor P. Marie declared the satisfaction of his colleagues at seeing so magnificent an institution, and, as to their reception everywhere, it showed that they all belonged to the same great medical family. A drive through Epping forest afforded another form of entertainment, and the guests were taken back to the station.

A large number went to the London Hospital, where the light department and the Finsen lamps, presented by the Queen, attracted much attention.

In the evening came the concluding banquet, at which about 400 sat down. At the opening a message was received from the King, expressing the great satisfaction he had felt in noticing the arrival of so many French medical visitors to inspect the London hospitals, and the success of the visit, adding that he remembers with great pleasure that on the occasion of the International Medical Congress he had an opportunity of making the acquaintance of their distinguished countryman, the late M. Pasteur." The visitors heartily applauded, a suitable reply was framed and despatched, and the incident greeted with a hearty "Banc."

The dinner was a great success. The first toasts were the King and President Loubet, the National Anthem and the Marseillaise being heartily sung. The other speeches on both sides I must pass by, but may say when "Welcome" and "Au revoir" was proposed, the guests shouted "A Paris."

While the feast was going on the English hostesses entertained the French ladies and after dinner took them to the Alhambra to see the ballet, "L'Entente Cordiale."

The King has consented to lay the foundation stone of the new King's College Hospital, and will be accompanied by the Queen on the occasion.

The King has also consented to give his patronage to the Sanitary Institute.

I gave you a fortnight ago some account of the institute's exhibition.

Sir Dyce Duckworth has been appointed medical referee to the treasury and adviser to the Pensions' Board, *vice* Dr. Lionel Beale, F.R.S., resigned.

The new operating theater at the National Hospital was duly opened by the Duchess of Albany, on Saturday.

Our societies are gradually getting to work. The medical held its annual meeting on Monday. The medico-chi will begin its one hundredth session on the 25th, and later on it is intended to celebrate its centenary.

Lieut.-Col. G. Ryan, R.A.M.C., died on Saturday last, aged 59. He entered the medical service of the army in 1868, and retired in 1889. He served in the Zulu war of 1879, for which he had the medal.

OUR LETTER FROM THE PHILIPPINES.

INSECTS AS PLAGUE CARRIERS—HEALTH CONDITIONS—QUARANTINE AND INFECTED FOOD SUPPLIES—SYSTEMATIC VACCINATION.

MANILA, P. I., September 14, 1904.

At the September meeting of the Manila Medical Society a paper was read by Maximillian Herzog, of the Government Laboratory, entitled "Insects as Plague Carriers." After reviewing the literature on the subject, which, he stated, was rather negative with regard to the transmission of the disease in this manner, he gave a brief review of his own work in this direction. He stated that after much difficulty about one hundred fleas were collected at different times from rats caught in Manila. The plan was to starve them for four or five hours and then apply them under a cover of glass to his own skin. In no instance could the fleas be induced to bite him, and he came to the conclusion that the fleas found on Manila rats do not bite man. At the plague autopsies which he performed during the past year it was possible in almost every instance to trace the point of entrance of the infection, but in no instance could he recollect that the wound of entrance had resembled the lesion which is produced by an insect bite. On one cadaver he found some live head lice. These were captured, placed in a test tube, and subsequently ground up, and this substance inoculated into bouillon. Numerous colonies of bacteria developed, but the plague bacilli were finally isolated in pure culture. An attempt was also made to infect guinea pigs with plague by permitting fleas to feed upon plague-stricken rats and then to place them upon the shaved surface on the back of the guinea pigs, but these experiments were all negative. In concluding he expressed the opinion that fleas, if at all, were only remotely concerned in the transmission of plague. In the discussion which resulted one of the speakers said that in a number of experiments made with the fleas of Manila rats it was found that the fleas were not all of the same variety, and that on one occasion one of the rarer forms of the experimental fleas had bitten one of the laboratory attendants. The point was also made that, while the flea theory had not been scientifically demonstrated, yet it explained the transmission of plague in a greater number of instances than any hypothesis which had yet been advanced.

The Philippines are probably more free at present from the major contagious diseases than for any period during the past five years, but it is also probably true that at no time since the American occupation have the islands been threatened by the entrance of quarantinable disease from so many quarters. Plague has been present in epidemic form in Formosa to the north and in a lesser degree in Australia to the south. Cholera has made its appearance in China to the west. Smallpox has been very severe in the southern portion of Japan and in the vicinity of Shanghai, China. It will, therefore, be observed that the islands have been nearly surrounded by countries in which quarantinable diseases exist. The cholera has gradually spread north from Saigon until it reached the cities of Hanoi, Hong Kong, Shanghai, and Kobe. It is probably present in many more of the adjacent ports, and no doubt prevails more extensively than is generally reported. The islands are almost absolutely dependent upon outside sources for their food supply, and, strange as it may seem, this is particularly true with regard to fresh vegetables. This, in connection with the fact that the business of the islands is largely maritime, and anything that interferes with shipping at once becomes a serious economic question, makes it imperative that the means of communication with the outside have as few restrictions placed upon them as possible. Bearing the foregoing facts in mind, it will be seen that it is a difficult matter to prevent the introduction of infected food supplies. Another interesting question raised by the presence of cholera in China was, whether it was after all a real menace to the Philippines. The cholera was present in the islands for two years in epidemic form, and true to its former history it disappeared during the third year. Did it disappear because all the available material was used up, or did it disappear because the cholera

organism became so attenuated that it was no longer capable of conveying the disease? If the former was the case the Philippines were not seriously threatened, even if the cholera should have eluded the quarantine officials. If the latter was the case, however, another epidemic might have been started by the introduction of infected material. The quarantine authorities in the absence of definite information to the contrary adopted the latter view, and so far they have been successful in preventing its introduction.

The Board of Health is proceeding with the task of vaccinating the 7,000,000 or more inhabitants in a systematic manner. In June the work was commenced in the city of Manila. The city has been divided into districts. A large corps of vaccinators is concentrated in one of these sections at a time. Those in which smallpox has been more or less continuously present for many years have received first attention. Another striking argument in favor of vaccination has been revealed by the results in one of the worst of these districts, and one in which smallpox has been reported weekly for a long period. Since the completion of the vaccination over a month ago not a single case of smallpox has been reported, nor could any be found by the house-to-house inspection which was made. One case was found in a child which had not been vaccinated, and in which there is every reason to believe that the child had been taken into the district within the incubation period of the disease. Results of this kind are considered conclusive by even the more ignorant part of the population. The Board of Health has been very fortunate in not having had any "bad arms" develop, and in consequence very little friction is encountered in the work. So far it has not been necessary to prosecute any person for refusing to be vaccinated.

A SUBSTITUTE FOR RUBBER GLOVES IN SURGERY.

To the Editor of the Medical Record.

Sir: In the report of my remarks on the use of a solution of celloidine as a substitute for rubber gloves, which appeared in your valuable journal for October 22, I was incorrectly reported as to the quantity of celloidine and castor oil used in making the solution. The correct prescription is as follows:

℞

Alcohol (96 per cent.).	
Ether	āā ℥xlixss
Celloidine	℥i
M. et ft. sol.; adde Ol. Ricini	℥ss

Frederick Holme Wiggin, M. D.
55 West Thirty-sixth Street, New York.

Malarial Infection.—Guido Baccelli classifies the malarial infections according to periodicity as follows: Quotidian, the chill appearing in the forenoon; tertian, appearing about noon; quartan, in the afternoon. His observations concern especially the pernicious variety common in Italy. Malaria may be pernicious for two reasons, either as a result of the febrile type, or from some condition present in the individual, rendering the results of infection more severe. The latter form of pernicious malaria, he divides into seven main groups: (1) Choleriform or dysenteric, (2) bilious, (3) cardialgic, (4) diaphoretic, (5) syncopal, (6) algid, (7) comatose. There may be also a form in which blood appears in the urine, a very fatal form, in which immediate treatment is essential, and in which the parasite is often not found in the blood. The author regards the appearance of hæmoglobin in the urine as a result of the action of the toxic substances formed in the blood by the parasite. The other pernicious form, resulting from the severe type of fever, he names subcontinuous. It appears suddenly and the paroxysms soon appear so close together that the fever becomes almost continuous. The symptoms are catarrhal, rheumatoid, bilious, or typhoid, or mixed of all these types. The tertian predisposes oftenest to the subcontinuous form. As to the etiology, the author accepts the theory of the parasitic origin of the disease; the clinical course of the fever is determined by the biological cycle of the parasite, the fever rising at the time of sporulation. The symptoms result from poisoning by toxins manufactured in the course of sporulation. The treatment of malaria he considers to be best accomplished by the use of quinine, iron, and arsenic combined.—*Gazzetta Medica di Roma.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, Oct. 27, 1904.

Hæmaturia Due to Bilharzia Hæmatobia, with the Report of a Case.—Richard Frothingham O'Neil states that the parasite, the distoma hæmatobia, is a fluke or trematoid worm with distinct sexes. The parasite is found in almost all parts of Africa. In Egypt it is most common. The exact method of infection of the human species with the disease is not definitely known, as the life and development of distoma outside of the body is entirely unknown. The two most probable avenues of infection are, first, that the embryo is carried into the system by the drinking of infected water or by the eating of shellfish or raw vegetables; and, second, that the infection takes place through the skin or natural openings of the body, this infection occurring during bathing. The genito-urinary system is the one which generally suffers, although the lesions in this disease are not always confined entirely to this part of the body. The adult worm is found most often in the portal system, either in the main vein or some of its tributaries, the most common being those of the urinary apparatus and the rectum. At certain times the worms descend in pairs into the smaller branches of the veins, and the female deposits great numbers of eggs. They finally rupture the vein, escaping into the surrounding tissue, and there form the nuclei for inflammatory changes. When one of these infarcts ruptures into the urinary passages or the rectum a hemorrhage occurs, and gives rise to the hæmaturia so characteristic of the disease, and to the finding of large numbers of the ova in the urine and feces. The urinary bladder is most often affected. The most conspicuous change in the blood is the altered proportion of eosinophiles. The percentage of these corpuscles is very large. The diagnosis is established by finding the ova of the parasite in the urine of feces, or in calculi or masses of tissue which have been removed. The most constant and characteristic symptom is hæmaturia. This is almost always made worse by exercise. As a rule death occurs from anæmia or exhaustion. The disease varies in intensity. The prognosis should be guarded. Treatment is most unsatisfactory, and must be confined to maintaining the general health and treating the symptoms and complications which arise. Salol and methylene blue are recommended. The writer has found the reports of five cases which have occurred in the United States, and to these he adds the report of his own case.

Some Observations on the Occurrence of Broadbent's Sign.—Alice Weld Tallant gives Broadbent's description of this sign, which he observed in cases diagnosed as adherent pericardium, in all of which there was "visible retraction, synchronous with the cardiac systole, of the left back in the region of the eleventh and twelfth ribs; in some of these cases, also, systolic retraction of less degree in the same region of the right back." This sign is often mentioned as one of the most important signs of adherent pericardium. The absence of this sign in undoubted cases of adherent pericardium has, however, been noted. But its occurrence in other conditions has received less attention. The writer, therefore, has examined about 130 cases, and she believes that the results of her observations go to show that retractions in the left back are much more common than is generally supposed, although it is probable that they would be noted more often if they were always looked for during the routine physical examination. Systolic retraction of a marked degree, similar to and often identical with that described by Broadbent, is found in many cases of cardiac hypertrophy in which there is no other reason to suspect pericardial adhesions. Systolic retraction, more often involving the interspaces only, may be seen in the left back in thin individuals, especially if there is marked emaciation. The writer concludes by explaining the probable reason for many of these retractions as follows: Since the pericardium is even under normal conditions, adherent to the central tendon of the diaphragm, it is conceivable that with each systole there is a slight pull on the diaphragm. Under ordinary circumstances this is not marked enough to be transmitted to the points of attachment of the diaphragm to the chest wall, but if the heart is hypertrophied or acting very vigorously, the pull may be sufficient to be visible externally, while in a thin individual even a slight movement would be more easily perceived.

New York Medical Journal, October 29, 1904.

Accessory Thyroid on the Posterior Third of the Tongue.—O. C. Smith reviews the literature of this subject and reports a personal case occurring in a French-Canadian, a man of fifty years, who seven years ago noticed a growth on the back of the tongue. Two years later it was removed and a second removal was done on account of recurrence two years thereafter. About three years later he came under the author's observation, owing to the fact

that the mass had become so large as to interfere with nutrition. An ovid mass was seen on the posterior third of the tongue, obscuring the epiglottis, and rising to nearly the hard palate. It was firm but somewhat elastic, but neither tender nor painful. The external thyroid was normal and there were no enlarged glands. Removal was effected with trivial bleeding, with the écrasem under cocaine anæsthesia.

The Disturbances of Menstruation and their Significance.—E. E. Montgomery discusses amenorrhœa, dysmenorrhœa, menorrhagia and mehorrhagia, and vicarious menstruation. Concerning amennorhœa he notes that ovarian disease (glandula cystoma of both ovaries) sometimes occasions this condition, but its occurrence indicates that the entire ovarian structure has become disorganized. Menstruation may continue regular, however, and pregnancy result even in the presence of this special ovarian condition. Certain ovarian changes not well understood may result in an early menopause. Concerning dysmenorrhœa, the author states that he is very doubtful whether obstruction is ever much of a factor in its production. In cases with a patulous canal the myometrium is often the seat of inflammation, and the painful spasm resembles the occurrence of chordee in the male. Constitutional treatment here is often of more value than local. The so-called ovarian dysmenorrhœa is an inappropriate term, for the reason that the pain is usually felt before the flow with its greatest intensity, and should be considered as an indication of chronic ovarian inflammation. Menorrhagia may end in mehorrhagia. This symptom combination may be the result of constitutional conditions interfering with vascular tension, either locally or generally, as in hepatic, cardiac, or renal disease, causing obstruction in the zymotic fevers, scurvy, and other constitutional conditions. It may be produced by pelvic conditions outside the uterus, as in cystic degeneration of the ovaries, intraligamentary cysts, fibroid growths, ectopic gestation, or periuterine inflammation from uterine involvement, as in threatened abortion, retained fœtal products after labor or abortion, interstitial inflammation of the uterine mucosa, interstitial or submucous myomata, malignant conditions, such as epithelioma of the cervix, adenocarcinoma of the cervix or body, endothelioma, sarcoma, or chorioepithelioma.

Medical News, October 29, 1904.

The Treatment of Scarlet Fever with Antistreptococcus Serum.—Henry L. K. Shaw states that for the last four years all the severe cases of scarlet fever admitted to the Annakinderspital, in Vienna, have received the Moser serum with results not less remarkable than those seen after the use of diphtheria antitoxin. The preparation of this serum is described as follows: An ordinary bouillon culture is made from the heart blood of a fatal case of scarlet fever, and grown for from three to six days. It is then injected subcutaneously into the horse. This produces a slight reaction, with fever, etc. These injections of cultures from different cases are given for more than a week in gradually increasing doses. It takes from seven to nine months to produce a suitable serum, and some horses are never able to produce a satisfactory serum. No carbolic acid is used to preserve this serum. When sufficiently potent the serum, in a dilution of 1 to 250,000, should agglutinate the streptococci. Moser has obtained pure cultures of streptococci from the heart blood of 63 out of 99 fatal cases of scarlet fever, and twice from the cerebrospinal fluid of living children. He has shown recently that streptococci from scarlet fever patients agglutinate in a positive specific manner with the immune serum. Within a few hours the results from the use of the serum are noticed. The fever falls to normal without any signs of collapse or sweating, the pulse rate diminishes, and its quality is improved. The symptoms on the part of the central nervous system subside rapidly, and there is a marked and perceptible improvement in the general condition of the child. All of the symptoms of a general toxæmia quickly disappear. Sequelæ and complications have been less frequent since the use of the serum, and when they do occur they are less severe. No fatal case of nephritis has occurred in any of the injected cases. The mortality for four years before the serum treatment was instituted averaged 14.5 per cent., and for the four years since its employment the mortality has averaged 8 per cent. For the same period in the other scarlet fever hospitals in Vienna the mortality where the serum was not used averaged 13.1 per cent. The only unpleasant result of the use of the serum is the serum exanthem. This is not at all dangerous, although it makes the children uncomfortable. The cases in which a prophylactic dose has been given are still few, but the results are most encouraging. At the present time this serum is prepared only at the Vienna Serum Institute, and is not on the market.

The Etiology of Gastric Hemorrhage.—F. Gregory Connell classifies the different etiological factors of hemorrhage from the stomach as stomachic, extra-stomachic, and unknown. The most frequent cases of gastric hemorrhage is ulcer of the stomach. This is said to occur in about 5 per cent. of the entire population, and hæmatemesis, acute or chronic, is present in from 45 per cent. to 80 per cent. of those afflicted with gastric ulcer. In aggravated cases of acute or chronic gastritis blood may appear in the vomitus, but a distinct hæmatemesis will rarely occur, as it may with tuberculous, typhoid, diphtheritic or other specific ulcerations of the gastric mucous membrane. The hæmatemesis due to carcinoma can generally be differentiated from that caused by ulcer, by means of the history and the character of the vomitus, the "coffee-grounds" vomit of cancer. In the early cases of cancer, and in the unusual cases, it will be impossible to differentiate. Traumatism, direct or indirect, may be the cause of hemorrhage from the stomach. Hæmatemsis following a penetrating wound of the abdomen, does not necessarily imply that the stomach has been perforated. Continuous vomiting or retching, the use of the stomach tube, or aspiration by the stomach pump, may injure the mucosa sufficiently to cause slight bleeding. Operation is another cause of gastric hemorrhage. The chief etiological factor of hæmatemesis, outside of the stomach proper, will be found in various conditions giving rise to interference with the portal circulation. This is best exemplified by cirrhosis of the liver. Any disease of the liver, such as syphilis, senile atrophy, or portal thrombosis, which exerts pressure or otherwise interferes with the portal vein or its subdivisions, may give rise to congestion of the gastric mucosa, and in turn to hæmatemesis. False hæmatemesis is commonly due to the rupture of œsophageal varices or "piles." The blood escapes into the stomach and is then vomited. Just what rôle is played by the central nervous system in exciting gastric hemorrhage, is not definitely known or settled. Gastric hemorrhages have been noted in various nervous diseases. There have been many investigations made to determine the relation between lesions of the nervous system and abnormal conditions of the gastric wall. As to so-called idiopathic hemorrhages, many believe that their origin would be cleared up if more careful examinations were made. Vicarious menstruation and postoperative hæmatemesis are included under the class from unknown causes. Postoperative hæmtemesis has followed a great variety of abdominal operations, and it has also followed extra-abdominal operations. The exact cause of postoperative hæmatemesis is very obscure, and the subject will have to be carefully investigated before an accurate understanding will be reached.

American Medicine, October 29, 1904.

Angina Pectoris.—John Knott gives a most interesting résumé of the literature on this subject. This disease or group of symptoms is English above all things, one of luxurious living and full feeding rather than of the contrary conditions. It occurs preferably in subjects with a tendency to fatty deposition. As to the internal conditions which determine the external expression of these symptoms known as angina pectoris, the writer thinks that the most important evidence of any has been furnished by Lancereaux and Peter, who in several cases have reported the existence of distinct evidence of neuritis in the nerves of the cardiac plexus. This would account for the pain and the irritative reflex inhibition, which would be a very possible consequence of the involvement of the branches of the pneumogastric nerve involved in that plexus, and would offer an efficient cause of the sudden death which so often marks the period of this painful affection. The writer points out a considerable similarity between the paroxysms of angina and the painful cramps of alcohol neuritis. He thinks that the variable amount of radiation of pain may be due simply to the varying extent to which this neuritis has extended to other filaments of the vasomotor nerves. He asks if this vasomotor neuritis may not be more intimately associated with the distribution of atheroma than pathology has yet pointed out. This affection occurs far more often in males than in females. It is most common after the fiftieth year of life. As has been noted, the majority of these patients belong to the Anglo-Saxon race. The "intellectual and anxious" are specially prone to its invasions. The temper of the sufferer is often a rather characteristic feature of the origin and progress of angina. As to the treatment of this affection, the writer states that the application of amyl nitrite to the relief of the paroxysms of angina pectoris is a boon which has been conferred upon suffering humanity by Sir Lauder Brunton, an achievement which by itself is worthy of winning for him the high reputation which he enjoys. The writer has personally been disappointed in the results of the employment of nitroglycerine.

Is Not the Treatment of Congenital Clubfoot Begun Too Early?—V. P. Gibney first calls attention to the general trend of the modern teaching on this point. The physician is almost invariably advised to begin the treat-

ment of clubfoot at birth, or at least soon after. The deformity begins at an early period of fœtal life, and the presumption is that it steadily increases up to birth. The writer from his large experience with these cases questions, to say the least, the beginning of vigorous treatment immediately after birth. He puts in a strong plea for infant feeding and hygiene, and inclines rather to the postponement of the treatment of clubfoot until after those important items have been attended to. The excoriations and the strained tendons and ligaments must inhibit digestion, and if digestion is inhibited, nutrition cannot proceed satisfactorily. During the last year or two, the writer has declined to treat cases of congenital clubfoot in young infants, and has advised the parents to wait till the baby is old enough to walk. The writer's contention has been along the lines of mitigating the severe forms of treatment. It should not be inferred from the above that nothing whatever is to be done in the way of correcting the deformity during the first eighteen months. A certain number of cases of clubfoot of moderately high degree are corrected fully 80 per cent. or 90 per cent. by the mother's hand alone. Such cases should be seen from time to time, and this work should be supplemented by simpler forms of apparatus. The mother can be taught to apply a side-splint with a soft roller bandage reinforced by a strip of rubber adhesive plaster. This may be removed as often as she has time for manipulating the foot. There are a large number of cases, however, that are not successfully managed by the maternal hand. One reason may he that the mother is often told that she can do little or nothing for the child. Some babies are fully able to stand moderately vigorous treatment without any interruption of digestion. But these are rather the exception. The writer calls attention to the fact that doubtless the facets of the tarsal bones can be modeled after the second summer, especially by means of the use of the foot. This would be analogous to the deepening of the acetabulum, by the use of the head of the femur if this bone is in proper position. The writer emphasizes throughout the paper the importance of regarding the feeding and the hygiene of the child as supreme.

Indicanuria Complicating Typhoid Fever.—Judson Daland believes that indicanuria should be viewed as a complication of typhoid fever which should be removed. Indicanuria often exists without symptoms, but this fact should not be accepted as signifying that no injury is being experienced by the patient. The writer employs the following test for indican: To 10 cc. of filtered urine add one drop of a 1 per cent. solution of potassium chlorate, then 5 cc. of chloroform, and lastly 10 cc. of pure hydrochloric acid of a specific gravity of 1.19. This is thoroughly mixed by pouring it from one test tube to another. The indigo which is set free is dissolved in the chloroform. The maximum coloration is secured in ten minutes. The writer has found indican present in a large proportion of cases of typhoid urine. If it is found, he orders the mouth to be examined and cleansed both before and after the patient takes food. Suppuration of the nasal chambers of the sinuses communicating therewith, and retained decomposing material concealed within the crypts of the tonsils, demand local treatment. Food, especially milk, in passing through an unclean oropharynx quickly undergoes fermentation and putrefaction. Cleanliness of the mouth, pharynx and nares is most important. Calomel, a twelfth of a grain, thoroughly triturated with a grain of sugar of milk, may be taken dry on the tongue every second hour till a grain has been taken. This will stimulate the secretions. The calomel is followed by a drachm of sodium phosphate dissolved in freshly boiled water, taken early in the morning. No food is given for an hour. The juice of half a lemon may be added, if there is no contra-indication. If indicanuria persists, a gentle irrigation of the colon with one or two quarts of a warm normal salt solution may be given. The soft rubber colon tube is introduced for a distance of eight inches, so that the outlet shall be above the sigmoid flexure. The diet is at first exclusively animal broth. Peptonized milk should gradually replace the broths after the gastrointestinal canal has been thoroughly cleared of its contents. Milk and broth should not be consumed at the same time. As soon as possible, an ordinary patient should consume each day from one to two quarts of peptonized milk at two-hour intervals, and at twelve hour intervals a good strong animal broth. Pure water or imported vichy is often of value as a vehicle by which the toxic substances may escape from the body. Ordinarily the treatment of indicanuria is restricted to that period when the ulceration of the intestines is least active. If indicanuria is present during the third week, or at any time when it is believed that the ulcerations are active, unless the toxic symptoms are serious, the treatment for indicanuria should be omitted.

Journal of the American Medical Association, Oct. 29, 1904.

A Chief Predisposing Cause of Appendicitis.—G. Rubin notes the fact that the majority of cases of appendicitis occur between the ages of ten and thirty (about three-fourths, he states), and also the fact that constipation favors, according to many authors, the development of the disease. According to the author of this paper, the disease is directly referable to the following sequence of intestinal conditions: the accumulation of gases below the ileocecal valve and their voluntary retention; the ensuing distension of the cecum and dilatation in various degrees of the cecoappendicular orifice; the entrance into the appendix of larger fecal masses than are readily expelled; the interference with the vascular circulation and resulting erosion of the mucosa of the appendix with subsequent infection. Portions of intestines, about fifty cm. in length, including cecum and appendix, were removed from cadavers, and after the colonic end was ligated small shot, peas, and beans were introduced through the open end, and the bowel manipulated so as to imitate peristalsis. None of the small bodies entered the appendiceal cavity, although the appendix was held at the most pendant point. Then the bowel, still containing those substances, was inflated, the same process of rolling repeated, with the result that in all the experiments, with one exception (where only one shall shot entered owing to an hypertrophied appendical wall and a constricted lumen) the appendix was filled with shot, and in two cases peas of medium size also gained entrance. Ten such experiments were carried out. It may be added here that the appendix was readily ballooned during the process of inflation. It is reasonable to suppose that similar phenomena might occur in the living.

Intubation.—B. R. Shurly reports a series of unusual cases, and in summarizing his views states that obstruction of the tube is more common after large doses of antitoxin. Therefore the string should be left in when indicated. Ordinarily, the tube should be removed at the end of the fourth day. Large doses of antitoxin conduce to conditions favoring early tube removal. Intubation is usually indicated as the primary operation in papillomata of children and acute stenosis of adults.

The Lancet, October 22, 1904.

The Treatment of Lupus Vulgaris During the Last Twenty-five Years.—This question is reviewed by Malcolm Morris, who has treated over one thousand cases of the disease by various methods. His experience leads him to summarize as follows: (1) It must be confessed that after every kind of treatment, whether used alone or in combination with others, recurrence is still very common. (2) As a general statement it may be laid down that small superficial quiescent patches are curable. (3) When the disease is of moderate extent and situated on the face Finsen's method, either alone or combined with the application of the *x*-rays, and supplemented by the use of caustics, is the most efficient mehod in regard to cosmetic effect and probably also in regard to permanency of result. The treatment, however, requires so much time that it is practically incompatible with the pursuit of any avocation needing close personal attention, and directly or indirectly it entails considerable expense. (4) If a rapid effect is desired reliance must still be placed on gentle cautery if the disease is on the face, and excision if it is on the limbs or the trunk, supplemented in the former case by pyrogallol, salicylic acid, nitrate of silver, or other caustics. (5) very extensive and severe cases in which the health is affected must be dealt with by the general measures (open-air treatment, feeding, exercise, etc.) used at the present day in the treatment of pulmonary tuberculosis.

Drainage of the Pericardium.—Two cases are reported by H. S. Pendlebury. One survived and made a good recovery, while the other died. The author prefers a vertical incision to one along the lower border of the seventh rib, because (1) it gives access to the sac without interfering unduly with the attachments of the rectus muscle, and (2) because it permits the operator to proceed at once with the removal of the sixth costal cartilage if this becomes necessary. About twenty minutes are required for the operation. In simple effusion the drainage tube may be removed in three or four days. The presence of the tube does not seem to embarrass cardiac action. The removal of the seventh costal cartilage is advised except in cases of very young children. The internal mammary and superior epigastric vessels are pushed towards the middle line or divided and the cellular interval—"costo-xiphoid space"—between the seventh costal cartilage, ensiform cartilage, and the attachment of the diaphragm is broken into. The triangularis sterni, with the intercostal membrane and muscle, is divided in the line of the incision up to the sixth costal cartilage, then carefully pushing aside both the right and the left pleura the operator, in order to avoid all danger of opening the peritoneal cavity, should incise the pericardium just above the level of the base of the ensiform cartilage and with his finger enlarge this incision downwards into the costo-xiphoid space.

British Medical Journal, October 22, 1904.

Intrauterine Infection of the Fœtus in Smallpox.—Thomas Percival records another instance of this kind. On January 28, 1893, a woman came from a house in which there had been smallpox to the writer's district. She was confined on February 6 and developed smallpox two days later. The baby was vaccinated, showed smallpox on February 16, and died on February 20.

A Cervical Tumor.—J. Wishart Kerr reports this case: The patient, aged 18, had a growth which had increased in size since she was a little girl. The whole right side of the face had hypertrophied in order to carry the weight of the tumor. The tumor bulged into the mouth, the floor of which was completely gone. Eating was becoming impossible and speech was reduced to inarticulate grunts. Six unsuccessful attempts had already been made to remove the tumor. On account of the condition of the parts, a preliminary tracheotomy was impossible. Chloroform was administered and an incision was made in the middle line of the neck, from the chin down to within two inches of the base of the tumor. The incision was then extended outwards and upwards to the left. The blood vessels were secured and the platysma and cervical fascia were opened up. The tumor was held away from the windpipe. An incision was then made across the right side of the neck as far as the angle of the jaw and the flaps turned up and down. The tumor, which was a lipoma, was shelled out fairly easily. But its firm attachment to the root of the tongue had to be carefully dissected out. It was found that the tumor had been lying over the trachea, and close on to the spinal column; it also extended up behind the pharynx to the base of the skull. An appalling gap was left. A floor for the mouth was made out of the cervical fascia, the incisions stitched up, and a drainage tube inserted. The blood supply to the tumor was large, and the veins had grown enormously. For three days the patient was fed per rectum. Then a tube was passed along the mouth to the back of the throat, and feeding took place through it. The patient soon fed herself from a feeding cup. The later history was uneventful. The tumor weighed nearly four pounds, and was a typical fatty tumor.

Operation for Cancer of the Womb in Germany.—Olshausen discusses the operative treatment of carcinoma uteri, as to which is the preferable method, the employment of the abdominal or the vaginal route. In operating upon cancer in general, the writer believes that the chances for radical cure are much greater if the operation extends widely beyond the disease, and if the local lymphatic glands and connective tissue are removed. But he adds that it is a question in his mind how far this can be done in cases of cancer of the uterus, and whether the result can promise much compensation for the increased risk of this method. It is impossible in the operation to see which glands are affected, or if they are affected at all. Commonly the glands do not become affected in carcinoma uteri till very late in the course of the disease, but, nevertheless, in some cases they become affected very early. Small glands may contain cancer cells, large ones may be normal. Such a dissection as that performed in the axilla in the modern operation for mammary cancer is absolutely impossible in the pelvis on account of the anatomical relations. Thus the abdominal operation will never promise a radical cure if the cancer has progressed beyond the uterine tissue. As to the primary mortality, only one operator in Germany has had satisfactory primary results. As a factor of the high mortality, injuries to the adjacent organs must be considered, especially to the urinary tract. As soon as the cancer is no longer confined to the uterus itself, the chances of a radical cure are improbable by any method of operating. If the cancer is still confined to the uterine tissue the vaginal operation is certainly sufficient. The writer states that great progress has been made with the vaginal method. From 1903 until the present date he reports 137 cases, with 6 deaths, or 4.4 per cent. He does not state that the abdominal operation is to be entirely excluded. He performs it in those cases in which he fears that the cancer has spread and surrounded the ureters. The ureter is more easily accessible by the abdominal than by the vaginal route. The writer does not advise clearing out the glands, for when they are once affected the cases must progress and end fatally, perhaps, with very few exceptions, whether operated upon or not. He concludes by saying that it has by no means yet been shown that a greater number of cases have been radically cured by the abdominal operation than by the vaginal method. The choice of the vaginal operation is therefore justified up to the present time, and possibly will remain so for the future.

Berliner klinische Wochenschrift, October 10, 1904

New Color Reactions for the Sugars.—Neumann describes a modified orcin test by which pentose and hexose may be detected and various members of these groups differentiated. The technique is as follows: Ten drops of the watery solution to be tested are mixed with 5 cc. of glacial acetic acid and a few drops of a 5-per cent. alcoholic orcin solution and heated to boiling. The test tube is placed in a holder and concentrated sulphuric acid is added drop by drop. Constant shaking is necessary to keep the fluid from spurting out of the tube. The acid is added till a decided color is reached. The amount required varies with the concentration of the solution tested, it is useless to add more than fifty drops as an excess of acid decomposes the orcin and gives a yellow color. No more acid should be added after a distinct color is obtained, or misleading mixtures of colors will result. The color is judged and the spectroscopic examination of the fluid made when it has cooled. If too deep, the fluid may be diluted with acetic acid without changing the color. Arabinose gives a violet red; xylose, warm, violet blue; cold, blue; glycuronic acid, warm, green; cold, greenish blue; glycose, brownish red; fructose, warm, brown; cold, yellow brown.

Glycuronic Acid Formation in Man.—Wohlgemuth publishes the results of a series of analyses made of the urine in a case of cocaine poisoning, which tend to corroborate the views of those who believe that glycuronic acid is formed as a result of insufficient power of the organism to oxidize sugar. In this case large quantities of phenol-glycuronic acid were excreted, because, as a result of the cocaine intoxication, the powers of oxidation were diminished, and the body was unable to oxidize the sugar, which it normally would have burned, as well as the glycuronic acid formed in response to the presence of the cocaine and camphor given as a stimulant. A part of the sugar and a part of the glycuronic acid thus reached the urine unchanged. This inability decreased from day to day, as was shown by the gradual diminution in the amount of sugar. The glycuronic acid seized upon the phenol, which normally enters into other compounds, and combined with it, as it possesses a great affinity for this, and was excreted as phenol-glycuronic acid. The case is interesting as throwing light on the obscure question of the origin of glycuronic acid.

Pus Studies.—Posner has made morphological studies of the pus cells obtained from gonorrhœal cases. He differs from some writers, who believe that vacuolization of the protoplasm of the cells indicates a late stage of the disease, since he has found it well marked on the second to seventh day, and has often been unable to detect it in older cases. He regards pycnotic nuclei as representing degeneration, but does not draw any diagnostic conclusions from this fact. In four cases of nongonorrhœal urethritis he found this type of nucleus three times, and therefore questions whether it may not be the result of the presence of bacteria other than the gonococcus. Eosinophiles do not appear to have the connection with the prostate that some authors claim for them. They are most abundant from the fourth to the sixth week, are rare in the early and later stages of the disease and in nongonorrhœal urethritis. The author believes that the presence of many eosinophiles indicates a true gonorrhœa in about its fourth to sixth week. Mononuclear cells are not especially significant of late stages of the disease, as Pappenheim has claimed. Epithelial cells indicate a regenerative process, and therefore point to beginning cure.

Münchener medizinische Wochenschrift, Oct. 11, 1904.

The Treatment of Hernia by Alcohol Injections.—Brodnitz calls attention to this method of treating hernia, which was advocated by Schwalbe in 1870, and then allowed to fall into disuse again. The author has tried the plan on seventy-three patients, of whom twenty-five were children. Of the cases with large ruptures, the ring admitting one to two fingers, six months after termination of the treatment four out of nineteen had recurrences. In twenty-six other cases there has been no return of the hernia. In children the author injects 0. 5-1. g of absolute alcohol every two to three days, depending on the intensity of the reaction, into the tissues of the inguinal canal. Adults receive from 3-5 g. at each sitting. The treatment is rather painful, and it is well to precede it with a preliminary cocaine injection. The local reaction produced is variable. After the first two to three injections but little disturbance is noted; after that swelling appears at the site of the injection. This point is avoided in subsequent treatments, and after eight to ten injections a uniform swelling and thickening of the inguinal canal results, which prevents the entry of the finger into it or the egress of the intestine. The author says the method is suitable for children, for persons with incipient hernia requiring the use of a truss, in cases where the hernia cannot be retained by a truss and operation is contraindicated for some reason, and for patients who dread operations and prefer the uncertainty of this method to the more reliable surgical procedure.

Spinal Anæsthesia in Obstetrics.—Martin gives the details of thirty cases in which spinal cocainization was performed during labor. In each case 1.0 cm. of a 1-2,000 adrenalin solution was first injected, followed in about five minutes by the cocaine injection. Anæsthesia was obtained in all cases except one, and in this sensation was diminished. Marked variations existed as to the duration of the anæsthesia. In nine cases it did not exceed half an hour, in other instances it lasted from one to three hours, and in two cases it persisted for four hours. The third stage was not modified in any undesirable manner, and sutre of the perineum was performed painlessly in several instances. Marked nausea and vomiting were frequently caused, as well as sensations of general malaise, and these symptoms were not controlled by subcutaneous injections of caffeine salicylate, as Tuffier has recommended. The degree to which the pains were modified was variable, but in cases in which the delivery took place within one to one and a half hours the effect was very good. The uterine contractions were somewhat retarded and the abdominal muscles were called into play only when the patient was urged to do so. The puerperium and milk secretion were not influenced by the spinal anæsthesia. The author considers these results so favorable that he intends to make further tests of the method in cases where the use of chloroform is undesirable, in order to determine in what respects spinal anæsthesia is to be preferred to the ordinary methods.

Hemorrhage from the Visceral Wound in Gastroenterostomy.—Doberauer says that the subject of bleeding from the cut edges of stomach or intestine in operations on these organs has received very little attention from writers. It is usually stated that the customary sutures will control all hemorrhage as soon as they are placed, and that it is unnecessary to stop to ligate any small vessels in the cut tissues. That mishaps may, however, happen is shown by a case of the author's, in which, after a gastroenterostomy, the patient gradually became weaker, vomited fresh blood and went into collapse. It finally became evident that the abdomen must be reopened, and this was done. The upper part of the intestine was found filled with blood, which came from an arterial and a venous vessel in the intestinal wall. These were ligated and the operation completed as before, and though the patient had been so stuporous as to require no anæsthetic, she promptly recuperated and made a good recovery. This incident does not, in the author's opinion, require that our technique should be modified, and every bleeding vessel be separately ligated in such operations, but it does indicate the necessity for a very careful laying of the sutures and taut adjustment of them. Whether the use of clamps to prevent the escape of intestinal contents during the operation favors the occurrence of secondary hemorrhage or not is difficult to decide; such appliances probably have little to do with the matter. Several instances of post-operative bleeding of this sort described by other authors are quoted.

Deutsche medizinische Wochenschrift, October 13, 1904.

The Therapeutic Effect of Radium Rays.—Werner and Hirschel treated by means of radium twenty-two patients, including five cases of carcinoma, one of melanosarcoma, five of angioma, seven of lupus, two of nævus, one cheloid and one tubercular ulcer of the tongue. The six cases of malignant disease did not yield favorable results, and the authors do not feel encouraged to persevere in this direction. The treatment of operable growths by radium is not to be recommended, and on the other hand, the chances of cure are so slight in inoperable cases that the predictions first uttered for this treatment do not seem likely to be fulfilled. With the benign growths more satisfactory results were obtained. The authors are of the opinion that in cases where the treatment must be forced, it is preferable to make frequent and long-continued exposure to the radium, for though the resulting necrosis of the skin produces ulcers requiring weeks to heal, yet the treatment of these is simple, and the scars remaining are not disfiguring. It is open to question whether mild applications are not more injurious than helpful, owing to the stimulation they cause, and the authors conclude that the radium should be applied with vigor or not at all.

Motility of the Stomach in Achylia.—Elsner says that the prevailing idea that in chronic gastritis or achylia the motility of the stomach is unimpaired or even increased rests mainly on the observation that attempts at removing the gastric contents after a test meal in such patients usually do not produce a sufficient amount of residue. If the stomach is washed out, however, after such an unsuccessful attempt, it will be found that a considerable amount of material is obtained. This is explained by the fact that through the impairment of gastric secretion the bread comprising the test meal is insufficiently moistened and forms a solid mass, which does not readily enter into the stomach tube. The failure to get a satisfactory amount of residue in these cases is therefore due to the thicker consistency of the gastric contents, and not necessarily to a change in the motility. The author describes a roughly approximate test of motility, which consists in giving the test meal after it has been subjected to a preliminary softening, and then washing out the stomach one hour later. The material obtained is decanted into graduated cylinders and the amount of sediment read off at the end of twenty-four hours. If large lumps appear in the washings, these should be broken up before sedimentation. From results obtained in this way the author concludes that achylia does not have a constant effect on gastric motility, and that no fixed statement can be formulated for this feature of the disease.

French and Italian Journals.

Dissimulation in Reference to Some Cases of Insanity.—E. Crisafulli tells us that dissimulation in some cases of insanity becomes of the greatest interest medico-legally, as well as from a medical point of view. An insane person may have all sorts of ideas injurious to himself or to others, and may yet conceal them so effectually that for years the public and his friends do not realize that he has any mental trouble, until some overt and perhaps harmful act causes his case to be inquired into more carefully. The demeanor of such persons is very various; the deceitful acts may come in episodes, or the dissimulation may be persistent and be one of the causes of the mental trouble. The patient may feign a state of mind that is exactly opposite to the real one, in order to conceal his real feelings. After entering an asylum he will plan to seem for a long time sane, in order to obtain his liberty, and on going home will relapse into the old condition. Insanity may be recognized only when a will is read, which imposes ridiculous and harmful conditions upon the heirs. The patient may conceal ideas of suicide or homicide, while exercising great cunning in obtaining the weapons needed to commit some terrible act. This feigning only goes on for a time, and in the end the power to conceal the mental failure breaks down, and the real state of things appears. The author mentions instructive illustrative cases, and concludes by saying that the form of the malady, the physique of the patient, and his surroundings, influence the manner of his deceits, and the length of time that he can appear sane. The feigning usually increases the psycopathy, brings about exacerbations of disease, and forms one of the factors that aid the disintegration of the diseased mind. The sick man usually realizes that his mind is in an abnormal condition, but even in cases when he does not do so he may still make attempts to deceive.—*Gazzetta Medica Lombarda*, September 26, 1904.

A Case of Primary Cancer of the Vertebral Column.—M. Péhu and J. Coste state that, although it is relatively common to find secondary foci in the vertebral column, in the course of the various visceral neoplasms, it is not the same with primary cancer of this region. The indisputable cases of this kind are rare. They report a case of a patient who was suddenly attacked with a complete paraplegia. At the autopsy the writers discovered the existence of a primary cancer of the vertebræ. The man was 54 years old, with a good family and personal history. He was brought to the hospital on account of pain which had first appeared in his legs, but which shifted to the region of his waist. He had lost weight and had a cachectic aspect. Palpation of the abdomen was almost impossible on account of the pain. There was the same difficulty with the lumbar region, although there was nothing abnormal to be noticed on inspection. Mobility, the sense of feeling, and the reflexes, were all normal. Nothing abnormal could be detected in any of the organs. The urine was clear, but had a little albumin in it. One morning the patient was up for a short time, and at the moment when he lay down again he had a sharp pain in the lumbar region, and immediately there developed complete paralysis of the lower members. The reflexes had completely disappeared. There was retention of urine, but this condition gave place several hours later to incontinence. Eschars developed. The patient slept constantly, although he would waken when spoken to, and would answer questions. Four days after the appearance of the paralysis he died. At autopsy the viscera were found to be normal, but a tumor was discovered which had originated in the eighth and ninth dorsal vertebræ. The tumor had destroyed these vertebræ to the extent of causing a subluxation at this point. Histological examination showed that this tumor had its origin in bony tissue. The spinal cord at the point of fracture of the vertebral bodies, which had been caused by the inroad of the growth, looked as if it had been cut by a sharp instrument. There was complete myelomalacia. Surgical intervention under the existing conditions would have been of no avail.—*Lyon Médical*, October 9, 1904.

Book Reviews.

First Lessons in Food and Diet. By Ellen H. Richards. Instructor in Sanitary Chemistry in the Massachusetts Institute of Technology. Boston: Whitcomb & Barrows. 1904.

The text of this little book is presented in ten chapters or lessons. It is intended for use in schools and by women's clubs. The author discusses such topics as Plant Life, Food for the Child, the School Luncheon, What Shall We Eat as a Family? Daily Food, and Principles on which Bills of Fare Are Made.

The Medical Epitome Series. Nervous and Mental Diseases. By Joseph Darwin Nagel, M.D. 266 pages. Philadelphia and New York: Lea Brothers & Company, 1904.

Essentially a book for "crammers," clear and yet not graphic. In a science in which so many opposing theories are held as in neurology, it is hardly possible to weave the writings of the great teachers into a "compact fabric," as the editor claims to have done. He neither takes the responsibility for the statements made, nor does he cite his authorities.

Serums, Vaccines, and Toxines in Treatment and Diagnosis. By William Cecil Bosanquet, M.A., M.D., Oxon., F.R.C.P., Lond., Physician to Out-Patients, Victoria Hospital for Children, etc. Chicago: W. T. Keener & Co.; London: Cassell & Company, Limited, 1904.

This attractive little volume is intended to serve as an introduction to the broad field which is now covered by the title. So much experimental work is being done at present in this department that the mass of accumulated material is too great for any one not especially interested to keep pace with and the author provides a short cut for those who would gain a bird's-eye view of the subject without studying at length the voluminous literature. The various topics are treated simply, yet with sufficient fulness for the purpose, and we can commend the book to those interested.

The Physiological Feeding of Infants. By Eric Pritchard, A.M., M.D., M.R.C.P. Second Edition. Chicago: W. T. Keener & Company, 1904.

This book is so rewritten and amplified as properly to be considered a new book. It is written in a style so clear and simple that a nurse of average intelligence will have no difficulty in understanding it; and so convincing, that a general practitioner will gladly abide by its teachings. The book has two distinct parts. The first treats of the actual feeding of infants, laying stress on the adaptation of food to individual needs; on breast feeding when possible; on milk modified according to percentage composition of human milk, as second choice; and on the use of gravity cream. Tables are given for modification of milk, and recipes for substitute foods. The second part considers the characteristics and development of a normal infant, with the causes and first indications of a departure from the normal.

The Suppression of Tuberculosis. By Prof. E. von Behring. University of Marburg; authorized translation by Charles Bolduan, M.D. New York: John Wiley & Sons, 1904.

Monographs on the tuberculosis question follow one another with such rapidity that it is difficult to keep track of them all. The present pages dwell particularly on phthisiogenesis in man and animals, and furnish suggestions concerning the hygiene of cow stables and the production of milk for infant feeding. The author believes that milk fed to infants is the chief cause of tuberculosis, hence the lines along which he elaborates his thought. He believes it probable that in thickly populated countries, practically every person is at some time or other infected with tuberculosis, the outcome of such infection depending in a high degree on the physical state of the individual and the accidental conditions of the infection. The book is suggestive alike to the physician, sanitary officer, and veterinarian.

The Doctor's Red Lamp. A Book of Short Stories Concerning the Doctor's Daily Life. Selected by Charles Wells Moulton. Chicago, Akron, O., New York: The Saalfield Publishing Co., 1904.

This is the second volume of the "Doctor's Recreation Series," the first of which was noticed in this column a few weeks ago. It is a well-arranged selection of stories from various sources, in each of which a medical man is one of the leading characters. Some of the stories are familiar to readers of current literature, others are not, but all are interesting and well told, and physicians, even those who occasionally tire of the shop and prefer to rest their brains in outside reading, will be glad to have the stories conveniently grouped in a volume by themselves. Among the authors of the various tales are Conan Doyle, Ian Maclaren, Ruth McEnery Stuart, Mrs. Oliphant, and Henry Seton Merriman. There are twenty-two stories and four full-page pictures. The book is well printed and prettily bound and is in every way an addition to the physician's library.

A Text-Book of Physiological Chemistry for Students of Medicine and Physicians. By Charles E. Simon, M.D., of Baltimore, Md. Second edition, revised and enlarged. Philadelphia and New York: Lea Brothers and Company, 1904.

The second edition of Simon's now well-known manual of physiological chemistry presents the same matter as the first, which was reviewed in these columns, and, in addition, has received the benefit of a thorough revision, and of the insertion of accounts of the latest researches in this field. The progress of investigation made necessary an almost complete re-writing of the chapters on albumin, on nitrogenous metabolism, and on the digestive ferments. In its present shape, therefore, the book offers a résumé of the most modern researches on its subject, together with a thorough treatment of the fundamentals of physiological chemistry. A valuable addition, also, is a scheme for a series of laboratory exercises on the various topics discussed. The book will undoubtedly appeal to students and to the physician who has time and inclination to refresh his knowledge of the science which is the basis of so much of our present and future knowledge of disease and its treatment.

Friedberger and Fröhner's Veterinary Pathology. Authorized Translation. Translated and Edited by M. H. Hayes, F.R.C.V.S., author of "Points of the Horse," "Veterinary Notes for Horse Owners," etc. With notes on Bacteriology by Dr. G. Newman, D.P.H. Volume I. London; Hurst and Blackett, Ltd.; Chicago: W. T. Keener & Co., 1904.

Friedberger and Fröhner's *Lehrbuch der speciellen Pathologie und Therapie der Hausthiere* is a recognized authority on veterinary medicine, and it is used as a text-book in the veterinary colleges of both Germany and France. "Owing to the fact that the infective diseases of animals can in many cases be communicated to man, and that their occurrence in our meat and milk producers is a serious question of public hygiene, the first volume of this translation will appeal to doctors as well as to veterinary surgeons." By far the greater part of this volume deals with the infective diseases, and we may mention, as of particular interest, the section on tuberculosis. The editor has provided articles on Surra, South African Horse Sickness, Australian Tick Fever, Ixodic Anæmia in Jamaica, and Louping Ill, subjects omitted in the original. Dr. Newman's Notes on Bacteriology are a model of their kind. The book is both interesting and instructive.

A Practical Treatise on Diseases of the Skin. For the Use of Students and Practitioners. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College, Chicago; Dermatologist to the Presbyterian, Augustana, and Michael Reese Hospitals of Chicago, and Consulting Dermatologist to the Chicago Hospital for Women and Children, and Frank Hugh Montgomery, M.D., Associate Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College, Chicago; Professor of Skin and Venereal Diseases, Chicago Clinical School; Attending Physician for Skin and Venereal Diseases, St. Elizabeth Hospital, Chicago. Seventh and Revised Edition. Philadelphia and New York: Lea Brothers & Co., 1904.

The latest edition of this excellent work has been thoroughly revised. Much of the older material has been eliminated, while the results of modern researches are incorporated in this present volume. The engravings and plates, as well as the text, have been revised. No effort has been spared by the authors to present a treatise on Dermatology that represents the science in its most advanced state. The new subjects treated are: General Pathology of the Skin, Radiotherapy and Phototherapy, Granulosis Rubra Nasi, Pyroplasmosis Hominis, Erythema Elevatum Diutinum, Ulcerating Granuloma of the Pudenda, the Psoriasiform Dermatoses (Parapsoriasis), Acrodermatitis Perstans, Dermatitis Vegetans, and Acrodermatitis Chronica Atrophicans. Various sections have been largely or wholly rewritten, among which are those dealing with Psoriasis, Dermatitis exfoliativa, Pityriasis rubra, Pityriasis rubra pilaris, Lichen ruber, Lichen planus, Ichthyosis, Elephantiasis, Acromegaly, Xeroderma pigmentosum, Cutaneous tuberculosis, Erythema induratum, the Dermatoses associated with tuberculosis, Blastomycosis, Acrodynia, Pellagra, Oriental sore, Phagedena tropica, Piedra, and Verruga peruana. The technique of both the Finsen light and the *x*-rays and their value in skin diseases have been fully considered, both separately and in connection with those affections in which they have proved useful. The bibliographical references are most conveniently arranged, and are of great value. As in former editions, both the apothecaries and the metric systems of weights and measures are used in the discussion of remedies.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held October 20, 1904.

Dr. Andrew H. Smith in the Chair.

Primary Malignant Neoplasms of Lung and Pleura.—Dr. Isaac Adler delivered this, the Wesley M. Carpenter Lecture for 1904. The disease in question was one of the rarest, and most text-books devoted but very little to its consideration. The literature was very widely scattered. The treatment of malignant neoplasms of the lung and pleura was almost entirely neglected, the majority of the writers devoting themselves to pathology and the minute anatomy of the condition. Little was said about sarcoma of the lung and pleura. The lung and pleura were so close and interdependent that it was very difficult at death to state which gave rise to the primary trouble. Personally the speaker had had experience with ten cases, all of which had given him an opportunity to study them closely for a long time, and, in the majority of these cases, the correct diagnosis made during life was confirmed at autopsy. He thought that a general survey of the whole subject might be of some use and interest.

In all, 330 cases were collected from the literature. The earlier reports presented difficulties in obtaining proper data. All doubtful cases were excluded from their consideration, and only such cases were accepted in which the autopsy records confirmed the diagnosis. In the majority of cases the original publications were studied. Primary malignant neoplasms of the lung and pleura seemed to be considered very rare, although this might be due to many cases not being diagnosed. Statistical material was very insufficient. Wolff of Munich, in 20,160 autopsies, found forty-five instances of primary cancer of the lungs. Figures were given to show that the percentage of cases seemed to increase within recent years, in all probability because the cases were more frequently diagnosed. He showed a specimen of adenocarcinoma which involved the middle lobe of the right lung near its root, which might have passed for a pneumonic or other consolidation, and which was only found by accident in a woman who had died of post-operative sepsis. The probabilities were that primary malignant disease of the lungs and pleura was much more frequent than generally supposed. Notwithstanding this, malignant tumors might be said to be rare in this situation and it was a curious fact that those organs which were the most often affected by secondary deposits, rarely were the seats of primary ones. The proportion of males and females was about five to one. In one collection of cases there were 227 males and 90 females. The right side was more often involved than the left, one reason being, perhaps, that the right bronchcus was more perpendicular. In the series of cases reported, the right side was involved in 155 cases, the left in 142, the remainder being doubtful. There was one case under one year. The history of this interesting case was reviewed, and there was no question but that it was a primary carcinoma. In the first decade there were two cases; in the second decade there were eight cases; in the third decade there were twenty-seven cases; in the fourth decade there were thirty-six cases; in the fifth, sixty-three cases; in the sixth, eighty-four cases; in the seventh, seventy cases; in the eighth, twenty-two cases; after the age of eighty years there were but two cases:

Dr. Adler considered the pathology of carcinoma, sarcoma, and epithelioma of the lung and pleura. Carcinoma was by far the most common; in his ten cases all were of this variety except two or three. He had found it extremely difficult accurately to classify these growths from the literature. Undoubtedly carcinoma was met with in 211 cases and sarcoma in twenty-two cases; endothelioma was noted in twenty-four cases, ten were mixed cases, and the remainder he failed to classify. After referring to four types of carcinoma, he said that the great majority of these cases originated from the bronchi. Cancer of the lung had a tendency toward ulceration, the bronchi breaking down with the formation of cavities. The dissemination of cancerous material was by way of the lymphatics, although it was found to be carried by the blood vessels as well. Bronchial cancers at the root of the lungs formed very large tumors in the mediastinal spaces; adhesions here readily formed, involving the pericardium and other nearby structures. Cancerous thrombi formed which proliferated. There were many complications to the clinical picture of cancer here, especially the tendency to hemorrhage. The aorta itself had never been known to be involved by a tumor. The microscopical picture of carcinoma of the lung was very complicated because of complexity of structure. The diagnosis between carcinoma and sarcoma was often found to be extremely difficult. The essential feature in the former was the character and behavior of the epithelial cells. The histogenesis of this class of tumors was very unsettled, and in the majority of the cases of primary carcinoma of the lungs was very obscure and doubtful. Sarcomata of the lungs had not received much attention in pathology. They occurred as massive tumors, and softening and degeneration, with the formation of cavities, rarely occurred. Lymphosarcomas had no tendency towards degeneration at all. Little was known of the histogenesis of sarcoma of the lungs. In 1879, Wagner described a neoplasm of the pleura which he called an endothelial cancer, which produced much discussion. The authorities differed greatly on the fundamental question as to what it was proper to call endothelioma. In tumors of the lungs it was very difficult to determine whether they took origin from the epithelium or from the endothelium. The endothelium had a very strong tendency to proliferate in many pathological conditions, especially in acute and chronic inflammations, and it was very difficult to distinguish a neoplastic growth from proliferation. Primary epithelioma of the pleura was sharply characteristic; the pleura was very much thickened, and especially the costal pleura. The pleura was hard and lacked its normal glossy surface. The microscope must establish the diagnosis. Quite extensive papillary growths of the pleura often occurred and, in all cases, there was an effusion, usually hemorrhagic in character, which filled the pleural cavities.

Cancerous erosions of blood-vessels were quite common, and caused metastasis; in twenty-seven of the cases referred to no deposits were found at all. The retroperitoneal lymph nodes were frequently involved. The mesenteric glands were involved in ten of the cases, the inguinal in four. Metastasis occurred in the liver eighty-seven times; the kidneys were involved in forty-nine instances, while the pericardium was affected frequently. In many cases attention would be called to the metastatic formation before the original tumor was diagnosed. Pericardial adhesions very frequently occurred, and the heart was often affected, the heart being invaded by direct proliferation. The aorta was frequently found to be surrounded by the tumor, but its walls were never taken up by neoplastic tissue. In only one case was it shown that the œsophagus was affected by metastasis. In a case of sarcoma the clavicle and hip were affected. In another case the appearance of a spontaneous fracture drew attention to such a metastasis; the primary sarcoma of the lung was only found on autopsy. Metastasis occurred in the brain in twenty-seven cases. The implication of certain nerves was quite common, the pneumogastric taking the lead in this respect. The diaphragm and peritoneum were frequently involved. In six cases the thyroid, in three cases the bladder, and in three cases the intestines were affected by metastasis.

Heredity was of small significance as a predisposing condition, but five cases being found in which this was positive. Habits and occupation were not found to be predisposing factors. So far as a predisposing cause existed among metal workers and the like, nothing of value was noted. Why women were less susceptible than men

was still unsolved. Traumatism as an etiological factor was given in a number of instances, but if any influence was exerted, it probably was simply as a stimulant to the neoplastic growth. Active tuberculosis was noted in thirteen out of thirty-one cases of sarcoma reported by Wolff, but he thought that it had only been proven that cancer and tuberculosis might exist at the same time.

A number of cases were recorded in which there were no symptoms. In looking over the clinical history of many cases, one was struck by the monotony of the symptoms, such as pain, cough, etc. The most frequent of the earliest signs was the cough, and every variety of cough was encountered. The character of the sputum was considered important in primary malignant neoplasms of the lung and pleura. Hæmoptysis and the prune-juice expectoration were found to be almost pathognomonic. In 158 cases no aid could be had in diagnosis from the character of the expectoration; in thirty-seven cases during the entire course of the disease there was not a trace of expectoration. In fifty cases there was more or less abundant sputum, but no trace of blood. The sputum in many cases contained gangrenous masses—green sputum. Persistent green sputum was strongly suggestive of sarcoma of the lungs. In thirty-eight cases the sputum was found to be bloody, in thirty-three cases it was constantly mixed with blood. Reliance could not be placed upon any findings of characteristic cells, so-called, in the sputum, and a diagnosis could only be made by an examination of the tumor particles expectorated. Hæmoptysis occurred very frequently, and this might be the cause of death; this danger was always to be borne in mind. Dyspnœa was frequently noted, the most excessive dyspnœa being due to obstructions of the trachea. Pain as an early symptom was noted in 121 cases, and this was commonly considered a gauge of the extent of pleural involvement. Malignant tumors of the lungs were not usually associated with cachexia. In one case which lasted four years there was a florid condition of the skin at the time of death. In many cases this might be marked, especially in sarcoma. Pleuritic effusion was one of the most common occurrences in primary sarcoma of the pleura and, as a rule, it was found to be perfectly clear, but gradually became bloody as the disease progressed. Microscopical examinations of the exudate often aided in the diagnosis. Many pressure effects were noted. The physical examinations of the chest gave results varying much in character. The physical diagnosis depended mainly upon the anatomical distribution of the disease. In some cases flatness was noted, in others tympanitic sounds were elicited. There were manifold variations. Intense dulness, often flatness, with a woody resistance in the upper part of the right or left lung, associated with abolished voice and breathing sounds, not extending to the apex, presented a group of symptoms which were fairly pathognomonic of malignant neoplasms of the lung and pleura. The one absolute and characteristic pathognomonic sign was the finding of the tumor elements in the sputum.

There was great difficulty in making a diagnosis between tuberculosis and tumor, for the clinical as well as the physical signs were found in both. Syphilis must be differentiated, as well aneurysm. The diagnosis of malignant disease of the pleura was not often difficult. The *x*-ray was of great value in diagnosing diseases of the chest. With a proper consideration of all the points in the history, and a careful physical examination, a correct diagnosis of malignant neoplasms of lung and pleura might be obtained in many cases; although such a correct diagnosis meant the death-warrant of the patient, it accrued to the benefit of suffering humanity.

The Nurse's Bureau.—Dr. A. Jacobi said that this bureau had been established for the purpose of accommodating physicians and the public at the same time, and it had been very successful. In the last Legislature of the State of New York, a law was passed that there should be no bureau of this kind continued without a license, and this license was a costly one. He did not think the Academy of Medicine should go into business of this kind; the Academy was an educational body and, therefore, it paid no taxes. If it paid such a license the City of New York would call upon it to pay taxes. The nurse's bureau was not founded for the purpose of making money and, therefore, he asked that a vote be taken to discontinue it. This request was unanimously assented to.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Ninety-Ninth Annual Meeting, Held October 24, 1904.

The President, Dr. Wendell C. Phillips, in the Chair.

Officers Elected.—*President,* Dr. Henry S. Stearns; *First Vice-President,* Dr. Floyd M. Crandall; *Second Vice-President,* Dr. Walter L. Carr; *Secretary,* Dr. John Van Doren Young; *Assistant Secretary,* Dr. Edmund Prince Fowler; *Treasurer,* Dr. Charles H. Richardson; *Censors,* Dr. Wendell C. Phillips, Dr. William H. Park, Dr. H. Semour Houghton, Dr. Joseph Brettauer, and Dr. Egbert Le Fevre.

After the annual reports of the chairmen of the various committees had been received, a series of short addresses followed.

Recent Developments in Clinical Pathology.—Dr. Frederic E. Sondern said that the chemical and microscopical examinations as an aid in diagnosis and prognosis had received a large share of attention during the past few years, and that the refinement of the work demanded expert knowledge somewhat beyond what was acquired in our medical schools, and more elaborate outfits. The great difficulty to be overcome was the amount of time required by this work and, as a result, much of it was done by beginning practitioners of medicine, who were often insufficiently equipped, and by men who lacked clinical knowledge, and who were consequently unable to appreciate the direction in which to pursue their investigations. The publications on the subject were oftentimes faulty from the physician's point of view. Most men appreciated the fact that clinical pathology was of more of less value in diagnosis and prognosis, but, as in all other classes, there were extremes. It was reasonably plain that the practitioner who ignores to-day the microscope and test-tube is as short-sighted as the man who makes every diagnosis in the laboratory; the laboratory findings should only be considered a part, or as a support, in diagnosis. Dr. Sondern then considered but a few of the things which had undoubted merit. The differential diagnosis of chlorosis, anæmia, and pernicious anæmia, he said, was well understood by all. He referred to the present methods of determining the amount of coloring matter in the blood. Leukæmia was badly classified. Since the blood examination had become a routine matter, much regarding leukæmia had been published, and he hoped for a better classification of this disease. The Widal reaction in typhoid fever rarely gave positive results before the fifth day in bed. This made the test of less value in diagnosis in the early stages of the disease than had been hoped. The blood changes, as indications of inflammatory lesions had recently been studied, and were the subject of much discussion as an aid in diagnosis. Leucocytosis he believed to be largely dependent upon body resistance. Thus, given a well pronounced resistance, leucocytosis will appear in slight infections; on the other hand, given a poor resistance, little or no leucocytosis will appear in grave affections. He said he had been impressed with the fact that a differential count of the leucocytes was a far better guide as to the status of the inflammatory process; furthermore, leucocytosis with a differential count might be an indicator of body resistance. The examination of exudates and transudates had become a subject of extensive research. In the differential diagnosis of these, the older chemical methods were still much used. Urine analyses and attention to faulty metabolism were important in diagnosing eclampsia and puerperal tox-

æmia; also intestinal lesions and so-called rheumatism and gout. On diagnosing the varieties of nephritis there was much that was of value besides the presence of albumin and casts. In diabetic urine there were other facts that gave us a better insight of the patient's actual condition than the mere knowledge of the presence of sugar. Estimating the renal functional ability was of value to the surgeon. He said that Dr. Cabot had stated that, as a result of investigation, there was absolutely no value to be placed on the mere knowledge of the daily excretion of urea; that it was of no importance unless we had an accurate record of the intake. Dr. Sondern said that while there was a great deal to be said in favor of this, yet he thought Dr. Cabot's statement was too broad. But to speak of the number of grains of urea in a given ounce of urine which the patient might pass at a given time seemed to him to be of little or no value.

A Brief Report on Recent Progress in Bacteriology.—Dr. Wm. H. Park said that the results of the use of antistreptococcic serum were reported by a certain individual as being perfectly marvelous. On the other hand, the results in North Germany showed that it was of no value. He referred to the discovery by Mallory of a protozoon in the skin of patients suffering from scarlet fever; protozoa were undoubtedly present there; an examination of the fluid obtained by blisters demonstrated beautifully a great many of the protozoa-like bodies. With regard to dysentery, he said there was at the present day a majority of cases of summer diarrhœa not due to the Shiga bacillus, or the so-called acid varieties of bacilli. In from 50 to 80 per cent. of the cases no dysenteric bacilli were found. Again, they could be found in a certain number of normal cases. It should be remembered then that while the dysentery bacilli are present in many cases, still, in this climate, they are not present in all cases. The use of the serum in summer diarrhœas had proven to be of no value. With regard to the diagnosis of rabies, he said there were certain protozoan bodies found which were not found in any other disease. By means of them a quick and certain diagnosis might be made. He spoke of some interesting experiments made by injecting the sheaths of nerves with antitoxin. Also of the use of copper sulphate to remove certain algæ from supposedly contaminated water. It had been used at the Croton water shed, and it was of value.

Dr. Jacobsohn said that two years ago a doctor in the Melbourne General Hospital reported forty-eight cases examined for Widal reaction; there were forty-six reactions obtained, although none of the patients had typhoid fever. The cultures showed no typhoid bacilli, but the colon bacillus was found.

Fads in Surgery.—Dr. Howard Lilienthal said that the practice of medicine had been influenced in all ages by fads, yet as each new research made its appearance there were not wanting those who, failing to recognize its importance, set it down as a mere fad. Twenty-one years ago microbic infection and antisepsis in surgery were regarded as a whim. The fad for double oöphorectomies had passed, but the ease and safety with which the uterus might be removed was responsible for many unnecessary hysterectomies. Again, we had the spectacle of operators vying with each other as to who could remove the largest fibroid or myoma by way of the vagina in instances where the more surgical abdominal would be the more preferable. The artist in surgery will weigh each individual case, and will plan his operation without being carried away by his desire to gratify the vanity of the patient, as well as his own, in avoiding an abdominal cicatrix. Another fad was that of the surgeon who cannot palpate a movable organ without a desire to anchor it. The female right kidney was the great sufferer in this respect. Nephrotomy, single and multiple splitting of the capsule, and complete renal decapsulation had been urged upon the profession with an enthusiasm which was not easy to withstand, even in the face of theoretical objection. Operation should be reserved for those unfortunate ones who were not benefited by other treatment. The fad which would split off from general surgery the treatment and operation necessary at the natural openings of the body, called orificial surgery, was such a patent absurdity that time used in discussing it would be wasted. As to radiotherapy, when employed in cases of operable malignant growths, lying deeper than the skin, he said that this had been taken up and urged with more zeal than sense. The time for the employment of radiotherapy was after the operation and not before it. There was one general rule for the employment of any remedial agency, and that was, to use it only when old and tried methods failed to give satisfaction. Gradually, but surely, the novelty would find its proper place. He would not be understood as decrying anything that was new, but merely the taking up and urging with more zeal than sense, to which he would call a halt.

Business-Like Methods in the Practice of Medicine.—Dr. John S. Thatcher delivered this address. He said that in an observation which extended over twenty-five years, he believed that certain factors in medical success were certain qualities such as were admired in business men, and which helped them in reputation and success; he referred to such qualities as promptness, directness, thoroughness, and straightforwardness. There were few, if any, reputable occupations which offered a better field for vain pretension and misleading superficialities. There were many baseless theories and foolish fads that confronted us. The majority of the people of the world care to have the feeling that medicine is a science established by hard labor and that it is an art practised by the sweat of one's brow. Among the best gifts were energy and straightforwardness of character. The achievements in medicine depended upon the capacity for taking pains. A charming bedside manner was helpful and delightful, but it did not rank with the highest gifts or the most useful ones. Knowledge and judgment were on top. In medicine as in other branches of science it was the good results that we wanted. What was needed to-day was a businesslike way, and this was most efficient for both patient and doctor. Directness was most valuable; to practise medicine one should apply business principles. Do not lack in thoroughness. Directness and straightforwardness might make a good doctor out of bad material. In dealing with patients with serious illness, he thought that a knowledge of the worst was far better to the patient than the fearful uncertainty, and it would be better to tell them of the hopelessness of their disease. The ordinary man would rise to such an emergency and would be in a better state of mind than if he was possessed of this frightful uncertainty.

Post-Graduate Medical Instruction in America.—Dr. D. B. St. John Roosa said that post-graduate medical instruction really originated in New York City, because here it was organized. He reviewed the difficulties encountered in obtaining post-graduate instruction in continental cities, especially Berlin, because it was so unorganized and unsystematized. In Vienna it was somewhat better than in Berlin, because instruction was given in one place, and one did not have to wander all over the city to obtain what was wanted. London had been a dismal failure so far as post-graduate medical instruction was concerned, comparing it with Berlin and Vienna. Why Edinburgh did not make a success in post-graduate medical instruction seemed to be beyond the comprehension of man. Paris, on the other hand, remained magnificent, not only because of her fame in the past, but of her standing in the present. Post-graduate instruction was well organized in New York. All instruction was placed under one roof, and good men were obtained to teach in every department, with the result that from 750 to 1,000 graduates in medicine studied in the two post-graduate institutions in New York in one year. He said that there was a time when undergraduate instruction was threatened by the greater prominence of Philadelphia and Chicago medical schools; but this post-graduate medical instruction came on here with such enthusiasm of energetic men, that New York was saved and preserved

for her prominence in medical instruction on this side of the water. Post-graduate surgical instruction, he said, had come to stay, because it would always be needed. In Cologne, Frankfort, and other continental cities, post-graduate medical instruction had been organized after American methods, and we had been given due credit for it.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held October 17, 1904.

ALEXANDER LAMBERT, M.D., CHAIRMAN.

Address of Retiring President.—Dr. ALEXANDER LAMBERT thanked the association for twice electing him president, and for their hearty cooperation. It was with feelings of regret that he laid down the pleasant duties, profitable as well as pleasant. It was with pleasure that he turned over the office to his successor, Dr. Quinlan, and he asked for him the same hearty and cordial support.

Address of Incoming President.—Dr. FRANCIS J. QUINLAN congratulated the association upon its past successful history, and anticipated much for its future. In giving a retrospect he referred to the first medical book of the County Association, which was dated December 14, 1883. At the invitation of Dr. Austin Flint, a few medical friends of his were called together to consider existing conditions in the city regarding a code of ethics; they advocated the formation of an association composed of members of the profession who should uphold this code of ethics. The result of this meeting was the organization of the present New York County Medical Association. Much stress was laid on the old standard of ethics. Those men had to fight for their knowledge, and the men of to-day, in the hurry of modern life, did not realize how much indebted they were to the men of the past. The adulteration of drugs and of foods was then considered. He said that the lilterature on this subject was almost inexhaustible, and the public press brought this knowledge every day to our notice. Efforts should be made to stop these frauds. He recommended the establishment of a National Board of Health which should look after the sanitation of the country, the health of whose eighty-five millions of people was of such paramount importance. The study of dietetics he considered to be as important as the study of therapeutics. He referred to the several deaths that had occurred as the result of poisonous whiskey in this city; the Health Department and the Coroners had been called in, and the cause of death, from an analysis of the stomach contents, was found to be wood alcohol. Recently in Manchester, arsenic had been found in beer. Wine, beer, and milk had recently been found to contain boric acid and salicylic acid. Powdered alum had been found in baker's bread, rolls, and biscuit; this interfered with the digestive processes, and could even act as an irritant poison. The only remedy for these abuses was the enactment of uniform laws forbidding these ingredients, and making the examinations of foods obligatory. Boric acid should not be used in foods. In cream of tartar one grain of lead to the pound had been detected. In New York City some specimens of butterscotch had been found to consist of glucose and hard paraffin. Rice as it came from the fields was bright, but after standing it became dull and lusterless; this luster was restored by soaking the rice in oil or paraffin. Coffee from Brazil cost 12 cents a pound, while a combination of Mocha and Java cost 40 cents; only 3 per cent. of the coffee imported was of this latter variety. He called attention to the fact that twenty-one million barrels of patent medicine were sold each year. Jamaica ginger, in some instances, contained 90 per cent. alcohol. He referred to the advertisements found in the religious periodicals. Dr. Osborn of Yale College had asked that postal laws he enacted to stop the publication of such frauds. In concluding, the speaker referred to military sanitation, the achievements of Dr. Leonard Wood in Cuba, and the work of the United States Marine Hospital Service.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirtieth Annual Meeting, Held in Cincinnati, Ohio, October 11, 12 and 13, 1904.

(Continued from page 716.)

SURGICAL SECTION.

Radical Cure of Hernia.—Dr. HAL C. WYMAN, Detroit, Michigan, read a paper on this subject. The problem of hernia had been so fully worked out in the inguinal and umbilical regions that there was nothing to do now but to find the hernial opening, and stitch it up so that the bowel would stay where it belonged in the cavity of the abdomen. In any case of intestinal hernia it was a fair presumption that the intra-abdominal space was not large enough to contain the intestines, and the abdominal walls were insufficient to embrace the abdominal contents. It was reasonable, then, to assume the surgical intervention for the cure of intestinal hernia should include measures to reduce the volume of the abdominal contents, and to increase the size and strength of the abdominal walls. Masses of omentum and part of intestines must sometimes be removed to make room; and flaps must sometimes be dragged in to supplement the insufficiency of the muscles and fascias. Suturing must be complete, absolute, and without the tension that damaged and destroyed any of the tissues. Scrotal skin and fascia might be sutured into the large hernial openings with gratifying results by making an entirely new place for impingement of the intestines that would otherwise protrude. Many patients with inguinal hernia might be permitted to get up when they felt able, with great advantage in educating the abdominal muscles to perform their offices, so that hernias did not occur.

The Typical Anatomieal Operation for the Radical Cure of Oblique Inguinal Hernia.—Dr. ALEXANDER MUGH FERGUSON, Chicago, contributed a paper on this subject, which was accompanied by numerous and beautiful illustrations. Dr. Ferguson described his method of operating on these cases, a full description of which may be found in the current medical literature. So far as he could determine, approximately 2,200 cases had been operated on by his method without the recurrence of hernia.

Dr. WILLIAM J. MAYO said that of 600 or more operations done in accordance with the Ferguson method, only three relapses had occurred, and he was uncertain as to whether these were really due to the Ferguson or Bassini operation.

Dr. H. O. WALKER considered the Ferguson method rational, and the results good. He had operated by this method over a hundred times, and had had no recurrence of hernia. He spoke of two cases in which he did a perineal prostatectomy, in addition to the operation for the radical cure of hernia at one sitting, with satisfactory results in both instances.

Dr. VAN BUREN KNOTT had been employing the Ferguson operation for some time, with the happiest results. He had had no recurrences.

Dr. EMIL RIES favored getting patients out of bed as early as possible after abdominal or hernial operations. He did not hesitate to let his patients get out of bed on the first or second day after operation, and had had no evil results therefrom. He had used the method of Kocher in a number of cases of inguinal hernia, the main point being inversion of the sac, and had had no recurrences following this method.

Dr. JOSEPH RILUS EASTMAN doubted the wisdom of allowing patients to get out of bed two or three days after an abdominal or radical operation for hernia, on account of the great strain from pressure on the aponeurosis of the external oblique. He preferred to keep his patients in bed from two to three weeks than take chances.

Dr. JOHN YOUNG BROWN preferred the Ferguson operation in cases of inguinal hernia, and while the results of it were not better than those obtained by the Bassini, he believed the Ferguson method was much simpler, inflicted less trauma, and therefore should be adopted. While he

had had no recurrences, he thought in a small percentage of cases recurrence would take place.

Dr. Thomas H. Manley said the Ferguson operation had come to stay, because it was attended with little or no danger to life. He had never seen a patient die from an operation for non-strangulated hernia. Notwithstanding the various methods that had been described, he was rather inclined to advise the method advocated by Lucas Championniere. The results following this method were satisfactory. In the last year he had seen the intestine slough after a Bassini operation, and strangulated hernia occurred after it.

Dr. A. J. Ochsner said the Ferguson operation contained the successful elements of a herniotomy. The operation should be done without injuring these tissues by suturing too tightly.

Foreign Bodies in the Esophagus.—Dr. Carl E. Black, Jacksonville, Illinois, reported two obscure cases of foreign bodies in the esophagus, in which a positive diagnosis was made by the use of the *x*-ray. He made extended remarks regarding the value of the *x*-ray in locating foreign bodies and assisting in their removal.

Spleenless Men; Report of Two Successful Cases of Splenectomy.—Dr. J. Henry Cartens, Detroit, Michigan, said that splenectomy was indicated in selected cases of enlarged spleen, but not in all instances. The first patient had pain and distress for a year or two in the region of the spleen, with gradual enlargement. There was sudden rapid growth within three months, filling nearly the whole abdominal cavity. Emaciation was marked. Blood examination showed destruction and irregular shape of red blood corpuscles. A probable diagnosis of malignant growth was made. Operation disclosed it to be a sarcoma. Operation was followed by complete recovery, and the blood was now normal. In the second case, the onset was gradual, and there was an enlargement for six months. Splenic anæmia was diagnosed. The leucocytes numbered only 1,200. There was extreme debility. Operation was performed, followed by complete recovery. The blood was now normal, and patient had gained 96 pounds in weight since leaving the hospital fifteen months ago.

Operative Work in the Ureter Through the Lewis Catheterizing and Operative Cystoscopes.—Dr. Bransford Lewis, St. Louis, Missouri, in a paper with this title, considered the subject in its three relations: As a practical and reliable procedure, as a diagnostic measure, and as a therapeutic measure. After alluding to his operative cystoscope, and the instrumental equipment connected with it—ureter forceps, scissors, dilators, irrigating attachments, etc., the author considered diagnosis and therapy. The first case mentioned was that of a male, in whom the diagnosis established was that of inactive left kidney, while the right one was not only carrying on all the kidney functionation present, but contained numerous calculi of various sizes. Ureteral manipulations through the operative cystoscope removed a dozen or more small calculi, which he exhibited, but could not secure the escape of the largest, which was removed by lumbar incision. The patient recovered, notwithstanding the fact that the only kidney functionating was opened and cleaned out. The second case related was one in whom small calculi had been removed by similar means in two sittings, a year apart, the stones being exhibited. The third case was one in which there had been severe and exhausting symptoms of ureter calculus, of sixteen years' duration. There were numerous consultations and oft repeated attacks, occasionally requiring the prolonged administration of chloroform. This patient was finally and definitely relieved, and had had no recurrence of the pain for nearly a year. A case of definite and severe stricture at the lower end of the ureter had been completely relieved by dilating methods, carried out through the operative cystoscope, in successive sittings, and without complaint on the part of the patient, who was a very nervous woman. Some of the difficulties and disappointments liable to be met with in this work were alluded to and suggestions given for avoiding them.

Perineal Prostatectomy.—Dr. Joseph Rilus Eastman, Indianapolis, said that if all prostatectomies were made as soon as the symptom of residual urine made its appearance, the mortality would be practically *nil*. Too often the reason for the application of the Bottini method, perineal cauterization, or other palliative procedure was that a case had been permitted to drag along with the catheter until advanced age, general sclerosis, or kidney complications, forbidding prostatectomy. The conservative operation of Hugh Young should be the one of choice, if applicable. It consisted, as was now generally known, in making a sagittal incision closely parallel to the median raphé, through each lateral lobe, and shelling out one lateral lobe at a time, preserving the median bridge containing the ducts. After the removal of the lateral lobes, the third lobe was depressed into a lateral defect, and likewise shelled out. After enucleation, Young united the separated margins of the levator ani to the end, that the gauze packing might not press upon the rectum and favor fistula formation. Clinically, the perineal operation had been proven to be the safest. The perineal route was the least bloody, since it admitted of a complete exposure of the prostrate, thereby making it easier to shell out the prostrate in the essential line of cleavage. After perineal prostatectomy, the bladder *bas fond* was provided with low, level drainage, instead of the up-hill or siphon drainage of the suprapubic operation. It would certainly be conceded that the danger of wounding the ejaculatory duct in any conservative operation would be lessened if the perineal operation be chosen.

Pathological Changes Resulting From Prostatic Enlargement.—Dr. Charles E. Barnett, Fort Wayne, Indiana, said there was still plenty of room in the field of research for the etiological factors in prostatic enlargement. Perverted orchicism and inflammation seemed to be the most logical causes. The former produced hyperplasia, on account of a lack of orchoprostatic equilibrium. Inflammation started true adenomyoma, either or both, by stimulating the embryological matrix, on account of the infected acini, and there was a pathological evolution tumor metamorphosis from a fibro-myo-adenoma to an adeno-myo-fibroma. The pelvic fascia was responsible for all future pathology after enlargement began, on account of its inability to accommodate itself to the displacements that occurred. Anatomical study of this fascia was especially hard for the student, on account of the multiplication of synonyms found in text-books. The distorted neck of the bladder started pathological changes which finally reached the kidneys, and if not stopped by operative procedure upon the prostate would destroy them.

Dr. G. Frank Lydston thought the profession at large had accepted perineal prostatectomy as the operation of election, although there were certain cases that should not be dealt with by this route. It was the most direct route, where it was practicable to adopt it. In many instances it was imperative to treat patients palliatively until one was positive that the tumor was not only increasing in size, but was causing urinary obstruction.

Dr. E. M. Gilliam narrated two cases of hypertrophy of the prostate upon which he had operated, and in the after-treatment recommended placing the patient in the Fowler position.

Dr. H. J. Scherck said there was a class of cases in old men whose bladders contained a more or less amount of residual urine, irrespective of the condition and size of the prostate. The condition seemed to be more of aton of the bladder walls than the effect of the enlarged prostate.

Dr. Bransford Lewis pointed out that there was no particular operation which fulfilled all the indications in cases of hypertrophied prostate. He detailed the case of a man, seventy-one years of age, who he believed would not have withstood a prostatectomy at any time. The patient had a stone in his bladder as large as a fist, with a ragged

edge. The author did suprapubic lithotomy, removed the stone, drained, and also performed a Bottini operation. The patient was relieved of a fistula that had existed, and had completely recovered.

Dr. F. F. Lawrence said that if surgeons could convince the general profession that hypertrophy of the prostate was a surgical disease, the mortality now attending prostatectomy would immediately decrease, as it had done from operations on cases of appendicitis, ovariotomy, and other surgical affections.

Dr. H. O. Walker had operated by the suprapubic route over twenty times, and had lost one patient. At the same time he preferred, wherever practicable, to do perineal prostatectomy. He removed a prostate suprapubically that weighed seven and a half ounces.

Plastic Surgery of the Urethra.—Dr. G. Frank Lydston, Chicago, read an interesting and valuable paper on this subject, in which he described the methods he had found most satisfactory in his own cases.

Therapeutic Value of Radium.—Dr. Myron Metzenbaum, Cleveland, Ohio, narrated his personal observations in the clinical uses of radium. He discussed the physiological action of radium of low activities contained in hermetically sealed tubes when placed on ulcerated areas and on the unbroken skin for thirty-five minutes; also the pathological condition resulting from placing radium of high activity contained in hermetically sealed tubes on the unbroken skin for long periods of time. The therapeutic results obtained by using tubes of radium of low activity and coarse were as good in the treatment of lupus, rodent ulcer and small epithelioma as those from the use of radium of high activity and great expense. The author reported and showed photographs of three cases of lupus, and one each of rodent ulcer and epithelioma that had apparently healed by the aid of radium rays. Photographs made by the *x*-ray and by radium were exhibited, showing that the latter had comparatively little value in the skiagraphy of bone as compared with the *x*-ray. He pointed out the results obtained by suspending hermetically sealed tubes in various solutions, showing that the same had not been rendered radioactive, and therefore that they had no special therapeutic value.

Two Cases of Pancreatic Cyst.—Dr. Van Buren Knott, Sioux City, Iowa, pointed out the physical signs of these cysts and the difficulties which sometimes attended their diagnosis. He showed how the surgeon might be misled by the symptoms. He discussed the method of treatment, made a comparison between incision and drainage and excision, and reported two cases which presented widely different symptoms, physical signs, and morbid influence, treated by different methods. Comparison of these two cases of cysts of the pancreas had been extremely interesting to him, and revealed many striking differences. The more important of these he briefly mentioned as (1) the difference in location and anatomical relations of the tumor. (2) Neither cyst occupied the usual position for such tumors, *i.e.*, somewhat to the left of the median line. (3) Neither was a so-called false cyst of the pancreas, which was a localized collection of fluid in the lesser peritoneal cavity, but each involved the tissues of the pancreas alone. (4) The appearance in the first case of symptoms of disturbed function long before evidence of cyst formation could be detected, while such symptoms remained entirely absent in the second case, even after the tumor had attained great size. (5) The even spherical form of the pancreatic distention in one case, and the peculiar sausage-like tumor in the other, gradually expanding into a spherical termination. (6) The fact that the patient, who had much the less complete operation, *i.e.*, incision and drainage, had a much smoother and more rapid recovery than the one in whom the tumor had been almost completely removed. (7) The involvement of the stomach in the first case rendered possible the wounding of its walls during the puncture of the cyst, as the true nature of the stretched, flattened and congested viscus was recognized with some difficulty. In the second case no such accident was possible. (8) The accumulation in the walls of the first cyst of a peculiar sticky, grayish, ash-like deposit, while the lining membrane of the second tumor was clean and smooth. (9) In neither case was the sallow, dry skin, said to be characteristic of cysts of the pancreas, present.

Tenotomy of the Tendo Achillis in Partial Amputations of the Foot and in Fractures of the Tibia and Fibula.—Dr. J. P. Webster, Chicago, read a paper on this subject, in which he drew the following conclusions: "(1) It is a well-established clinical fact that after tenotomy of the tendo Achilles (when the foot is kept at rest) the process of repair takes place, and satisfactory functional use of the foot is the result. (2) It is much easier to maintain the foot in the exaggerated flexed position after the tenotomy of the tendo Achilles than with any form of splint, anterior or posterior, metallic or plaster. (3) There is much less pain, as the foot and ankle joints are placed at absolute rest. (4) When the patient commences to walk, none of the resistances of the contracted heel cord is present, so that there is but a slight limp. (5) In oblique and comminuted fractures of the tibia, there is much less danger of overriding of the fragments of bone, after a tenotomy. This greatly simplifies the care of the leg and helps to prevent deformity."

Physiological Purposes of the Mamma.—Dr. Thomas H. Manley, New York, discussed the coarse and fine anatomical elements of the mamma in their bearing on some of its pathological affections. He drew the following conclusions: "(1) The mamma is a highly organized and, structurally, a most complex organ. (2) Its functions are manifold. It is an essential and integral part of the generative system. Intermittent in function, like the testes, total ablation, like double castration, makes its impress on the sensorium. (3) Very frequently degenerative or pathological changes begin in a single isolated lobe, about twenty of which are in each breast. In all non-malignant affections, radical measures should be limited, as far as possible, to the affected area or lobe. (4) It is only in malignant disease of a progressive type and life is imperiled, that total sacrifice of the breast is justifiable. (5) Inasmuch as the functions and purposes of the axilary lymph ganglia are yet imperfectly understood, and their removal, quite invariably enhances the risks of operation, involves a wide mutilation of the chest walls, and always leaves more or less impediment in shoulder action, or even at times a painful tumefied limb, it is only as an extreme and exceptional measure that their complete extirpation should be practiced."

Intestinal Surgery, with Remarks on Technique.—Dr. John Young Brown, St. Louis, said there was a class of abdominal cases which might justly be considered acute, for the reason that the indications for immediate surgery were mandatory, and in which the mortality largely depended upon the time of operation and the technique of the work. He discussed (1) penetrating gunshot and stab wounds of the abdomen; (2) severe abdominal contusions associated with rupture of intestines or other visceral injuries; (3) strangulated hernia, confining himself as nearly as possible to a consideration of the operative technique, citing cases in point.

Gastroenterostomy.—Dr. William H. Wathen, Louisville, in this paper described all the pathological conditions indicating the necessity for stomach drainage by the several methods that had been practiced for this purpose. He said pyloric divulsion had proven unsatisfactory, seldom gave permanent results, and sometimes increased the trouble. Pyloroplasty and its modifications had given better results, but the operation was seldom indicated and was practically obsolete. Gastroduodenostomy, and especially the modification by Finney, was theoretically ideal, and in properly selected cases gave excellent results, but

it was often impracticable because of adhesions of tumors, and could not be generally adopted; its simplicity could not recommend it, because gastroenterostomy might be performed as easily, as quickly, and with a mortality as low, and was applicable in nearly all cases. Wölfler's anterior anastomosis and von Hacker's posterior anastomosis, with their modifications, were the two methods generally adopted, but Raux' method of cutting the intestine across, implanting the distal end into the stomach, and the proximal end into the side of the distal end was theoretically ideal, and avoided regurgitant vomiting, but it was difficult and prolonged, and if universally accepted would have a mortality that would be prohibitory. Gastroenterostomy by the surface to surface anastomosis of the stomach and the jejunum was applicable to the greatest number of cases, and might be performed in nearly any condition requiring stomach drainage. Anterior gastroenterostomy as an operation of election must very soon become obsolete, and would finally be accepted only where an operation was necessary to give temporary relief, or where the posterior operation was contra-indicated, because of adhesions and the feeble condition of the patient that demanded a quick operation. The ideal operation of election must eliminate the intestinal loop, and this might be done by the posterior method, by attaching the jejunum very near its origin under the transverse meso-colon; the bowel incision might then be made longitudinally or transversely, but was usually made in a longitudinal direction, Kocher and Mikulicz making a transverse incision. This method was preferable if the opening into the bowel could be made large enough to permit of continued unimpeded drainage, but the anastomosis was more difficult than in the longitudinal bowel incision. Posterior gastroenterostomy was now the accepted method with Robson, Mikulicz, Kocher, Czerny, Moynihan, and Mayo, with no higher mortality than the anterior method, with nearly an absence of regurgitant vomiting and other immediate complications, and with ultimate excellent results in drainage, the gastrojejunal opening seldom contracting enough to induce pathological condition. The McGraw ligature in the anterior method gave good, immediate results, but we could not judge correctly of the ultimate results in the potency of the gastrojejunic opening, and the ligature had probably not been tested in the posterior method. The Murphy button had the advantage of being quickly applied, but except in selected cases possessed no advantages over the suture, and was more frequently followed by complications.

The Indications and Limitations of Various Operations on the Gall-Bladder.—Dr. Charles A. L. Reed, Cincinnati, reviewed the various operations usually performed for the relief of surgical conditions of the gall-tract, summarizing them under the heads of cholecystotomy, cholecystectomy, cholecystenterostomy, and choledochotomy. He recounted his experiences during the last fifteen years, first with cholecystotomy, and cited cases to show that operation had distinct limitations, and urged that it ought not to be done in cases in which prolonged drainage was required, or in which there was a demonstrable permanent obstruction in the common duct, or in cases in which there was reason to suppose that such obstruction might develop. He insisted that the gall-bladder exercised functions of importance in the human economy, and that consequently it ought not to be removed without adequate cause. He recognized as legitimate indications for cholecystectomy conditions of atrophy and malignant degeneration of the gall-bladder and cases in which benign neoplasms caused practical obstruction of that viscus; but insisted that the operation ought never to be done when the gall-bladder could be restored to functional integrity with safety to the life and health of the patient. He urged that cholecystenterostomy should be considered the operation of choice in all cases in which the gall-bladder and a desirable segment of the intestinal tract, preferably the duodenum, the ileum, or the jejunum, in the order mentioned, should be approximated, and in which drainage was demanded for accumulations within the gall-bladder of whatever character; for occlusion of the common duct, or following operations upon it; for cholecystitis, in which the gall-bladder could be safely left *in situ*, and in all chronic fistulæ of the gall-bladder. It ought, also, to be employed to complete an anastomosis in cases in which nature had attempted to accomplish the task by the formation of firm adhesions between the gall-bladder and the intestines.

Ectopic Pregnancy.—Dr. F. F. Lawrence, Columbus, Ohio, reported cases of ectopic pregnancy. In ectopic pregnancy the death rate should be lower than in appendicitis, providing the surgeon got the cases before rupture. The diagnosis of tubal pregnancy before rupture should be made with as much or greater certainty than could a normal pregnancy before the third month. The fact that a tubal pregnancy was allowed to go on to rupture was a reproach to obstetric practice, first, because of indifference or carelessness, which prevented proper investigation of the case early. This might be on the part of the patient or physician, but the real fault lay in the indifference to obstetrics which had permitted women to look upon pregnancy as a simple matter, and not one demanding the attention of skilled service except in complicated labors. In unruptured cases the tube could be more safely removed through abdominal incision. In ruptured cases he was convinced that it was often very unwise to attempt to remove a patient to a hospital. The chances of infection in her home could be more readily overcome than the danger of increasing hemorrhage by handling. In all cases of extrauterine pregnancy, tubal disease, which was bilateral, seemed well established. The danger of a catastrophe in case the unaffected tube was left was therefore great, unless that tube be safely obliterated. Absorbable ligature was not a safe material to use for obliteration. Silk of large size only should be used. The better practice was to remove both tubes, retaining the ovary, if possible.

Etiology of Ectopic Gestation.—Dr. H. B. R. McCall, Kansas City, Missouri, read a paper on this subject, in which he discussed the genealogy of ectopic gestation relative to evolution. He submitted a classification, reported cases, and made a plea for early diagnosis, and operation, with special reference to etiology and diagnosis.

Brain Abscess of Otitic Origin.—Dr. George F. Keiper, Lafayette, Indiana, reported cases of brain abscess of otitic origin, and made some observations concerning brain abscess in general.

Foreign Bodies in the Cornea.—Dr. Dudley S. Reynolds, Louisville, Kentucky, said that injuries of this character should be classified according to the depth of penetration and extent of surface. The foreign bodies should be classified as metallic, ligneous, vitreous, and calcareous. Of whatever character they might be, no kind of foreign substance should be left long in the cornea. Where the epithelium alone was involved, the injury should be classified as severe. Wounds penetrating the anterior elastic layer, even though of very limited extent, should be classed as grave. Those which penetrate through the cornea should always be regarded as perilous. Treatment of the serious, the grave, and the perilous varieties should conform with some general preconceived plan.

The Transverse Fascial Incision for Operations in the Pelvis.—Dr. Emil Ries, Chicago, contributed a paper on this subject. In order to gain reliable fascial protection for incisions for pelvic work, it was desirable not to have to incise the fascia in the median line. Pfannenstiel's method was a useful improvement where the organ or tumor to be removed was not large. It began with a transverse incision through skin, fat, and fascia. The fascia was then dissected up from the recti and raised as a flap with fat and skin. The recti were then separated and peritoneum incised in the median line. After the operation in the pelvis was finished, the peritoneum and recti

were sutured in the median line, the fascia and skin transversely. The author had used the incision for various operations on the tubes, ovaries, uterus, appendix, and reported favorable results.

Suppuration in the Nasal Accessory Sinuses.—Dr. J. A. Stucky, Lexington, Kentucky, pointed out the importance of early recognition of suppuration of nasal accessory sinuses. Frequent peculiar anatomical inter-relationship of the different sinuses, when involved in suppurative process, rendered the symptoms obscure and misleading. Suppurative products might exist in latent form, giving rise to no local symptoms, and eventually resulting in systemic infection. Chronic inflammation in a closed cavity had a tendency to pus formation. He reported fatal cases, due to absorption of pus or the invasion of suppurative inflammation through the optic foramen or holes in the cribriform plate to the base of the brain. The sequelæ of chronic suppuration of any accessory sinuses were frequently due to some form of neurasthenia and migraine. An increased number of cases were probably due to la grippe, pneumonia, and strenuous indoor life. The treatment was the same as for pus formation in any other part of the body—that is, free drainage. The middle turbinate most frequently caused obstruction of natural openings or a hindrance to free drainage, and the early removal decreased the necessity for more extensive and radical operation later.

Strictures of the Urethra.—Dr. A. Ravogli, Cincinnati, Ohio, said that urethral strictures were affections of localized tracts of the mucous membrane and of the submucous layer of the urethra, resulting often from gonorrhœa, and not rarely from trauma or from traumatic urethritis. The symptoms were mostly local, but at times they might be the cause of general symptoms and of neurasthenia. Strictures were of different varieties, spasmodic and organic. The organic strictures were to be divided into wide and narrow, the latter being the result of the former. Both were the cause of impairment of micturition and of the production of inflammatory symptoms of the genito-urinary organs. Strictures were somewhat diminishing in their frequency, and this must be credited to the recent method of treatment of gonorrhœa. In their treatment, one might expect a great deal of benefit from systematic dilatation and from remedial applications, but in some very serious cases external urethrotomy was imperative.

The Perilous Calms of Appendicitis.—Dr. Robert Wallace Hardon, Chicago, read a paper on this subject, in which he presented the following conclusions: "(1) Defervescence of symptoms and apparent better condition of the patient do not always mean recovery, but may be the forerunner of a dangerous condition. (2) As there is no specific for the disease, no matter what treatment is used, the one who procrastinates should shoulder the responsibility for the death. (3) When a clear diagnosis is made, but one treatment should be advised, that of operation as soon as possible under the conditions, or the golden opportunity may be forever gone. (4) The physician who does not explain the great dangers of delay and the small comparative danger of operation is doing his patient a serious injustice which often leads to fatal results. (5) Operation at the proper time usually greatly shortens convalescence, and eliminates all danger from this cause thereafter. (6) Procrastination is the greatest cause of surgical death, operation often being performed as a last resort when little hope of recovery exists."

The Prevention of Appendicitis.—Dr. William M. Harsha, Chicago, stated that from available figures it would seem that this disease was more frequent in America than elsewhere. This was on the assumption that the mortality rate was much the same in England, Germany, and France, where modern methods of medical and surgical treatment were practiced, and where statistics were or should be reliable. In England and Wales, with a population of about 33,000,000, there were 1,244 deaths from appendicitis and perityphlitis in 1901, or 38 per million. In 1902 there were 1,485 deaths, or 45 per million. In Illinois, with a population of about 5,000,000, there were in 1903 471 deaths from appendicitis, or 94 per million. In Chicago alone, which represents nearly two-fifths of the population of the entire State, there were 249 deaths in 1902, and 260 in 1903, being at the rate of 140 per million. The same high death rate was approximated in other cities of the United States, especially in similar latitudes. New York City had, in 1903, 439 deaths, or 123 per million. Statistics of deaths from this disease in various cities, both at home and abroad, were given. Considering the causes that might be influenced by treatment, the author believed errors of diet were the most frequent. The disease occurred most frequently at the age and in the sex in whom faulty habits of eating and errors of diet were most common, from ten to thirty years. It was common to see attacks follow an immoderate meal, or the taking of indigestible articles of food. If one had transgressed in either of these ways and felt the approach of an acute digestive disturbance, the rational treatment was the prompt evacuation of the whole digestive tract and strict recumbency. Cholera morbus ushered in many cases of appendicitis, which were regarded as the primary trouble. The acute digestive disturbance, irritating the mucosa, was followed by stenosis of the base of the appendix and the infection ensued. This he had observed formerly in a considerable general practice. While fecal concretions or foreign bodies were less frequent causes of appendicitis than was formerly supposed, they caused probably ten per cent. of cases. As to treatment, the individual case must be considered by itself, its etiology carefully studied, as well as any peculiarity, and treatment adapted accordingly. In one case it would be necessary to regulate the habits of eating, in another to cultivate immunity from colds or proper habits of exercise, while digestive disturbances of various kinds would require attention in others. In all the proper hygienic conditions should be secured to keep the vital resistance up to the highest point. During the past six or seven years he had advised these measures as preventive after one attack in which there had been no operation, and so far as can be known, he believed recurrence had not occurred in over twenty per cent., most of these being in young people, partly because of the greater frequency in the young, and in part he believed because of lack of intelligent coöperation on the part of the patient. The consensus of opinion was that more than 50 per cent. of the cases not operated upon recurred.

The Mortality of Appendicitis.—Dr. Channing W. Barrett, Chicago, read an interesting statistical paper on this subject, which was accompanied by a series of tables. Table No. 1 showed that Chicago still had a mortality in appendicitis about equal to .01 of the mortality from all causes. Table 2 showed that the percentage of female mortality from appendicitis varied very little from the percentage of female mortality from all cases, and that appendicitis was to be looked for as common in the female, notwithstanding the old belief that it was rare. Table 3 showed the greatest mortality at the best period of life, early adult life, the greatest number dying at any one year of age being 22 at the age of 19, the average age for all deaths being 26.54 years. Table 4 showed that leaving out the chronic cases the average duration of the disease in the 372 cases in which the time was mentioned was 8 33-76 days. Murphy's mortality cases showed that the average time after operation until death was 2.8 days. This demonstrateed that this vast number of fatal cases were operated upon at the end of the sixth day, while all authorities conceded that an operation on the first or second day was safe and desirable. Table 5 showed that the most frequent cause of death from appendicitis was suppuration of the appendix, caused by perforation, gangrene, or passage of the infection through the wall, and peritonitis; and, further, that adhesions and obstruction were common. Many cases did not have the advantage of hos-

pital treatment or an operation. An early diagnosis was most desirable, yet the Bureau of Vital Statistics considered that a diagnosis was not made at all in 105 cases; a few of the remainder were made by the Coroner. Some were made post-mortem, and one could never know how many were made too late for any operation to save life. The long, but only partial, list of vague diagnoses copied from the death certificates showed that in all probability some cases escaped detection. The author submitted the following conclusions: "(1) An early diagnosis is of the first consideration. (2) All troublesome appendices should be removed without waiting for an acute attack. (3) All acute cases should be dealt with surgically in the interval between the onset of appendicitis and the dangerous rupture, without waiting for pus outside the appendix, for peritonitis, for adhesions, or for a possible but remote interval. (4) Cases of perforation or gangrene, with localized abscess, should be operated with drainage or removal of the appendix, according to the judgment of the operator. (5) Cases with perforation or gangrene without a wall of adhesion are in still greater need of an outlet for the infection to lessen the tendency of infection to travel inwards. (6) Price, Murphy, Hawkes, and others have shown a better percentage of recovery by the operative treatment of acute perforative peritonitis. (7) A case of acute appendicitis should be operated upon at any time if the patient's condition will admit of an operation, unless the case is rapidly and beyond a question of doubt convalescing. In this latter case we should wait until all acute symptoms have passed. (8) Healthy appendices should be left alone. (9) Proper treatment does not contraindicate the use of stomach lavage, or the withholding of food, and when proper, these things should be employed, with or without operation. (10) Life is not the only consideration. The time of cure and after conditions are important. A case going through an acute attack without operation is saved by the adhesions. Adhesions are life-saving for the time, but they may be death-dealing afterwards. The waiting treatment favors adhesions; early operation avoids them. An early operation sends the patient home in from ten days to three weeks. Twelve cases treated by the rest treatment, reported in the *Journal* of the American Medical Association, June 22, 1902, show an average of 60 7-12 days from the onset of the disease to the discharge of the patients from the hospital."

Remarks on the Etiology of Fissure in Ano.—Dr. J. Rawson Pennington, Chicago, said that a fissure might be located at any point in the circumference of the anal canal. Its most frequent location, however, was near the posterior median line. No satisfactory explanation for this fact had been given; neither had any one proffered a satisfactory reason why it occurred in the anterior quadrant in less than one per cent. of the cases in males, and in more than eight per cent. of the cases in females. It seemed to the author that the theories usually taught and accepted as the cause of this disease were, at least in many cases, erroneous, and that we should have a more comprehensive etiology. He regarded the location of the ulcer as anatomical, and depended principally upon the support given to the tissues of the anal canal by the sphincters and levatores ani muscles. When the canal was over-distended, the dorsal surface received the least support from these muscles, the anterior the next, while the sides received the greatest. At the terminal portion this relative support is due to the difference in the distance between the posterior commissure and the tip of the coccyx, the origin of the external sphincter, and the tendinous center of the perineum, its insertion and the anterior commissure. Because of this difference, the posterior fibers of the muscle are more deployed than those of the anterior. Hence, when pressure was made from within outwards it was obvious, since muscle fibers were easier separated or split than broken at right angles, that the weakest point was at or near the anterior commissure. This latter point was weaker in women than in men. The lateral quadrants or sides received the greatest support from this muscle. Anatomical conditions and relations, almost identical with these, existed between the levatores ani and the proximal portion of this canal. Therefore, when this canal was placed under sufficient stress to rupture its tissues, the tear, all things being equal, should occur first on the dorsal surface, as it received the least muscular support; second, on the anterior surface, as it was the next weakest point, and, third, or last, on the sides. This was the sequential order in which the respective tears of this canal should and do occur, and they not only corresponded with the weakest points in the muscular cylinder that surrounded and supported these canals, but with the statistics of the sequential location of fissure in ano.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 29, 1904:

	Cases.	Deaths.
Measles	55	7
Diphtheria and Croup	299	17
Scarlet Fever	165	8
Small Pox	.....	.....
Chicken Pox	77	.....
Tuberculosis	358	133
Typhoid Fever	114	16
Cerebro-Spinal Meningitis	.....	10
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,068	191

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended October 29, 1904.

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Illinois, Chicago	Oct. 15–22	30	2
Michigan, at 42 places	Oct. 8–15	(Present.)	
Missouri, St. Louis	Oct. 15–22	30	6
Ohio, Cincinnati	Oct. 7–21	3	..
Pennsylvania, Philadelphia	Oct. 15–22	.	1
Steelton	Oct. 15–22	1	.
South Carolina, Greenville	Sept. 25–Oct. 1	3	
Wisconsin, Milwaukee	Oct. 8–22	12	

SMALLPOX—FOREIGN.

Brazil, Pernambuco	Sept. 1–15	.	25
Rio de Janeiro	Sept. 18–Oct. 2	655	247
China, Shanghai	Sept. 3–10	.	1
France, Paris	Oct. 1–8	8	
Great Britain, Edinburgh	Oct. 1–8	1	
London	Oct. 1–8	1	
Newcastle-on-Tyne	Oct. 1–8	8	
Nottingham	Oct. 1–8	1	
South Shields	Sept. 18–24	1	
India, Bombay	Sept. 20–27	.	2
Italy, Catania	Sept. 28–Oct. 6	.	1
Palermo	Sept. 25–Oct. 8	14	5
Malta	Sept. 25–Oct. 1	1	
Russia, Moscow	Sept. 25–Oct. 1	7	2
Spain, Barcelona	Oct. 1–10	.	7

YELLOW FEVER.

Costa Rica, Limon	Oct. 8–15	1	(Imported from Sequires.
Cuba, Santiago	Oct. 24	1	from Puntasal.
Mexico, Coatzacoalcos	Oct. 8–15	3	2
Merida	Oct. 2–15	1	1
Tehuantepec	Oct. 2–15	4	2

CHOLERA.

India, Bombay	Sept. 20–27		0
Calcutta	Sept. 17–24	..	2
Turkey, Bagdad, and vicinity	Aug. 20–Sept. 3	585	405

PLAGUE—INSULAR.

Philippine Islands, Manila	Sept. 3–10	1	1

PLAGUE—FOREIGN.

Africa, Cape Colony	Sept. 10–17	3	
Johannesburg	Mar. 26–July 9	156	95
Brazil, Rio de Janeiro	Sept. 18–Oct. 2	56	24
China, Hongkong	Aug. 27–Sept. 10	6	6
India, Bombay	Sept. 20–27	11	85
Calcutta	Sept. 17–24	.	3
Karachi	Sept. 18–25	11	7
Japan, Formosa	Aug. 1–31	34	38
Straits Settlements, Singapore	Oct. 2	(Present.)	

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Original Articles.

NEPHRECTOMY FOR TUBERCULOSIS OF THE KIDNEY, WITH A REPORT OF FOUR CASES.*

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ADJUNCT ATTENDING GYNECOLOGIST TO MT. SINAI HOSPITAL.

I FEEL that I ought to offer an apology for coming before you with a paper based on so small a number of cases. But as the series, small though it may be, bring out prominently some important points on the subject of renal tuberculosis, I venture to present them in the hope that they may excite profitable discussion.

Renal tuberculosis is of especial interest to the gynecologist for several reasons. In the first place, it is a legitimate expansion of his specialty, (2) it is a disease most frequently met with in the female sex, (3) it is a disease which the gynecologist not infrequently is the first to detect among the cases sent to him for intractable cystitis presumably due to some uterine disorder.

The gynecologist, from the nature of his work at the present time, can no longer be considered as an amateur in the domain of renal surgery. He who has, I may almost say in his daily work, to lay bare the ureters along their whole pelvic length, perhaps excise a portion of the bladder, implant a divided ureter into the bladder, or anastomose the two cut ends of the ureter, or be forced to remove a kidney at the termination of a difficult pelvic operation, ought surely to be able to perform any procedure upon the kidneys that surgical principles demand. And thus it happens at the present day that uretral surgery is linked with the names of several gynecologists, and when kidney surgery is mentioned, the names of at least two gynecologists stand out in great prominence. I have reference to two of our distinguished Fellows, Howard A. Kelly and G. M. Edebohls, both of whom have done pioneer and yeoman work in that direction.

It is not my purpose to enter, at any length, into the symptomatology or diagnoses of renal tuberculosis. It will be my aim rather to dwell on some of the salient points of the disease that may be of especial interest to us as gynecologists, and to discuss some of the points that are still *sub judice*.

I have already stated that renal tuberculosis is more frequently met with in women than in men. Of Israel's[1] twenty-six operated cases, sixteen (61.5 per cent.) were in women; in Facklam's[2] collection of statistics nearly the same percentage of the relative frequency in the female sex obtains. Facklam collected 103 operative cases, seventy-three (70 per cent.) of which were in women.

At the recent German Congress of Surgery, Kümmell[6] of Hamburg, reported having operated on forty-eight cases of renal tuberculosis, only fifteen of which were in the male sex. Krönlein, at the same meeting, reported fifty-one cases of renal tuberculosis, all of whom but thirteen were women. But it must not be inferred from these figures, as Israel remarks, that tuberculosis of the kidney actually occurs more frequently in women than in men. Statistics collected from autopsies show no such disproportion between the two sexes. On the contrary, the tables of Morris,[4] Tilden Brown, Fagge, and Watson, based on the findings on the autopsy table, showed that men are more frequently affected than women.

What the figures of the operated cases, however, do unmistakably demonstrate, is that primary renal tuberculosis is more frequently met with in the female than in the male sex. In men the disease is generally of the ascending variety,* starting out from the genital organs, and hence is not so amenable to surgical intervention. But in women such an association does not exist, the genital and urinary are two separate and distinct systems.

Israel was able to find only one case in the literature in which apparently a genital tuberculosis was associated with a renal tuberculosis. The patient in that instance was operated upon for a tuberculous pyonephrosis, and two years later had her tubes and ovaries removed for tuberculous disease. In the thirty-five cases collected by Hunner[3] in the services of Howard A. Kelly and his associates in Baltimore, an instance is also related where Dr. Kelly had to operate some years later for tuberculous adnexa.

According to Israel,[1] renal tuberculosis is most frequently met with in the third and fourth decades of life; 80 per cent. of his operated cases occurred in those decades. He had only one case in the fifth and one case in the sixth decennium. In Hunner's collection, fourteen cases occurred in the third decade, and twelve cases in the fourth decade. The ages of three of my patients were forty-six, forty-seven, and forty-eight years respectively. The age of the fourth patient was thirty-nine years. It would appear, therefore, that the age of my patients was unusually advanced.

Renal tuberculosis is usually very insidious in its course, and may exist for a long time without giving rise to any appreciable symptoms. The first symptoms to manifest themselves, in the majority of cases, are those referable to the bladder, and hence it is that the patients are treated a long time for cystitis, and no suspicion of a kidney affection is entertained. Three of my patients had been treated for months for cystitis, and one patient (Case IV.) had been an inmate of several prominent hospitals for a period extending over three years, and at no time was a tuberculous lesion of the bladder or the kidney suspected. There is nothing characteristic about the bladder symptoms to differentiate them

*Read at the Twenty-ninth Annual Meeting of the American Gynecological Society, Boston, May 24, 25, 26, 1904.

* Recently the theory of ascending tuberculosis, even in mules, has been strongly disputed, the opponents of this theory holding that it is impossible for the tubercle bacilli to travel upwards against the current.

† Since writing the above I have operated upon another case of tuberculosis of the kidney which had been treated for nine months for supposed cystitis.

from a non-tuberculous cystitis, excepting in a manner to which I will refer later.

The urine is usually acid, contains a varying amount of pus, some leucocytes, and, according to Israel, some red corpuscles. Casts are seldom found, and some authorities hold that the absence of casts is characteristic of renal tuberculosis. Tubercle bacilli are found in 59 per cent. of the cases that are complicated with tubercular cystitis. Hunner maintains that they can always be found if daily examinations are made for a week or longer. In two of my cases, daily examinations for tubercle bacilli were made for a longer period than that, with a negative result. In only one of the cases (Case II.), in which there was a well-founded suspicion that the disease was primary in the bladder, did we find tubercle bacilli in the urine.

A cystoscopic examination may be of great service in making a diagnosis. In some cases an ulcerated area about one of the uretral orifices may be seen, or the mouth of the ureter may be swollen, presenting a nipple-like projection. In others again, there may only be a patch of redness surrounding the orifice, or a red streak extending from the orifice on to the bladder wall. Again, distinct tubercles may be seen in areas of greater or less size scattered over the bladder. Ulcers of varying size, with a grayish deposit, are occasionally seen. In some cases the bladder is so irritable that the greatest patience has to be exercised before a satisfactory examination can be made.

Some authorities, notably Hurry Fenwick and Willy Meyer, look upon ulceration about the orifice of one ureter, with the rest of the bladder wall being healthy, as pathognomic of tuberculosis of the corresponding kidney. The sign is an important one, but too much weight should not be attached to it in women, as is shown by the following case.

About two years ago, a physician brought his sister to me on account of hæmaturia and symptoms of cystitis. She had been delivered of a child a few months before, and the hæmaturia had occurred since then. On cystoscopic examination there was a distinct erosion surrounding the left uretral orifice, the rest of the bladder wall appeared healthy. I made an application of 10 per cent. solution of nitrate of silver to the erosion, and told the doctor that I feared his sister had renal tuberculosis, basing my fears on the statement of the authorities just quoted. The symptoms of cystitis promptly disappeared, there has been no recurrence of the hæmaturia, and the woman has been in good health ever since. The erosion in that instance was no doubt caused by the pressure of the head during delivery, and was not dependent upon any tuberculous affection. In women it is not uncommon to find patches of hyperæmia and even erosions about the uretral orifice, without any further significance than that they are evidences of a localized catarrhal cystitis. They disappear readily on a few direct applications of nitrate of silver solution.

The topical application of the silver salt solution has given me such uniformly good results in all other forms of cystitis, that when I meet with a case of cystitis that resists that treatment, I strongly suspect tuberculous cystitis.

Three cases in my series were suspected by me on the basis of that therapeutic test. Subsequent developments confirmed my suspicion. The advice has been given by the President of this Society, first to cure the tuberculous cystitis before taking steps to remove the diseased kidney. It would be rather difficult to follow this advice in the majority of cases, as the bladder would be constantly reinfected by the tainted urine. Further, it has been the experience of almost every operator that as soon as the diseased kidney is removed the bladder affection improves promptly, and in many instances disappears entirely, without further treatment. Of course, it must be admitted that every cystitis in tuberculosis of the kidney is not of a tuberculous nature. But whether the cystitis be tuberculous or not, it stands to reason that a cure of it can be more readily effected when the cause (the diseased kidney) is first removed.

As a rule, by the time that a diagnosis of renal tuberculosis has been made there is but little doubt as to which kidney is involved. Catheterization, therefore, to ascertain which kidney is affected, is seldom needed. But it is important to ascertain the functional capacity of the supposedly healthy kidney. Theoretically there is some risk attached to catheterization of the sound kidney in the presence of a complicating cystitis which may be due to secondary tuberculosis. But with Kelly's method, and the patient in the knee-chest posture, the risk is minimal in the hands of any one who is at all experienced with that kind of work. After the orifice is exposed, the end of the cystoscope may be so held as to surround it, then with a pledget of cotton soaked in an antiseptic, the interior of the cystoscope and mouth of the ureter may be cleansed. The catheter can now be inserted into the ureter without coming into contact with any other portion of the bladder wall than that which is within the lumen of the cystoscope.

Two of my patients had the sound kidney catheterized by me in accordance with the above technic, with no ill results following. Still, to avoid even this slight risk, a fair knowledge of the other kidney may be obtained by placing a catheter into the ureter of the diseased side, siphoning out the residual urine in the bladder, while the patient is still in the knee-chest posture, then placing the patient on her back, and whatever urine now collects in the bladder must come from the other kidney, as the catheter drains the urine from the diseased kidney. The urine from the supposed sound kidney should be examined both chemically and microscopically, and also subject to cryoscopy. The value of the last as a means of determining the functional capacity of the kidney is still *sub judica*. Kümmell, who, perhaps next to Israel, has had the largest experience in renal surgery, places great reliance in cryoscopy of the urine, and more especially in cryoscopy of the blood. In a personal communication to a friend, he stated that since he had been using these tests he had not lost a case of nephrectomy from inefficiency of the remaining kidney. Israel, on the other hand, looks upon the test as a plaything. From what I saw of the application of the test while in Berlin last autumn, I can readily understand that, unless it is carried out by an expert, it may prove very misleading.

In a case operated upon by me recently at Mount Sinai Hospital cryoscopy of the blood, carried out by one of the intestines, showed the freezing points of the blood, the so-called safety point. Still, the patient made a good recovery, the remaining kidney acting very efficiently.

A simple and fairly efficient test has recently been advocated by Völcker and Joseph[5] of Heidelberg. These authors have tried to overcome the objections attached to the dyes heretofore in use for the determining of the functional activity of the kidneys. They claim that they have succeeded in doing this by employing indigo-carmin in the following manner: indigo-carmin 0.4 gm. is freshly dissolved in 10 c.c. sterile physiological salt solution. Of this solution, 4 c.c. is injected deep into the glu-

teal muscles. The dye is sterilized by exposure to steam. They have never seen any inflammatory reaction or constitutional symptoms follow. Twenty minutes after the hypodermic injection is given, on cystoscopy blue urine can be seen coming from each ureter in rhythmical jets if the kidneys are healthy. The advantage of the indigo-carmin over the other dyes is that it does not readily mix with the urine in the bladder, and the stream from the ureter can be easily seen and followed to the most dependent part of the bladder, where it falls as a blue deposit. Its chief use, it appears to me, would be to ascertain beyond a doubt the existence of a second kidney, which, at least, is in a condition of functional activity. The authors express a hope that by further investigation they may be able to estimate the functional capacity of the supposedly healthy kidney by the intervals that elapse between the jets of urine as they are emitted from the uretral orifice. The method has been made use of by some of my confreres in Mt. Sinai Hospital, who have expressed themselves as being very highly pleased with it.*

Fortunately for us renal tuberculosis in women is in the vast majority of the cases limited to one kidney. Israel met with only two cases of bilateral disease in twenty-one cases. Another fortunate circumstance is the slow progress of the disease, so that the other kidney has ample time to gradually acquire the capacity of functionating for the entire economy. Suppression of function of the remaining kidney is a less frequent occurrence in nephrectomy for renal tuberculosis than in nephrectomy for most other renal affections.

When I was in Berlin last autumn I had the pleasure of seeing Israel, in his masterly way, remove several tuberculous kidneys. He told me that it is his practice now to remove the ureter in every case, for even when the ureter looks normal to the naked eye it may show evidence of disease under the microscope. He employs a second short incision parallel with Poupart's ligament for the removal of the ureter. As a rule, he closes the wound with sutures. He prefers to do this, he says, even with the knowledge that in the majority of cases the wound will break open afterwards. When the wound does break down, he finds that the healing is very much hastened by topical applications of the tincture of iodine. In one of my cases (Case IV) it was remarkable how quickly the sinus of over a year's standing closed with the biweekly aplications of this agent.

While the removal of the ureter with the kidney makes the operation more complete, and probably insures a better prognosis, it must not be forgotten that it was not until the past few years that Israel and other operators removed the ureter as a matter of routine. Nevertheless, some of the early cases operated upon are in the enjoyment of good health up to the present, a period of over twelve years in some of the cases. In my first case, operated upon over seven and a half years ago, with evident disease of the ureter, leading to a stricture in the pelvic portion, the ureter was not removed. The patient made a rapid recovery and has been absolutely free from any urinary or other symptoms ever since.

It is not necessary for me to enter into the technic of the operation for the removal of a tuberculous kidney any further than to say that the excision of the twelfth rib is of great aid in those cases in which the diseased kidney lies for the greater part above the border of the ribs, as it did in one of my cases (Case IV). When such a step is found necessary, the greatest care, however, must be exercised not to injure the pleura, which would be a much more serious accident than opening the peritoneal cavity.

Although I have been so fortunate as not to have had a death in my four cases,* I fully recognize that nephrectomy for renal tuberculosis carries with it a pretty high mortality rate in the hands of even the most skilled and experienced. Israel's operative mortality is 10.7 per cent., the lowest, as far as I know, of any operator's. Hunner's statistics of Kelly's operative cases had a mortality of 14 per cent. Morris had five deaths in eighteen nephrectomies (27.7 per cent.).

Israel has shown that a primary nephrectomy carries with it a lower mortality rate than when it is preceded by a nephrotomy. When, therefore, operative interference is indicated in renal tuberculosis, it is safer to remove the kidney at once, than to extemporize by first opening and draining the kidney. The ultimate prognosis of nephrectomy for renal tuberculosis in women is good. As already stated, some of the patients operated upon are in good health after the lapse of fourteen years. Of my own patients operated upon, seven, five, two, and one and a half years ago, respectively, all but one are in the enjoyment of excellent health. The exception occurs in Case II. This patient has developed a mild form of nephritis in the remaining kidney. The patient presents herself for observation every month. At the last two visits, the albumin had almost entirely disappeared, and the patient's general condition was very good.

Case I.—Nephrectomy for Stricture of the Right Ureter and Early Tuberculosis of the Right Kidney.[7] Mrs. L., aged 48 years, referred to me June 15, 1897. Had been under the care of Dr. M. Manges for six months for frequent micturition, pyuria, and pain in the right loin. Later, pain was most marked in the hypogastric and iliac regions. For three months she had apparently improved and gained in weight under general treatment and methylene blue given internally. Then the symptoms returned in greater severity. When seen by me on the above date, chief symptoms were frequent micturition, with some tenesmus and a feeling of discomfort at times amounting to a pain in the hypogastric region, and which frequently extended to the right loin. Latterly, she had lost some weight, but she was still fairly well nourished and had fairly good color. On bimanual examination the uterus was found small (menopaus had been established four years before); extending from the vaginal portion on the right side was a cord-like structure about the size of an ordinary lead pencil, running obliquely to the side of the pelvis. A cystoscopic examination after Kelly's method in the knee-chest posture, disclosed the orifice of the left ureter, apparently normal, emitting jets of clear urine from time to time; adjacent to it was a small area of redness and a bleeding point the size of a pin's head. The orifice of the right ureter was irregular in outline, swollen, and presented a nipple-like projection. Urine was seen oozing from it continuously rather than in jets. On attempting to pass a catheter into the right ureter it was found to meet with an obstruction about one inch from the bladder. A Kelly's ureteral sound met with an obstruction at the same site.

The patient was examined by my friend, Dr. Howard A. Kelly, who also found a stricture of the right ureter. Dr. Kelly stated that the diagnosis lay between calculous pyelitis and stricture of the

*I have recently made use of this method in a case of renal tuberculosis, operated upon with recovery. It proved to be very satisfactory and was not followed by any ill effects.

*Five cases now.

ureter. Dr. Manges and myself favored the diagnosis of a tuberculous lesion in the kidney with secondary ulceration of the ureter, especially as the patient's family history showed a taint of tuberculosis. There were absolutely no pulmonary symptoms, subjective or objective. The urine had been repeatedly examined by a competent man for tubercle bacilli, and always with negative results.

The right kidney was removed by me through a lumbar incision on October 22, 1896. It was firmly adherent to the perirenal fat. On its convex surface were scattered several miliary tubercles. On longitudinal section two small abscesses were found, one the size of a kidney bean in the cortex, immediately beneath the capsule; the other, the size of a split pea, in the apex of one of the pyramids. The pus from these abscesses showed tubercle bacilli in abundance. The patient made a rapid and satisfactory recovery, the entire wound being sutured excepting at its lower angle, where a small gauze drain had been inserted. The bladder symptoms promptly disappeared after the operation and the patient has enjoyed excellent health ever since.

Case II.—Nephrectomy for Ascending (?) Tuberculosis of the Left Kidney.[8] Mrs. S., aged 47 years, had been under my care for several months for what I diagnosed as tuberculosis of the bladder. Before coming to me she had suffered for over six years with painful and frequent micturition. So far as she knew she had never passed blood with her urine. A cystoscopic examination (Kelly's method) disclosed an elongated area of redness studded with small papules occupying the left upper quadrant of the bladder. The upper border of the area was situated some distance from the orifice of the left ureter. Tubercle bacilli, few in number, were found in the urine and in scrapings obtained from the surface of the affected area. When she came under my care the frequency of micturition during the day was very great, every half hour, and every fifteen minutes during the night. Under direct topical application, made twice weekly, the bladder symptoms improved considerably, so that the patient did not have to get up oftener than once an hour during the night, and during the day, while on her feet, she could easily retain her urine for three or four hours. The local condition underwent varying changes. The redness would at times almost disappear, as would also the papules, but fresh ones would appear from time to time.

After she had been under my observation for over a year (December, 1897, to January, 1899), it became evident that the fresh papules were taking a course in the direction toward the left uretral orifice, and I now noticed that the uretral orifice presented a nipple-like projection that I could not enter with sound or catheter, and that it did not emit jets of urine as it had formerly been doing. The right ureter was catheterized and the urine obtained from it showed on chemical and microscopical examination to be normal. Up to that time the patient had not complained of any pain in the region of the left kidney. I concluded, however, that the tuberculosis process had extended to the kidney and advised operative interference, to which the patient would not give her consent, owing to the absence of any subjective symptoms. On palpation the left kidney was found slightly enlarged and slightly tender on deep pressure. It was only two months later (March 3, 1899) that her consent was ultimately obtained, chiefly because she suffered from metrorrhagia, which caused her more alarm than the urinary symptoms. It is proper to state, however, that during the past two months her general health began to fail, and she had lost considerable flesh. At the operation the kidney was found extensively adherent to the fatty capsule and was situated pretty high up under the border of the ribs. The wound was closed with sutures, excepting a small space, where a small gauze drain passed down to the pedicle. The wound healed apparently by primary union and the patient was up and about at the end of the fourteenth day. Later, however, the lower angle of the wound opened, giving exit to a small quantity of pus, and the resulting fistula took about three months to close.

The excised kidney was slightly enlarged and was made up of a number of cavities filled with pus and caseous material. There was little or no healthy kidney substance to be seen with the naked eye. The contained pus showed tubercle bacilli in abundance. The patient's general health improved very much after the operation and she gained over thirty pounds in weight during the following year. Her bladder symptoms also underwent marked improvement and she could retain her urine for two or three hours at night. But during the past year her general health has not been so good, though she has not lost any flesh. She passes a sufficient quantity of urine, but it contains a moderate amount of albumin without any other abnormal impediments. There seems to be some relapse also of the bladder symptoms, as she has to get up every hour or two during the night, while during the day she can retain her urine three or four hours. A recent cystoscopic examination showed some old areas scattered over the bladder wall, but no papules.

I had reported this case originally as an instance of ascending renal tuberculosis in a woman, but more mature thought makes me doubt the correctness of that view. It is true that the clinical history and objective signs pointed very strongly to an ascending infection, but this is such a rare occurrence in woman that before a case is accepted as such the evidence should be unassailable.

Case III.—Mrs. A. L., aged 43 years, married 26 years, has 7 children, the last child born 9 years ago, no miscarriages. Menses regular until two months ago, since then every three weeks. Had always enjoyed fair health, until present illness, which began eight months ago, with frequent and painful micturition. Had been treated for cystitis for eight months prior to consulting me. When seen by me micturition was every hour and hour and a half during the day and about every two hours during the night. As far as she knew she had never passed any blood with her urine, nor did she have any pain in either loin. For the past few months the act of micturition was attended with considerable tenesmus, and she suffered almost constantly with pain over the hypogastrium. A distant relative had had pulmonary tuberculosis, otherwise family history negative. She was fairly well nourished, though moderately anæmic.

The right kidney lay below the border of the ribs and extended to near the umbilical line. It did not appear to be enlarged, was not markedly tender on deep pressure. The left kidney was not palpable. On cystoscopic examination (Kelly's method) the bladder was found to be very irritable and did not balloon out satisfactorily. Several small ulcerations were seen on the posterior wall of the bladder and a fairly good-sized ulcer near the apex of the bladder. The urine was acid, specific gravity 1005, moderate amount of albumin, a large quantity of pus, a few hyaline casts, a few red blood cells. No tubercle bacilli were found.

Direct topical application of solution of nitrate of silver (ten per cent.) were made to the affected areas twice weekly for four weeks. There was

some improvement in the frequency of micturition as a result of the treatment, but the pain and tenesmus persisted. She now entered as a private patient into Mr. Sinai Hospital, to be under more careful observation and to obtain the benefit from rest in bed.

On May 19, after being three weeks in the hospital, she began to suffer from some pain in the region of the right kidney and had slight rise of temperature (101° to 102° F. in the evening.) Although repeated examination of the urine showed no tubercle bacilli my suspicion of tuberculosis of the right kidney was being very much strengthened, particularly as the right kidney was markedly tender on pressure. Cystoscopic examination now showed the areas of ulceration to be about the same as at the first examination and that the right uretral orifice was very red and markedly swollen, and the catheter met with an obstruction about two inches from the bladder. The left uretral orifice was slightly reddened and apparently clear urine was seen coming from it in rhythmical jets. Under very careful precaution a catheter was passed into the left ureter and 6 c.c. urine drawn from the corresponding kidney. The urine had an acid reaction a specific gravity of 1014, urea 1.8 per cent., a mere trace of albumin, and a very few pus cells, with a small amount of blood, the latter evidently due to the catheterization.

May 30.—Nephrectomy. The fatty capsule was very intimately adherent to the convex border of the kidney and at one point a small abscess was found. It was with considerable difficulty that the kidney was enucleated from its bed of adhesions. The ureter was considerably thickened and dilated; I removed it down to the pelvic basin. The patient's condition did not seem to me to warrant a total extirpation of the ureter. The wound was closed in part, the remainder being left open for a strip of gauze to drain the bed of the kidney and another down to the pedicle of the ureter. The extirpated kidney showed several small abscesses in the cortex of the kidney, and an ulceration in one of the calyces. The report of Dr. F. S. Mandelbaum, the pathologist of the hospital, stated that the process was a tuberculous one.

The patient made a rapid recovery, the left kidney acting promptly and efficiently. The bladder symptoms underwent some improvement after the nephrectomy, but persisted in a minor degree for about six months afterwards, disappearing finally under weekly and bi-weekly direct topical applications of nitrate of silver (10 per cent.) and emulsion of iodoform (ten per cent.). An analysis of the urine May 15, 1903, nearly a year after the operation, gave the following results: Sp. gr. 1010, acid reaction, a faint trace of albumin, urea 1.1 per cent., few epithelial cells, and a few pus cells; no casts. The faint trace of albumin was doubtless due to the presence of epithelial and pus cells.

Case IV.—Nephrectomy and Excision of the Twelfth Rib for Tuberculosis of the Right Kidney. Miss S. S., aged 39 years, had hip joint disease in childhood, resulting in marked ankylosis of the left hip-joint, with considerable adduction of the thigh. For three years suffering from very severe cystitis, for which she had been an inmate in various city hospitals from time to time. Just before coming under my care in September, 1902, she had been an inmate of a prominent hospital in the city for several weeks, during which time the urine had been repeatedly examined and the diagnosis of intractable cystitis had been made. Tuberculosis had not been suspected in that hospital nor in any of the other hospitals where she had been treated for the past three years. She received very little relief from her stay in the hospital and was discharged as a case of incurable cystitis.

When she came under my care she was very anæmic and very much emaciated, weighing only 107 pounds, her normal weight being at least 130 pounds. Her expression was one of great suffering, she had to urinate every fifteen minutes during the day and at least every thirty minutes during the night. The act was attended with a burning sensation and was followed by severe tenesmus. She had a constant pain over the hypogastrium. It was only after a direct question that she confessed to having some pain in the right loin for a short time before consulting me. On palpating the right loin, the lower pole of the kidney could be felt just below the border of the ribs, but it was not tender on pressure. Owing to the deformity (the ankylosis) a satisfactory cystoscopic examination could not be made. What could be seen of the bladder wall presented a number of small areas suspicious of a tubercular process. She was subjected for a few weeks to direct topical applications of nitrate of silver to the bladder. Noting no improvement from the treatment, and the pain in the loin becoming more marked, I arrived at the conclusion that she was suffering from tuberculosis of the right kidney. I could just palpate the lower pole of the left kidney and could not detect any abnormality.

On October 24, 1902, I removed the right kidney. The usual oblique incision was made, and the lower pole of the kidney presented. It was normal to the sight and to the touch. The upper two-thirds of the kidney lay behind the ribs and on palpation was found to give distinct fluctuation. This portion of the kidney was very extensively and firmly adherent and it was not feasible to remove the kidney until the whole of the twelfth rib was excised. The abscess in the upper portion of the kidney was ruptured in the enucleation, and the thick, cheesy pus escaped in the wound. The ureter was not thickened, and any attempt at extirpating it was deemed unwise, considering the patient's condition and the difficult operation to which she had already been subjected. The greater portion of the wound was packed with iodoform gauze, only a few sutures being passed at the upper and lower angle of the wound. The patient rallied from the operation satisfactorily, and the remaining kidney responded promptly to the extra work thrown upon it. On the third day she was passing 50 ounces urine per diem.

The whole upper two-thirds of the removed kidney was occupied by several abscesses, there was scarcely any kidney tissue left. The pus from the abscesses contained numerous tubercle bacilli. The lower third of the kidney appeared perfectly normal to the naked eye. The upper part of the wound kept discharging grumous material for a long time and was unhealthy in appearance. The unhealthy granulations had to be repeatedly scraped away with a sharp spoon. She left the hospital about six weeks after the operation, with still a good-sized sinus. I lost sight of her then until December 30, 1903, a year later. I scarcely recognized her now, as she had improved so much in appearance. She had gained 23 pounds in weight, felt well in every respect, had absolutely no bladder symptoms, and was following her vocation as a domestic. She still had a small fistula at the upper angle of the wound dis-

charging thick, creamy pus. This healed very promptly under proper drainage and the application of tincture of iodine.

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THE LYMPHOID AFFECTIONS OF THE UPPER AIR TRACT OF CHILDREN.

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NEW YORK.

With great hesitation I consented to present this well-worn subject to this learned society of specialists. Your chairman, however, insisted that it would be of interest to you, viewed from the experience of a rhinologist and laryngologist.

A patient remarked, a few weeks ago, that it was strange to her that every physician of the present period examined the throat and nose. This is indicative of the progress which has been made during the past twenty years, in realizing the importance of a healthy mucosa in the upper air tract. No student was taught to make such examinations when I graduated, and beyond acute affections of the tonsils, nothing in this region was considered worth our attention. It is my belief, even at the present time, that we are only beginning to learn the part which the upper air tract plays as a highway of infection to the general system.

Of all the tissue in the upper air tract, none is so interesting and important as the lymphoid tissue, which we are to consider to-day. Affections involving this region may be classified as direct, or those embracing the lymphoid ring, and indirect, or those affecting the lymphatics adjacent to the upper air tract. The direct affections would embody diseases of the pharyngeal, tubal, faucial, lingual, and laryngeal tonsils, while the indirect would involve the cervical, mediastinal, and the bronchial glands. A brief statement as to their location is all that is necessary.

The pharyngeal, or so-called Luschka's tonsil, is familiar to all as regards location and normal function. It enters probably into the physiological act of deglutition more than into that of respiration, and is unimportant to us at this time, excepting when pathologically affected.

The tubal tonsils are lymphoid glands segregated around the mouths of the eustachian tubes, and serve no further purpose than that of keeping the entrance of these tubes moist, and thereby aiding the cilia upon their epithelial covering to wash away many infectious organisms that would otherwise enter the middle ear.

The faucial tonsils are familiar to all as to location, and their normal function, if any, is evidently one of aiding in deglutition, by moistening the bolus, the same as the pharyngeal tonsil. The formation of leucocytes, with more or less phagocytic action, is a particular function ascribed to the faucial tonsils. Their location needs no description.

The lingual tonsils are at the base of the tongue, and, when enlarged, encroach upon the superior surface of the epiglottis. No functionating properties have been assigned to them as yet.

The laryngeal tonsils are in the ventricles of the larynx, and aid in keeping the locality moist. The lymphatic glands connected with the respiratory tract are situated as indicated by their respective names, and their function one of diminishing the potency of any infection in the lymph passing through them.

I am actuated to this brevity relative to location and function by the consciousness of your familiarity with these details, and will make amends for the same in prolonging the discourse upon the affections of the structures.

Primarily, in the order of frequent involvement, is the pharyngeal tonsil. This small mass is subjected to no end of affections, as acute inflammation, chronic hypertrophy, acute and chronic follicular diseases, diphtheria, tuberculosis, and syphilis. It is still an unsolved problem as to whether the pharyngeal tonsil possesses the same phagocytic properties as the faucial tonsil, by which it exterminates partially the numerous cocci infections to which it is subjected. But this we do know, that it is more frequently the seat of inflammation in children, and that the various etiological factors producing inflammation in lymphoid tissue, may make their first attack here. Some of these, as sudden climatic changes, damp air, poor ventilation, irritating gases, poor nourishment, and stomachic derangement, although devoid of infectious qualities, are none the less productive of acute nasopharyngitis. This inflamed area offers fertile soil for the colonial production of infectious cocci.

Hyperplasia and increased connective tissue are not always the conditions found in this acute affection; but most likely it is a temporary turgescence which permits extreme changes in the dimension of the glands. Systemic derangements, anatomical formations, and individual temperament are factors bearing materially upon the diagnosis and symptoms of these acute inflammations. A great amount of hypertrophied tissue is easily recognized, but small masses or slight enlargements are usually overlooked. It is frequently noted that upon one examination the eye will detect and the finger palpate a large mass in the nasopharynx, and one worthy of operative interference, when at another examination there would scarcely be any mass present. This may be accounted for by the changed systemic condition, by the correction of the bowels, stomach, and vasomotor system. However, it is well to note here that during this temporary turgescence the child most frequently suffers with earache, breathes through the mouth, and affords symptoms of mental hebetude which characterizes this affection. Frequently all the usual symptoms are absent, while the more or less constant night cough, and intermittent nasal stoppage tells the tale.

These smaller growths are not so important in regard to their influence on general nutrition, as to their influence on aural conditions. Mild attacks of otitis media may recur for several consecutive winters, with summer omissions, or the night cough may be the only persistent symptom, and in either instance removal should be advised.

The relative degree of development or dimensions of the nasopharynx is an important factor in determining the danger line of the pharyngeal tonsil. Some children have ample space to accommodate a large mass of adenoid without serious derangement to breathing, and would thus offer a subject of controversy as to the advisability of removal. In the phlegmatic children of the clinics, but little

discomfort is manifested from the presence of large growths, which in a nervous, impressionable child would be the cause of great perturbation, but if found, even without symptoms, they should be removed, as they offer a field for infection.

An acute pharyngeal tonsilitis of a catarrhal nature is quite common in small children, without any other part of the lymphoid ring being affected. It is usually the result of a cold, and attacks the vertical clefts of the gland. The chief symptoms are high fever, the temperature rising to 105°, extreme prostration, and some enlargement and tenderness of the posterior cervical glands. I believe that any affection of the pharyngeal tonsil causes more systemic disturbance than similar affections of any other lymphoid tissue. Probably due to the almost direct communication between the lymphoid channels of the nasopharynx and the general lymphatic system. I recall one case where the infection penetrated the deeper tissues of the pharyngeal tonsil and formed an abscess sufficiently large to visibly push forward the soft palate. Occasionally an acute faucial follicular tonsilitis may be accompanied by follicular pharyngitis and naso-pharyngitis, each follicle being filled with the typical white plug.

The classical symptoms produced by adenoids are so familiar that I deem it only necessary to call your attention to those of audition. Acute suppurative otitis media and acute catarrhal otitis media are occasioned by the direct extension of the infection or inflammation of the pharyngeal tonsil to the middle ear. When the pharyngeal tonsil is enlarged from even systemic conditions, it impairs the hearing by direct mechanical obstruction of the Eustachian orifice, or by pressure upon the tube from the fossa of Rosenmuller. A continued pressure will eventuate in a catarrhal condition of the tube, and an infection will most likely produce an acute middle ear infection of the same character.

When from any cause there has been frequent or continued attacks of acute inflammation of the pharyngeal tonsil, there is, as a sequel, an increase in the amount of lymphoid tissue, likewise connective tissue and fibrous stroma. This may produce a soft or a hard mass, and for practical purpose differentiates the two kinds of adenoids found, viz., soft and hard. This condition respects no race and regards no clime. It appears with equal frequency behind the door of the cottage and the palace gate, and alike in infants fed upon carefully pasteurized milk, and those deriving their sustenance from a healthy natural source. Whereas, not a distinctive disease of infancy, yet it has been found in cases of two months old babies, and claimed by some to be actually congenital. Some authors claim that this condition results from a natural progressive hyperplasia, and discountenances the various infections and inflammatory factors which precede it.

Whether as a sequel, or as a port of infection for the exanthemata, we do not know, but that we find an increase of lymphoid tissue after these diseases cannot be denied. More definite conclusions can be formed after it has been definitely proven that the exanthemata are of bacterial origin. We know that chronic hyperplasia of any lymphoid structure predisposes to the infection of tubercle bacilli, streptococci, diphtheria bacilli, and pneumococci; then why should it not obtain as well in all diseases of bacterial nature, offering, as they do, such an easy entrance for infectious organisms?

Several cases of diphtheritic infection of the pharyngeal tonsils alone have come to my notice. They were all accompanied by great prostration and high temperature. I have never seen any syphilitic manifestations in the nasopharynx of children.

One case of primary tuberculosis of the nasopharynx has occurred in my practice. A young girl who had recently been operated upon for adenoids, had tuberculous symptoms, beginning a few weeks after the adenotomy, with every evidence of an acute process. This infection soon spread down the side of the tongue to the larynx, and subsequently involved the lungs. The infection probably resulted from sleeping in a room long occupied by a sister who had recently died of tuberculosis. Whereas, it is exceedingly difficult to find the tubercle bacillus or even giant cells in adenoid masses; yet it is of serious import when we learn that of thirty-five guinea pigs inoculated with extirpated adenoids, seven died of tuberculosis (Dieulafoy).

There are some conditions obtaining in children which offer similar symptoms to those of adenoids, which I have given in a former paper, but I deem them of sufficient importance to bear repetition here: (1) Lymphatism; (2) syphilitic and gonorrhæal rhinitis; (3) congenital occlusion of the nares; (4) digestive disturbances; (5) congenitally high-arched palate; (6) small or occluded nostril; (7) unusually small postnasal space; (8) anterior projection of the bodies of the cervical vertebræ; (9) some malformations of the soft palate; and (10) hypertrophy of the tongue.

In view of the conditions simulating adenoids, it is unwise to give a positive diagnosis without the direct proof of digital or pharyngoscopic examination. There is considerable lymphoid tissue in the lateral pharyngeal folds, and any acute process attacking it will produce symptoms out of all proportion to the local appearance. This is likewise probably due to the direct relation of the lymphatics with the general lymphatic system. A few small, yellow plugs on the lateral folds of the pharynx, with very little redness, may be all that is visible in the interior of the throat, whereas the posterior chain of cervical glands may be enormously enlarged and massed together in a continuous ridge, which may be red and tender, and give evidence of a threatened suppuration.

Many such cases have come to my attention this spring. In some there was very little evidence showing the point of infection; again, others had a varying degree of follicular pharyngitis lateralis. In all the external glandular affection was very marked. In one case the pharyngeal wall and the surface of the tonsil was covered with numerous small, superficial abscesses, not exceeding a pin's head in size. The cervical glands were involved, both anterior and posterior, to the sternomastoid, and numerous other small glands as low as the clavicle. Three of these suppurated. On opening the superficial abscess already described, a small quantity of yellow secretion was pressed out, which, on examination, was found to contain numerous streptococci and a few staphylococci. In all these cases of infection through the posterior lateral pharyngeal wall, the secretions were found to contain streptococci. I do not believe that sufficient attention is paid to the mucous membrane of this region, as in my experience it is very susceptible to all those forms of infection which produce marked systemic toxæmia.

We might properly take up at this point a brief consideration of retropharyngeal abscess, which is somewhat distinctive of childhood, although found frequently in adults. The locus of infection may be in the nasopharynx, oropharynx, or laryngopharynx, likewise in the median line or to one side. Formerly it was considered a result of carious vertebræ, and to occur only in those of scrofulous or syphilitic taint. However, recent investigations have

shown that in children few cases result from carious vertebræ, and that syphilis probably only predisposes to the condition.

Anatomically considered, there is a space anterior to the aponeurosis covering the bodies of the cervical vertebræ, and covered in front by a sheath of connective tissues. This is limited above by the base of the cranium, and extends below to the mediastinum. In this space are found numerous lymph nodes, which are directly connected with the lymph channels from the pharynx, nasopharynx, and neck. In view of this direct lymphatic connection, any infectious conditions obtaining in any of these localities would tend to throw certain of the germs characterizing the infection into these nodes. In this way we have retropharyngeal abscesses resulting by metastasis from cervical adenitis, tonsillar abscesses, suppurating otitis media, and in one case reported (Leebert's) the cause was said to be an antral empyema. The exanthemata in children are frequently mentioned as a cause, which is one more proof, apparently, that they are of microbic nature. Infection from a foreign body, impaired nutrition, erysipelas, and acute inflammatory conditions of the lymphoid structures of the pharynx, are all etiological factors. I would particularly call your attention to the "grippe" bacillus as a causative factor in many cases. Tuberculosis, however, may play an important part, and once more it is reasonable to suppose that the bacillus travels through the pharyngeal tonsil, or lateral walls of the pharynx, as portals of entrance, to the less resisting lymph nodes of the retropharyngeal region. The farther the tubercle bacillus gets away from the port of entry the more virulent it becomes. This obtains as well in inspired air as in ingested foods. This virulence is probably not due to more activity on the part of the bacillus, but to the diminishing resistance on the part of the structure encountered. A bacillus will pass through a faucial tonsil and infect a cervical gland, and through a pharyngeal tonsil and infect a retropharyngeal lymph node.

In the 204 cases analyzed by Bokai, 189 were idiopathic, seven were due to carious vertebræ, seven were due to burrowing of pus from an abscess in the neck, and one was due to traumatism.

Retropharyngeal lymphadenitis may occur at an extremely early age; Bokai reports one case occurring in an infant eight months old, and in this case such severe symptoms of suffocation arose that tracheaotomy was necessitated. Casselberry likewise reports a case in an infant four months old, in whom the infection was probably the result of pseudomembranous tonsillitis of infectious nature. I have also had a case occurring at the early age of five months.

The symptoms vary somewhat with the location of the disease. If in the nasopharynx, the child breathes loudly and with the mouth wide open, but is not so subject to choking spells as when the disease is in the oropharynx. The difficulty of respiration, as well of deglutition, is materially increased the lower down the tumor is situated. These conditions sometimes go undetected for a long period, and the difficult breathing, indisposition to take nourishment, loss of weight, and general fretfulness of the child, are attributed to causes remote to that existing. A systematic examination of the entire upper respiratory tract with every aid at command should enable one to find the cause of the trouble. Not alone the eye, but also the finger and probe, should be called into action. The tumor in tuberculous and scrofulous children will offer but little redness to attract the eye, and the bulging may be so slight that it, too, escapes observation, hence the importance of using the finger to investigate the pharyngeal wall as far up and down as is practicable.

No condition yields so delightfully to surgical interference as this, if properly treated. If allowed to continue undisturbed, it may burrow down and reach the mediastinum, or break out into the cervical tissues, and gravitate through the layers of fascia into the pleural cavity. Ingalls recites a case having a sinus of ten inches, remaining after opening the abscess.

The faucial tonsils offer easier opportunities for abstract investigation than any of the other tissues of the lymphoid ring, because of their situation under direct observation. In their normal state they are but small masses of lymphoid tissue upon a cushion of areolar connective tissue. Their primary function is to manufacture mononuclear leucocytes for the destruction of the one hundred varieties of microorganisms constituting the flora of the human mouth; secondly, they filter out the pathogenic organisms contained in the inspired air and ingested food which pass over their surface, and thirdly, they furnish a small amount of mucus to facilitate the act of deglutition.

Hypertrophied tonsils may be divided for description into (1) Hard or fibrous tonsil; (2) The soft or adenoid variety, which is the one more frequently apparent in children.

Knight offers a further division for clinical consideration into (1) Those whose size interfered with deglutition or respiration; (2) Flat tonsils, not especially enlarged, but prone to recurrent attacks of inflammation, and occasionally the foci of suppurative inflammation; (3) A class of tonsils in which there may be little apparent encroachment upon the pharyngeal space.

Whereas the tonsils in children are subjected to all the diseases which obtain in the adult, simple hypertrophy is the one coming most frequently under observation. The line of demarcation between the harmful enlargement and the unharmful depends upon the judgment of the physician and the idiosyncrasy of the patient. Some children will tolerate enormously hypertrophied tonsils without evincing any of the annoying symptoms which a very slight enlargement will produce in others. The size should not be our only factor in determining a diseased tonsil, for a hypertrophy can readily be seen under most circumstances, but a large tonsil may escape the attention of persons with considerable experience; by this I mean the so-called buried tonsil, which lies hidden between the lateral pharyngeal wall behind, and the opercular fold in front, and which extends high up in the lateral pharyngeal vault. It is sometimes a more dangerous condition than the marked hypertrophy of the gland which occupies a large part of the pharyngeal space. On examining the throat we may find only a small part of the tonsil exposed, but the anterior surface of the soft palate presents a round, bulging appearance, and on palpation the tonsillar mass can be felt through the palatal walls.

These encapsulated tonsils are subject to all the disease of a free tonsil, but the symptoms are all more pronounced. A paretic influence on the soft palate and a protrusion backward into the nasopharynx produce symptoms similar to postnasal adenoids. A case once came under my observation in which the nasopharynx had been curetted twice for adenoids without any abatement of the symptoms; after considerable controversy, I removed the buried tonsil and all the symptoms disappeared. In two children, aged respectively 10 and 11 years, under my care, there existed more or less constant

nausea extending over a period of two years; after the removal of the encapsulated tonsils there was immediate relief. One tonsil only had been removed in both cases, the remaining tonsil was considered too small to cause any trouble. In these cases of buried tonsils a peritonsillar abscess is not uncommon, and in some instances when lymphoid tissue is abundant the tonsil extends downward along the side of the pharynx to the epiglottis. In a patient aged six years one of these faucial tonsils became infected and progressed to suppuration, the abscess burrowed down as far as the epiglottis, and pressing backward produced urgent symptoms of suffocation.

Again, a large, flat, mushy tonsil, with wide open crypts, and but little fibrous stroma, offers a far more fertile locus of infection than the smooth, hard, round hypertrophy, which causes the two tonsils nearly to meet in the medium line.

Some of the causes inducing hypertrophy are sudden changes in temperature, direct irritation from gases and ingesta, scrofulosis, direct infection from the innumerable cocci passing over the surface, inherent rheumatic diathesis, and, indirectly, bad gastroenteric conditions. the subjective symptoms are occasionally pain and acute inflammation, but most frequently a sense of discomfort only as of a foreign body in the throat, with a frequent desire to swallow; regurgitations of fluids through the nose, if the tonsils are very large; and gastric disturbances and vomiting, which are recited by some authorities as reflex neuroses, but they may well be the result of mechanical irritation to the fauces.

As a station for the deposit of morbific germs, the tonsil stands before any organ of the body. It is subjected to direct local infection from food, liquid, and air. Its projecting body and open-mouthed crypts are peculiar factors for stopping all organisms intended either for lung or alimentary canal, and though possessed of characteristic protective qualities in the phagocytic action of its leucocytes, the immense forces brought against its barrier must needs force it to succumb in many instances. Some author has offered as argument against the removal of the tonsils, this same protective agency which it embodies, and adds that nature has protected the human body against the invasion of germs by placing those great lymphatic guardians over the entrances thereto. Moreover, he claims that infancy and childhood are protected by larger masses of lymphoid tissue than adult age, because of the lack of discrimination in the infant of that which is pure to breathe or proper to eat. However beautiful this is in theory, in fact we find systemic infection in children more frequent than in adults, resulting most probably from infection through the tonsil. Though we find the tonsillar tissue itself infrequently the seat of tubercle infection (only 5 per cent. in 1,000 specimens of tonsils and adenoids examined), yet we find the adjacent cervical glands, which are the lymphatic reservoirs of the tonsils, infected with tuberculosis in an alarming percentage of cases of tuberculosis. Although the crypts and lacunæ of the tonsil offer every favorable feature for the collection and cultivation of the tubercle bacillus, yet we find latent primary tuberculosis of the tonsil comparatively rare. Pluder and Fischer demonstrated the presence of tubercle bacilli in the tonsil limited to the mucosa, in five out of thirty-two cases examined; Lermoyez, in two of thirty-two cases; Gottstein, in four of thirty-three cases; Brindel, in eight of sixty-four cases (*Archives of Rhinology and Larynology,* 1896). Jonathan Wright (*Medical News,* January 19, 1901), has this to say in regard to this channel as a means of systemic infection: "The mucous membranes absorb, the lymphoid material harbors, and the lymph channels carry the tubercle bacillus, and yet are themselves relatively immune to its morbific influences as compared to the walls of the bronchioles and air vesicles." The frequency of so-called scrofulosis associated with hypertrophied tonsils may illustrate the relative immunity of tonsillar tissue to tuberculosis itself, and likewise demonstrate that the infection has been passed on to the next of nature's protective agents, the lymphatic glands. The frequency of scrofulosis in certain sections of the country where poor milk is furnished by "scrub" cattle, which are probably tuberculous, may in a measure be accounted for by this same filtering process of the tonsil, the projecting mass with wide crypts straining out the bacilli from the ingested milk, which then pass through to the lymphatics, where they establish themselves.

There is a fossa above the tonsil called the supratonsillar fossa, which by many is deemed a large crypt, but in reality is a blind pouch, offering the peculiarly favorable features of darkness, warmth, and moisture to the processes of germination. Here collect vast quantities of streptococci, staphylococci, pneumococci, tubercle bacilli, and Klebs-Loefler bacilli, all of which await a favorable diminution in the resistance of the tonsil to invade its inner body and deplete its vitality. It is reasonable to suppose that from this pouch more tonsillar abscesses and quinsy sore throats result than from any of the other loci of infection. Here are deposited food products, which in time decompose, producing toxins which easily invade the tonsil, and pass into the general system, occasioning toxæmia. Unquestionably many of the febrile conditions in children may be accounted for in this manner.

Affections of the lingual tonsils in children are comparatively infrequent, and while these may be sympathetically as well as directly involved, yet their diseases are by no means of such import as in the adult. Lenox Brown has probably devoted more study to the diseases of the lingual tonsils than any other observer, and from his investigations one finds slight apprehension of involvement in the child. Their situation offers equal opportunity for infection from ingested material as the faucial tonsil; but not so favorable for inhaled infection, as the epiglottis covers in part their outer surface during inspiration.

Another probable factor aiding their immunity is the presence of ciliated epithelia even in the crypts of the lacunæ, which would tend to wash away infected material from these bacterial repositories.

Digestive derangements, colds, inherited rheumatic diathesis, and bacterial infection are etiological factors producing affections in this locality. The three first mentioned causes produce only turgescence of these lymphoid masses, which may be unilateral or bilateral. Enlargement of this character has occurred in several cases in which serious disturbance to respiration resulted, and in one case reported by Hickman (*Transactions of the Pathological Society of London,* Vol. XX.), death from asphyxia resulted a few hours after birth, and the autopsy showed an "enormous hypertrophy of the normal tissue of the posterior portion of the tongue, the anterior being unaffected." However, the majority of observers have claimed the liability of this affection begins only at fifteen or sixteen years, and continues to the age of seventy.

It is believed by Swain that there is some connection between hypertrophy of these glands and infectious diseases, as in many post-mortem examinations observed by him after typhoid fever, scarlet fever,

measles, and diphtheria, hypertrophy has been found. It has also been noted in anthrax and tuberculosis (Lenox Brown, page 396).

In some phlegmonous conditions of either the pharyngeal or faucial tonsil, we find a similar, though somewhat modified condition in the lingual tonsil, and particularly does this obtain in cases of retropharyngeal abscesses. In scarlet fever, when the faucial tonsils are greatly infected, producing the infiltration of surrounding tissue, which we have all learned to fear, the lingual tonsils may also be implicated to a similar degree. The symptoms become very alarming as the pressure of these infiltrated masses upon the epiglottis, together with their weight, drags the tongue backward over the larynx and produces symptoms of suffocation. In milder cases these symptoms are absent while the subject is sitting up, but on his lying down the symptoms of suffocating appear.

In one case under my care, an abscess formed at the base of the tongue on the right side, and nearly proved fatal. In several cases I have been obliged to have the tongue held forward by relays of assistants for two days. It does not seem that the possible affections of the lingual tonsils in children are fully appreciated.

There is no remedy for internal administration, nor any local application, of special use in the acute affections of these tissues. The simple affections are usually self-limited, while those of a specific nature have a well recognized treatment, with which you are all familiar. It is important, of course, always to observe cleanliness and employ some antiseptic applications. Internally I have found the best results from the use of a Guaicol of quinine. If the glands connected with the lymphoid tissue of the upper air tract become affected, an application of ichthyol and ice externally is beneficial, but it must be continuous.

The more or less chronic affections of this region should not be temporized with, and the best results may be expected from surgical measures. This applies more particularly to the lymphoid tissue in the nasopharynx, for there is seldom sufficient tissue at the base of the tongue to warrant its removal.

I do not mean to be understood as advocating the removal of small pieces of adenoids and small tonsils which are not causing any symptoms. In such cases suitable climate and proper attention to the stomach and intestinal canal will assist in taking care of this tissue, but large tonsils and large lymphoid masses in the nasopharynx should be removed, even if they do not produce symptoms. We have always to remember what a source of infection they may be the moment they are attacked by any contagious disease.

A small quantity of adenoid tissue in the nasopharynx, if it produces cough, frequent colds, earache, or any other symptom, should be removed.

Having determined that the adenoids or tonsils, or both, should be removed, there are many things which a specialist should consider. The child's condition should be carefully looked into, and if he has recently recovered from any contagious disease, or ear trouble, or has had a slight cold or bronchitis, the operation should be deferred. The urine should be examined, and the temperature taken, as in several instances under my care albumin in the urine and a rise in temperature have been forerunners of scarlet fever.

If there is a history of rectal temperature not exceeding 101°, and extending over a week or ten days, I do not consider it as a contraindication. Subacute tonsillitis, or pharyngitis, readily accounts for such a temperature. Of course the operation may be done, if necessary, at any season of the year, but if we can elect a time, I consider May and June preferable months; at this season a child is kept in the house a minimum length of time, and has the entire summer for a complete restoration of the circulation of the upper air-tract, and a consequent cessation of all the symptoms.

Having decided on the operation, I send a list of the things required, and select an early morning hour, usually before eight o'clock. This gives us the child with an empty stomach, avoids the irritation and fretfulness caused by keeping away the breakfast, and, furthermore, it gives the child the entire day to recover from the operation, and when evening arrives it is usually in a favorable condition for a quiet night. In a few instances, in which the tonsils are free and there is only a small adenoid, I find it feasible to remove them without an anæsthetic, but I usually do not advise this procedure; and as a choice of anæsthetics, in a child over three years of age I prefer gas and ether, or ether and ethyl chloride. In a child under three years, with a skilled anæsthetist, I am satisfied to begin with a few drops of chloroform, and then run into ether. Chloroform alone I consider very unsafe.

The anæsthetic should be given in a room other than the one selected for the operation, and the child brought in and placed on the table when unconscious. Of course, any table will do for such an operation, but in order to facilitate matters, and to have everything as perfect as possible, I employ a table of my own device, which I have already described in a previous paper. The points of convenience in this table are that it can be carried in a bag to the patient's house, and occupies a small space close to the window. It is high and narrow, so that it brings the patient within easy reach, and has a movable extension, which may be lowered or elevated as required.

The patient being under the anæsthetic, with the mouth gag in place, I introduce my finger into the nasopharynx and examine the location and condition of the lymphoid tissue. I then examine the tonsils, and if there are any adhesions, separate them with the tonsil hook, and quickly remove both tonsils. If the child is in the sitting posture, which I usually prefer, its head is bent quickly forward, allowing the blood to drain out of the mouth. A moment later, my assistant wipes out the pharynx with an antiseptic wipe, and the curette is passed into the nasopharynx, and with two or three quick sweeps the adenoid tissue is removed. The patient is again held forward, so as to drain away the blood. Most of the lymphoid tissue comes out with the curette or the blood, as it drains from the mouth. A moment later the finger is introduced to make sure that all the adenoids have been removed. If this has been complete, the patient is replaced to a recumbent posture and turned well over on the side to favor drainage. At this stage a towel is dipped in ice water and quickly put over the face, which immediately flushes, and the bleeding ceases almost immediately. Two applications of the iced towel will certainly control any ordinary hemorrhage.

Before removing the patient from the table, I look into the throat to ascertain that everything is all right, and that there are no tags of adenoids hanging from the nasopharynx. In an ordinary case, with everything in readiness, and with no complications, the operation should not require more than two minutes.

If either tonsil is buried, or there is a great amount of adenoid tissue, the time required for removal would be a little longer, and the administration of more ether required. In these cases, after the tonsils are removed, I wipe out the pharynx, and apply ice-

water to the face to control the hemorrhage, and then continue the anæsthetic.

After the child is placed in bed on its side, I expect the anæsthesist to remain until the child vomits, which it usually does within ten or fifteen minutes. I then consider it safe to leave the patient, with instructions to the nurse to keep it absolutely quiet, and darken the room, so as to encourage sleep. The following printed rules are also left with the nurse:

First Day—

1st. Keep quiet in bed on the side, and take the temperature by rectum twice a day.
2nd. No gargles or nasal sprays.
3rd. If restless or in pain give —— drops of paregoric.
4th. Nothing hot to eat or drink. Give only cold milk, ice-cream, cold broths, or soups.
5th. Give customary medicine for moving bowels.
6th. If much bleeding, telephone to the doctor, and apply iced towels at intervals of two minutes to the face.

Second Day—

1st. Keep quiet in bed.
2nd. Small quantities of warm food may be given at regular intervals.

Third Day—

1st. Slight exercise indoors.
2nd. Any light food patient wishes.
3rd. Use antiseptic gargle.

Take the patient to see the doctor two weeks after the operation.

The directions are left in this way, as otherwise they are often forgotten, and the attendants do not know what to do in case of an emergency. In infants, and in children under two years of age, I employ a small tongue depressor and gag, as the ones in ordinary use take up so much room in the mouth that they retard the quickness of the operation. A small curette is also advised, as the usual size for older children is likely to do damage to the nasopharynx.

Preferably I use a Matthews tonsillotome, as it pulls out the tonsil, and is less likely to injure the pillars of the fauces, which is a frequent cause of profuse hemorrhage. If the tonsils are very soft, and full of long furrows, the forks of a Matthews tonsillotome pull out, and in these cases a McKenzie instrument, or a modification of it, is preferable.

Accidents Which May Occur During the Operation.—The pillars of the tonsil or its cushion may be severely injured by an assistant pressing too hard externally on the tonsil. If I employ pressure at all, I do it myself, so as to have it completely under control. In operating with a curette, or forceps, in the nasopharynx, the septum or Eustachian prominence may be wounded, or an unnecessary amount of mucous membrane may be stripped off the posterior pharyngeal wall. The septum and the Eustachian prominences are more likely to be injured with the forceps, the posterior pharyngeal wall with the curette. It is very important, in using the latter, that the pressure be lessened as the sweep presses downwards.

One patient came to my clinic the day after the tonsils and adenoids had been removed at another hospital, and I found the soft palate completely ruptured from its free margin to the edge of the hard palate. This case gave a history of congenital syphilis, and from experiments I have made, I do not think that any ordinary force could rupture the palate of a healthy child. It is very easy, however, to pinch off the uvula or bruise the soft palate with the forceps.

Sequelæ.—Personally, in an experience of twenty years, I have never had an alarming hemorrhage during the operation, nor secondary hemorrhage. Such an occurrence may usually be avoided if a careful history of the child is taken, and its condition fully considered.

Too vigorous operative procedures should also be avoided, and the postoperative directions should be fully carried out. I cannot condemn too forcibly the belief of some operators that details are unnecessary in such a minor operation. Of course, we may go on for years without an accident, but when it does occur from want of proper care we are not likely soon to forget it.

Two cases of otitis media have occurred in my practice, a single ear was involved in one instance, but both in the other, without any assignable cause. In another patient the temperature rose to 105° four days after the operation, and remained there for nearly a week, when a central pneumonia appeared. In still another case, albumin and casts appeared in the urine after the operation, and continued for three months, but I have no doubt this would have occurred had the child taken ether for any operation.

Scarlet fever developed in one patient two days after the operation, and measles in two cases five days after the operation; this occurrence, however, should not, in my opinion, be connected with the operation.

7 East Fifty-fifth Street.

A CLINICAL OBSERVATION OF ONE HUNDRED AND SIXTEEN CASES OF TYPHOID FEVER, WITH SPECIAL REFERENCE TO THERAPEUTIC FASTING.

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During the recent New Orleans session of the American Medical Association before the section of Practice of Medicine, it was my privilege to present a report of treatment of ninety cases of typhoid fever, with special reference to therapeutic fasting[1], and since then twenty-six cases have been observed, which have encouraged me to emphasize more than ever certain conclusions drawn from a study of the dietectics of this disease.

The clinician and bacteriologist have been working out certain problems from different points of view, in typhoid fever, and it is gratifying that their results have been reciprocally confirmed in a great measure, and from a standpoint of the former the results of these incomplete studies are offered:

While bacteriology has furnished many unsolved problems concerning the nature and manner of production of toxin of the bacillus typhosus, in many of these experimental studies some conclusions have been formed that coincide with clinical facts. The difficulty of filtering away the toxin in solution from the bacillus typhosus has rendered its properties less well understood; but we are warranted in concluding that the toxin is probably produced by bacterial disintegration, and takes place more rapidly in the human organism than in culture media.[2] As this bacillus is found by far more frequently in the feces, we look for the greater source of the toxin production in the intestinal canal, where the pathognomonic lesions of the disease occur. The bacilli found in the feces represent only those that have escaped absorption, which are probably a very small per cent. of those actually existing in the digestive tract. These deductions have an important bearing on cer-

tain clinical observations that have been made since the disease was first studied:

In the first place, there is a greater amount of toxemia in cases associated with gastro-intestinal disturbances, which is not dissimilar to the manifestations of diphtheria, in which the toxemia is proportionate to the amount of local disturbance of the pharnyx. Cases attended with diarrhœa usually have a greater degree of toxemia, and where the reverse condition obtains, the amount of bacterial production is greatly reduced. Emaciation occurs independently of the amount of food taken into the stomach,[3] and this is suggestive of the fact that but little food is assimilated, and the remainder furnishes a good culture medium for the bacilli, thus producing a greater amount of toxemia. The fact that robust individuals are more susceptible to the disease, and usually produce the more violent types, can hardly be accounted for by any rationale, except, possibly, they consume more infection. As in other infectious diseases different individuals are affected differently by the specific toxin. Robust young adults seem to be more susceptible to the effects of the toxin of the bacillus typhosus, while extremes of ages and the anæmic are less so.

The specific toxin produces pathognomonic symptoms of typhoid fever, and is not necessarily attended by high temperatures. Where there is hyperpyrexia without typhoid symptoms, there is a probability of mixed infections. These facts lead us to conclude that the dietetics furnishes the most important field of therapy, and a restricted diet and fasting are the rational indications in the treatment of these severe cases, and the dangers from inanition are by far less than those from toxæmia.

Etiology. For practical purposes typhoid fever may be assumed to be water-borne in sporadic cases, but where cases occur secondarily there is a probability of indirect infection by other means.

Some observer[4] has recently said there are only six authentic instances where the bacillus typhosus has been discovered in drinking water, but the epidemiologic evidences prove the reverse. Well-water is a fruitful source of infection, because of the exclusion of sunlight and air. Experiments have proved that 98 per cent. of the bacilli are killed by a two hours' exposure to the sun's rays. In this report ninety-six cases drank well, while twenty drank hydrant water, and the greater proportion of population, where this observation was made, is dependent on hydrant water for drinking purposes. The variation of types of the disease is more due to individual conditions rather than types of epidemics.

Typhoid fever is a disease of early adult life, and the youngest herein reported was two and the oldest sixty; an average 20.3 years old. There were sixty-four males and fifty-two females. These observations indicate that the disease is less frequent in the colored race as census reports.

Diagnosis: Dr. Osler's suggestion was adopted in the diagnosis of these cases, viz., any continued fever lasting beyond a week, without obvious cause, and resisting the effects of quinine, may be assumed to be typhoid. All doubtful cases, except tuberculosis, should be assumed to be typhoid, until proven to be otherwise.

The Widal reaction is the greatest achievement in the diagnosis of typhoid fever, but we are necessarily dependent on clinical diagnoses during the first week, at the end of which time the reaction is shown in only 6 per cent. of cases, while on the thirtieth day the per cent. of reaction is 92.[5]

Prognosis: Nothing is more uncertain than the ultimate result of a case of typhoid fever, and statistics, in my opinion, would show almost as many deaths among those cases classed as mild as in the severe ones.

In this report there were 79 classed as mild, in which two deaths, or 2.5 per cent., occurred; while there occurred a mortality of two, or 5.4 per cent., in 37 cases classed severe. This may be due to the fact that the former are not subjected to such rigid surveillance as the latter. Hemorrhage and perforation occur quite as frequently in the mild cases. "Walking cases" furnish a great danger, and I have seen a fatal hemorrhage where the diagnosis was only made after the accident. The younger the case, the milder will be the disease. If the onset is sudden and severe the duration will be shorter. The degree of pyrexia is not necessarily an index of gravity. Pulse frequency, barring individual peculilarities, is a measure of danger. Constipation is a more favorable symptom than diarrhœa. Persistent tympanites is a most unfavorable smyptom, because of increased area for absorption, and favors the production of hemorrhage and perforation. Delirium, when due to hyperpyrexia, is not as bad significance as that occurring with a low temperature.

Treatment: In the cure of typhoid fever there are no specific remedies, and in our search for such we often fail to utilize certain accepted principles in the management of this disease. I am convinced, from personal experience, that it requires a more acute observation to decide the suitableness of any plan of dietetics than it does to discern the physiological effects of drugs, and for this reason the food question is not properly appreciated. There is a prevailing sentiment among clinicians to use less drugs, at the same time not denying their value to relieve certain symptoms and complications.

The merits of hydrotherapy are established beyond peradventure, but in the dietetic management observers disagree. Some observers[6] have recently advocated a more liberal diet, but that is *sub judice*. It is safe to say that a great majority of clinicians of long experience still feed typhoid patients in a very restricted manner.[7] There are obvious physiologic reasons favoring the latter procedure. The text-books usually close the subject of treatment by a few remarks on food, which should be first discussed in detail. The proper food management of a typhoid case will well nigh shield him from every danger incident to the course of the disease, for there exists no greater danger than to have undigested food in the intestinal canal, which means a greater degre of toxemia. Cases attended by diarrhœa and tympanites, hemorrhage, perforation, hyperpyrexia, and asthenia furnish the greater dangers which are aggravated by deranged gastro-intestinal functions. It is a common observation that those patients who are fed more liberally show more marked emaciation. The eliminative treatment, so-called, has no place in the rational treatment of typhoid fever, except to mitigate the sins of overfeeding, as increase of peristalsis favors the absorption of toxin. Sthenic cases usually furnish the more dangerous types of the disease, which are marked by high temperatures and considerable gastrointestinal derangements, which exhaust the patient by far more rapidly than the withdrawal of food would do.

It is in this class of cases that therapeutic fasting has served me so well in the management of this series of cases. It is noticeable that there is less emaciation, with the same degree of fever, in typhoid fever than in any other acute fever, and what the patient loses in food is more than compensated by a lessened amount of toxæmia.

Death from starvation occurs ordinarily in eight days after the withdrawal of all food and water.

The same result occurs, even though dry food is allowed, but life is prolonged forty days when water is freely given.

Physiologists have demonstrated, by experiment on animals, that nitrogenized food and water are essential to a normal metabolism, and that carbohydrates are nonessential, as there is ample storage of this class of food in the organism.[8] This would lead us to infer that there is little necessity for carbohydrate food in a sthenic case of typhoid fever, lasting a few weeks, and it is only necessary to maintain a nitrogen equilibrium.

The pathological anatomy of typhoid fever shows a condition of gastrointestinal catarrh with hyperplasia, with a great reduction of all the digestive fluids. Saliva is diminished, and hydrochloric acid is usually absent in the gastric juice, and, in fact, almost every condition unfavorable to digestion exists. Diarrhœa is an effort of nature to throw off what the intestines cannot digest. Intestinal ulcers should be assumed to exist in every case, however mild, and the proper treatment of ulcers is rest.

The rational treatment of such a condition is a restricted diet, or fasting, then peristalsis can be better controlled by cold applications, and an opiate may be used, if much diarrhœa exists.

Fasting should be applied from one to three days, until the active symptoms are controlled. The reduction of the degree of toxæmia is hardly noticeable the first day, but is shown by a reduction of one or two degrees of temperature on the second day, and on the third day more than that; but, it is exceptionally advisable to continue fasting through the third day, as the active symptoms are usually ameliorated. In other than sthenic cases, fasting should not be applied, viz., pregnancy, the puerperium, the tuberculous diathesis, the anæmic, etc., but in these cases there is less necessity for its use. One of the greatest arguments to be had for fasting and a restricted diet is, they enhance the effects of hydrotherapy, the technique of which will be referred to later.

Many cases run an abortive course after the amphibolic period under a treatment by fasting and a restricted diet. After fasting twenty-four to forty-eight hours, a very restricted diet should be given, consisting of broths, of beef, chicken, mutton, oysters, etc., coffee, cocoa, egg albumen, pertonoids, etc., in prescribed amounts.

The effect of these slops should be carefully watched, and definite quantities should be ordered in severe cases. It is needless to say they can be taken *ad libitum* in mild cases.

Gelatin is a valuable adjuvant in the dietary of a typhoid patient. It serves three purposes; adds to the relish of the various liquids, lessens the nitrogenous waste from the system, and prevents hemorrhage. A teaspoonful three or four times a day is the amount usually ordered and should be dissolved in a little hot water, and then added to any liquid nourishment, meat broths, cocoa, coffee, tea, etc. It adds a richness of taste to these slops, which otherwise become tiresome to the patient. The food value of gelatin is recognized, and being in a concentrated form serves an excellent purpose. When used, emaciation is less rapid. The hemostatic effect of gelatin is universally conceded, but to wait until an intestinal hemorrhage has occurred, but little immediate good can be hoped for by its use. It should be used as a routine in all cases to prevent hemorrhage. Very aggravated diarrhœic cases don't tolerate it so well, as it may increase tympany. But in these cases it may be used on alternate days in small quantities. Since beginning its use no hemorrhage has occurred.

The case should be closely studied, and any excess of food will be indicated by a rise of temperature. To nourish the patient by a minimum amount of food requires a very close study. Milk should be absolutely forbidden, because no one can predict when it will form a curd, which is worse than any solid food. One of my patients had a hemorrahge in convalescence from taking milk and lime water in equal parts. I examined curds the size of a hazel nut in the bloody dejecta. The case was a mild one.

Another case was seen in consultation 24 hours after drinking two glasses of buttermilk at half-hour interval, with symptoms of perforation. He died three days later from peritonitis. This case was a mild one.

Milk is valuable, however, diluted with two to five parts of coffee, cocoa, broths, hot water, as under these circumstances the danger of curd formation is slight.

This plan of dietetic treatment should be continued until active symptoms are controlled, and, as improvement advances, nourishment may be more liberally given. Solid food is a danger that offers few advantages to the patient. Nearly all recrudescences are due to dietic errors. Fasting in late stages and convalescent stages will cause fever, as inanition often causes fever.

As before suggested, fasting and a restricted diet greatly enhance the effect of hydrotherapy. Where there is fermentation in the alimentary canal with hyperpyrexia, it is easy to understand how difficult it is to reduce the temperature by baths, but under other conditions the modified bath is effective, whether cold, tepid, or hot.

I have often observed a reduction of more than two degrees of temperature after a single sponge bath in a sthenic case after fasting.

To illustrate: In Case 94, which was fasted the first day, and then allowed a very restricted diet. By reviewing the chart from the 4th to the 8th day, there were given 13 cold sponge baths, lasting from 20 to 30 minutes. The greatest reduction of temperature was 2 2-5 degrees, while the lowest was 4-5 degree, and the average 1.8 degree per bath.

Many patients exhibit marked peculiarities as to the effects of cold applications, in most cases having an agreeable effect, during a high temperature, while in others having an exciting effect. The Brand system being more or less impracticable, recourse is had to the modified cold bath, or even a hot bath. Each case should be studied on its own merits, and the cold, warm, or hot sponging applied accordingly.

In fact, some observers[9] have claimed better results from the hot treatment. It has been my observation that cold is better for some, while warm sponging is better for others; and, still, in other cases, cold and hot sponging alternately has been better. In asthenic cases with very high temperature, causing delirium, ice cold applications are preferable, and in later stages, where the temperature is not excessive, but delirium exists, warm sponging has a more soothing effect. In asthenic cases, with hyperpyrexia, the cold and warm alternating seem to act better. Rubbing enhances the effect of these applications and heat is thereby dissipated. It has been stated[10] that 30 per cent. of the entire quantity of blood in circulation remains in the cutaneous system and the intimate relations between the physiologic function of the skin and the temperature variations of the body both throw light on the importance of sponging in typhoid fever. An excess of food in the intestines increases peristalsis and favors the absorption of toxins. The writer has observed an increase of several degrees of temperature in quiescent case by taking a dose of castor oil.

Constipation should be relieved on alternate days by soap-suds enema.

There are many minor details in the treatment of certain symptoms and complications that need no mention, and are familiar to every clinical observer.

I append a chart of an abortive case (No. 108), in which the diagnosis was confirmed on the 11th day by the Widal reaction. On the 3d day there was active delirium, with unconsciousness and diarrhœa, with tympanites. The notes on the chart need no comment.

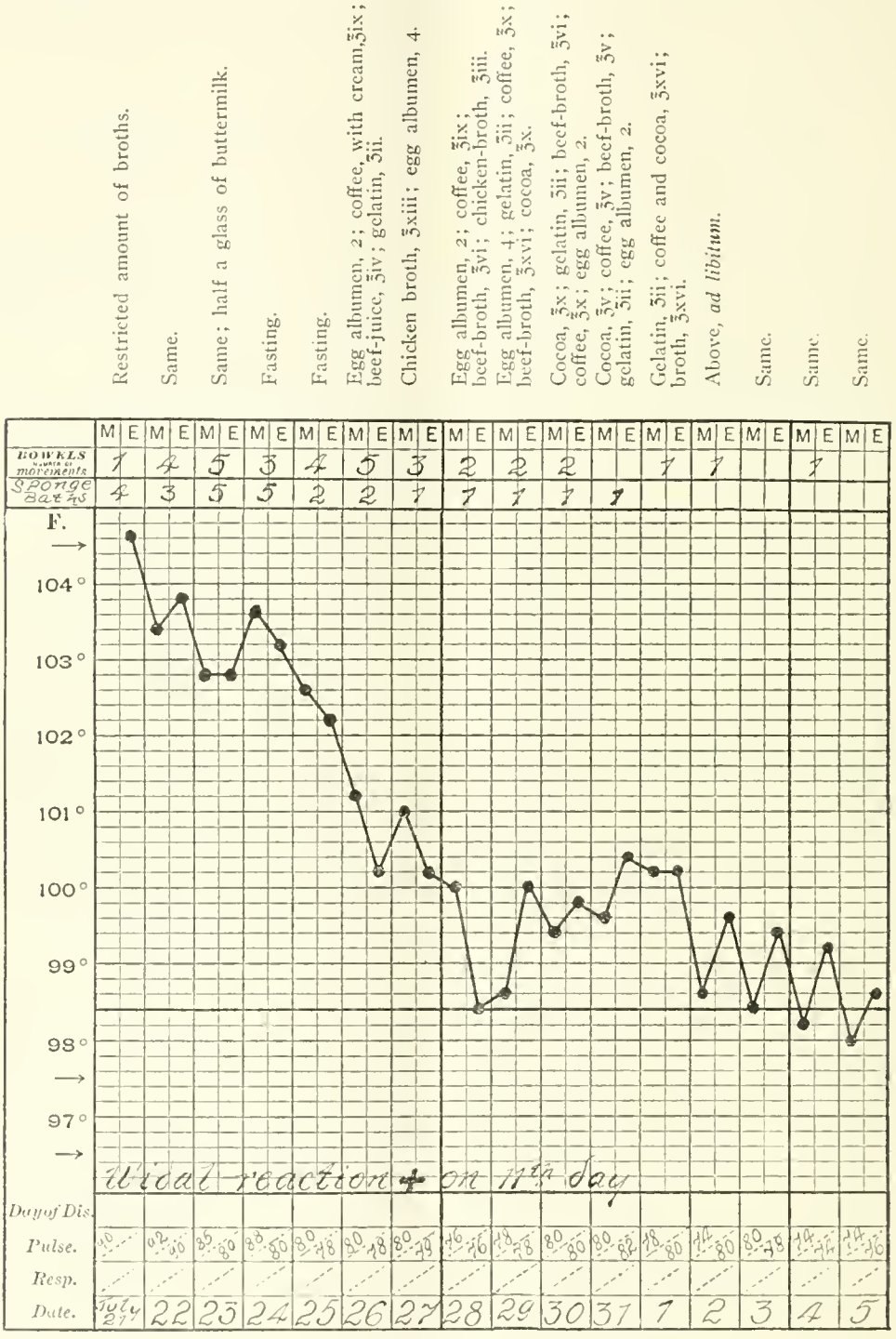

Chart of an Aborted Case of Typhoid Fever: the record begins on the second day of the disease and ends on the seventeenth day.

In this report of cases lasting 12 days, or less, were classified as abortive, and there were 33 cases, or 28.4 per cent. of this type, which is greater than ordinarily expected.

Abortive cases show a greater tendency to relapse, and require to be kept in bed, on a restricted diet, at least ten days after a normal evening temperature.

This series of cases occurred in private practice during a period of eight years, and below is a summary:

One hundred and thirteen were white and 3 were colored. Cases under 10 years old were 26; between 10 and 20, 33 cases; between 20 and 30, 39 cases; over 30, 27 cases. There were 64 males and 52 females.

As to the month of occurrence, August claimed 36, September 28, July 19, October 16, November 8, June 6 and April 3. Gastrointestinal symptoms were marked 45, and absent in 71 cases. Nervous symptoms were marked in 20, and absent in 96 cases. The average duration was 18.3 days; and same, without relapse, was 15.6 days. Five, or 4.3 per cent. of cases relapsed, and all recovered, and the relapses were ascribed to taking solid food too early. Five cases were complicated. Three, or 2.5

per cent., had hemorrhages, two of which were slight, and the third immediately fatal from getting up in delirium. Two cases had two attacks within twelve months.

One case, No. 48, was diagnosed appendicitis, and on the fourth day an apparently normal appendix was removed, and the case pursued a typical course of the disease to recovery.

Case 72 had hæmaturia and recovered.

Case 24 had double parotid suppuration and osteitis of the humeri, and after forty-five days recovered.

Of the four deaths (3.4 per cent.), Case 46, a negro, can with propriety be ruled out, as he was dismissed, and I was called to see him in a relapse, in a dying condition, having had urinary retention 24 hours.

Case 57 would probably have recovered, but being without a nurse she got up in delirium and a fatal hemorrhage resulted.

Case 70 contracted pneumonia on the tenth day of convalescence and died a week later. It was the opinion of my colleague there was no reinfection of typhoid fever.

Case 64, a negro, alcoholic, died on the twelfth day from asthenia.

Of 113 whites treated, there occurred two deaths, or 1.7 per cent.

A summary of these observations may be made as follows:

1. The toxin of the bacillus typhosus is probably produced by bacterial disintegration in the intestinal tract, where the pathognomonic lesions of the disease occur.

2. There is a greater degree of toxemia in cases associated with gastro-intestinal disturbances.

3. The toxin of the bacillus typhosus produces the pathognomonic symptoms of typhoid fever.

4. Hyperpyrexia, without the pathognomonic symptoms, indicates a probability of mixed infection.

5. Different individuals are affected differently by the specific toxin, robust young adults being more susceptible, while the extreme of ages, the anemic, etc., are less so.

6. The variations in types of the disease are more due to individual conditions, rather than types of epidemics.

7. These statistics indicate that there are as many deaths among the mild (2.5 per cent.) as among the severe (5.4 per cent.) cases.

8. Emaciation occurs independently of the amount of food taken.

9. A great majority of clinicians, of long experience, feed typhoid patients in a very restricted manner.

10. Fasting and a restricted diet are indicated, because of pathologic conditions, and to a great extent eliminate the dangers of sthenic cases.

11. The proper food management of the case will well nigh shield him from every danger incident to the course of the disease.

12. The eliminative treatment, so-called, is irrational, except to mitigate the sins of over-feeding.

13. What the patient loses in food is more than compensated by a lessened degree of toxemia.

14. Peristalsis favors the absorption of toxins, and cathartics should be used only to remove undigested food.

15. Nitrogenized food and water are essential to a normal nitrogen equilibrium, and there is little danger from inanition in sthenic cases.

16. The presence of ulcers in the intestines should be assumed in every case of typhoid fever, and the proper treatment is rest, which is better attained by fasting and a restricted diet, thus preventing hemorrhage and perforation.

17. The presence of diarrhœa and vomiting indicates the adoption of fasting.

18. Fasting and a restricted diet enhance the effects of hydrotherapy and many cases (28.4 per cent.) run an abortive course.

19. Gelatin is a valuable adjuvant in the dietetics of typhoid fever, and lessens the nitrogenized waste and prevents hemorrhage.

20. Milk as a food is a danger, except in a modified form.

21. The modified cold bath is preferable to the Brand system.

22. Recrudescences are usually due to dietetic errors.

23. In this report, 45 consecutive cases occurred without a death. Of 113 whites, 2 or 1.7 per cent. died, and the low mortality of 3.4 per cent. of all cases was ascribed to the above treatment.

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THE TREATMENT OF PROLAPSE OF THE UMBILICAL CORD.*

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A TEXT-BOOK description of the causes and diagnosis of prolapsus funis is scarcely to be expected before a special society of this character. Prolapse of the cord is a complication that may occur in any case, although certain primary conditions are usually accountable for it. To prove, however, how infrequently such conditions exist as etiological factors it is only necessary to mention them. They include: Deformities of the pelvis, abnormalities in the position of the uterus, the presence of myomata, misplacement of the placenta, multiparity, hydramnios, twin pregnancy, malformations of the fetus, faulty presentation and position.

In the experience of most practitioners probably the last condition, and possibly twin pregnancy, are the only conditions which stand in any way as distinct causes of prolapse of the cord—always reserving, of course, the predisposition to prolapse in premature deliveries. With these two exceptions, therefore, the average conditions in any obstetrical case at the beginning of labor offer no indications as to the occurrence or non-occurrence of this complication. This phase of the subject is that which appeals to the practical obstetrician. This is especially the case in view of the high fetal mortality, which ranges in the neighborhood of 50 per cent.

Before discussing the treatment the exciting causes of prolapse may be mentioned, for the reason that they bear upon the prophylaxis. These are the discharge of liquor amnii and muscular contraction.

Where, by early examination, a faulty presentation or malposition is found to exist complicated by the presence of a loop of the cord, detected through

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the unruptured membranes, the object in treatment should be to preserve the bag of waters until such time as the position of the fetus may be corrected or until the os is fully dilated. Muscular contraction we cannot control, but the progress of labor can be studiously watched with the object of determining the time at which expulsive pains begin, in order to be prepared to act as soon as the pains threaten rupture of the sac. There should be no exception to the rule that in any case where either the membranes rupture under the observation of the attendant or prior to his receiving the case an immediate examination be made with the possibility of detecting prolapse, irrespective of the history of the case relative to the primary causes of prolapse.

It is not common for the cord to protrude alone into the cervical canal within the unruptured amniotic sac during the early stage of labor before dilatation has advanced. When this occurs the attendant is at a disadvantage inasmuch as active interference is harmful. Yet the chance of the accidents of such a condition are present. Here a sudden early rupture of the membranes is likely to precipitate the cord into the vagina. On the other hand an abrupt tendency to engagement of the presenting part may cause compression. The importance of controlling the fetal heart by auscultation is here manifest. A study of its frequency will point to the degree of compression much more satisfactorily in some instances than vaginal examination. By the latter method the presence of the cord is readily detected, but its pulsation under certain circumstances may be obscured (1) by an undue quantity of jelly in the cord; (2) by edema; (3) by inaccessibility of the cord. A further advantage in controlling the fetal heart by auscultation is the avoidance of frequent vaginal examinations—always a desideratum in management.

I believe for these cases of descent of the cord with imperfect dilatation the proper treatment is to etherize the patient and introduce within the cervix under antiseptic precautions, with care to avoid pressure on the cord, a moderately firm gauze pack. The latter is to be retained by a vaginal pack, which by pressure upon the cervical portion may serve to induce softening and dilatation of the cervix. If the fetal heart be properly controlled the tampon may be left in place until the pains become active, or, if dilatation takes place slowly, the packing may be removed after twelve hours. As soon as the os becomes dilatable manual dilatation with extraction should be promptly undertaken. The method of extraction should depend upon the promptness with which delivery is indicated, (1) by the condition of the heart or the pulsation in the cord; (2) by the character of the presentation; (3) by complicating conditions, such as tetanic uterine contractions or placenta previa. Attempts at artificial reposition with the patient in the knee-chest position before rupture of the membranes is not desirable on account of the danger of evacuation of the sac, although the cord should be displaced from its position in the cervical canal so as to permit the safe introduction of the pack.

If after rupture of the membranes with the cord descended into the cervical canal dilatation is still retarded, manual reposition may be attempted. If, however, the child's condition is unfavorable rapid manual dilatation, even in the earlier stage of labor, should be resorted to without waiting to replace the cord. I have had no experience with reposition by catheter and tape or by artificial repositors. Instrumental dilatation would seem dangerous.

The prognosis of prolapse becomes more unfavorable after engagement when the presenting part fills out the lower uterine segment. As to the various presentations complicating prolapse of the cord, the vertex and face are the more dangerous (excepting the complex presentations). In the first instance for the reason that reposition before engagement is apt to be unsuccessful, while after engagement the danger of compression is very great. The necessity of applying forceps in vertex presentation is accompanied with more or less danger to the child and can be carried out less quickly than version. Although the latter procedure may be thought of after engagement it is not so desirable as when undertaken before the head has entered the inlet. Therefore if the case is seen early, or to put it differently, if the prolapse is discovered before engagement of the head version may be undertaken, but in the majority of cases the time for this is often allowed to slip by either in resorting to attempts at reposition or in failure to make the diagnosis of prolapse.

In facial presentation it is desirable to perform version at the proper moment, guarding against delay when once the membranes are ruptured in order to escape the danger to the mother of turning while the uterus is in tetanic contraction. It must, however, be admitted that successful version under these conditions is not easy of accomplishment, for the reason that the conditions are most difficult owing to the fact that prolapse of the cord occurs usually with engagement, or at least, is not likely to be recognized before engagement, when it is too late to perform version. Again, early rupture of the amniotic sac in face presentation usually allows of the more or less complete evacuation of the sac, which in turn is followed by uterine spasm, rendering version most dangerous to the mother. When the face has entered the pelvis and labor is progressing our only recourse is the application of the forceps, avoiding as much as possible injury to the cord.

Breech presentation offers less danger than vertex and face presentations, except in frank or simple breech cases. The child is then in such position as to permit usually of rapid extraction when the diagnosis is made. The fact is, in prolapse of the cord in breech cases we can count on the absence of one complication which frequently costs the child its life in pelvic presentation, namely, winding of the cord about the neck, as it is improbable that the cord be long enough to permit of the double complication of winding and prolapse. The greater danger in these cases exists, in contrast to vertex presentation, in the liability to early rupture of the membranes, which offers an opportunity for descent of the cord. In the early stage of labor, before dilatation has advanced, premature rupture of the membranes should be guarded against and the parturient should be placed on that side opposite to the pelvic position of the cord. The method of dealing with prolapse of the cord when dilatation is advanced is to disregard the cord, if after an attempt at reposition the cord again prolapses, and to deliver promptly by extraction. It has not been my experience to find the extension of the arms above the head a dangerous element in the latter stage of extraction. Greater danger than this lies (1) in the difficulty in flexing the head in order to deliver it; (2) in coiling of the cord about the neck. It is fair to say that both of these conditions may exist in breech cases as a complication independent of the method of artificial delivery—the first as a consequence often of a contracted pelvis, the second as an unpreventable accident. It is, of course, possible to conceive of cases in which prolapse may occur at a stage where it would be inju-

dicious to attempt rapid extraction. Here manual reposition may be attempted, followed by the withdrawal of the anterior foot if possible, in order to fill out the lower segment of the uterus and stimulate dilatation of the os. If this procedure is followed auscultation must be frequently resorted to, as the cord, although not prolapsed, may still be compressed by the engaging part.

In all cases before operating the whole hand should be introduced into the uterus, after etherization, in order to determine the attitude of the fetus and to disengage any loop of the cord which may be encircling the thigh or buttocks.

Before engagement with the amniotoic sac intact I can see no advantage in cephalic version by the Braxton-Hicks method. The danger of rupture of the membranes is certainly increased by such manipulation. It is well also to recall the fact that a large majority of instances of prolapse of the cord in breech presentations occurs as a complication of premature labor, when, owing to the size of the child, it is easier to extract by the breech than to apply the forceps to the head after cephalic version.

In shoulder presentation, if the case is seen early two essential points in treatment present themselves: (1) examination at the moment when the membranes rupture; (2) podalic version with extraction after manual dilatation, when the cervix is not fully dilated. In prolapse of the arm complicating descent of the cord the prognosis is necessarily bad, although podalic version, without regard to the position of the arm, under complete anesthesia, offers a chance of saving the child.

In discussing the treatment of this condition it would appear that the most favorable results are offered by resorting to prompt delivery. This can be accomplished in suitable cases by manual dilatation followed by direct version rather than by attempts at reposition either by posture or by mechanical means. It appears that we are dealing with a condition that offers almost as unfavorable a prognosis for the child as placenta previa. Therefore radical means are called for by the gravity of the conditions. The prognosis is so favorable for the mother that it is apt to obscure the necessity for serious consideration for the child's welfare. We are apt to look upon prolapse of the cord as a complication which may be treated expectantly, as long as pulsation can be detected, forgetting the danger of sudden compression. It is in fact more excusable to suffer the death of the fetus from coiling of the cord (which in most instances cannot be foreseen) than from prolapse in those cases where an early diagnosis may point the way to version with prompt delivery.

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FORMOL-IODINE, A MODIFIED CLAUDIUS METHOD FOR THE PREPARATION OF CATGUT.

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Following Claudius' reports[1] of the satisfactory method used in Bloch's clinic, Copenhagen, and in this country after Senn's article of commendation, sterilization and preservation of catgut by means of Claudius' iodine solution has been the procedure more or less generally adopted. This method, which produces an easily prepared aseptic suture material of fairly good tensile strength, consists in submerging the gut for eight days, after winding on glass spool or wood chip, in iodine, 1.0; potassic iodide, 1.0; distilled water, 100.0. The potassic iodide is first dissolved in a small amount of water, the pulverized iodine crystals then added to it, and the mixture diluted to 100 cc. with distilled water.

This method is to be especially commended because of the ease with which an absolutely aseptic gut can be prepared, as evidenced by repeated bacteriological tests, and without the preliminary treatment formerly considered necessary for the removal of fat from the raw commercial material. Moreover, since the sterilization and preservation is accomplished by the one solution, it obviates the necessity of handling and changing the sterilizing solutions—with the chance of coincident contamination—common to most of the methods in vogue.

Claudius recommends washing the gut in a 3 per cent. carbolic solution just before using, which is supposed to increase its tensile strength.

The reports of those who have adopted the method have been for the most part favorable to it.[2] They have agreed upon the following points: Its absolute asepticity, its ease of preparation, that it knots well, and that the amount of iodine impregnated in the gut not only serves to keep it sterile, but exerts, because of its power of diffusion, a marked antiseptic action upon the tissues in the immediate vicinity. It is a little more durable in the tissues than alcohol catgut.

Moschcowitz has reported the entire efficiency of catgut so prepared, during its use for seventeen months in Mt. Sinai Hospital, New York. Senn has used Claudius catgut for months in his service at St. Joseph's and Presbyterian Hospitals, Chicago, with entire satisfaction. Martina used iodine catgut in seventy cases; the healing was by primary intention in all but two, and in these the suture material could not be considered at fault.

Other writers, on the other hand, have condemned its use.[3] The point of dissension has seemed to be in regard to the tensile strength of catgut so prepared. Martina found that in some cases the gut fibers tended to separate after five or six days in the solution, and therefore that it was not so suitable for use in herniotomies, etc. Emerson has tried the method, but has not been satisfied. He has found the gut too elastic and brittle. E. J. Senn has replied to this criticism by saying that with inferior raw material such a result may be excepted, for, in the clinic, they have had similar experiences. N. Senn has found the catgut made in this country more suitable for iodine sterilization than the imported material.

Van Hook has found that Claudius catgut does not have an agreeable handling quality, and that it becomes fragile and loses tensile strength on storage.

Salkindsohn has stated that iodine catgut loses its firmness in time, but that otherwise it has all the requirements of a perfect suture material. He did not adhere rigidly to the Claudius solution, since he used 10 parts of potassic iodide instead of 1. This probably did not seriously affect the result. It has been somewhat difficult to see how washing in carbolic solution just before using, for the short time recommended by Claudius, could increase the tensile strength of the gut, since the solution does not harden the individual fibers or render them more compact.

By using the following modification of the Claudius method, the tensile strength of catgut is greatly increased, *i. e.*—the tensile strength depending upon the hardness (durability) *plus* elastic pliability of the gut fibers, and secondly, its resistance to dissolution in the tissues is increased. It resembles chromicized gut in this particular. The point is taken that if a small caliber of gut is found to be equal in

tensile strength to a larger caliber preparted by other methods, providing it is not of such small size as to cut through the tissues, the smaller size would have preferable usage. In addition, the continued presence of suture or ligature material, providing its asepticity is assured, for a somewhat longer length of time in the tissues than has been considered necessary, *i. e.*, artery ligatures, merely aids in increasing the safety and efficiency of the procedure.

The modification consists simply in submerging the raw commercial catgut in an aqueous 4 per cent. formalin solution for thirty-six to forty-eight hours, then washing in running water ten to twelve hours to free the excess of formalin, and then to submerge in the iodine solution recommended by Claudius for eight days before using. The gut should be loosely wound on glass spools and put in the formalin solution. When in the running water, strands ten to twelve inches long are cut from the spool and put into the iodine solution. The writer has found that, providing a certain batch of catgut is old and brittle, the addition of 5 per cent. solution boroglyceride (glycerite of boroglycerin U.S.P.) or of glycerin, to the iodine solution, improves the pliability of the catgut without in any way lessening its tensile strength. The boroglycerin, or glycerin, should be sterilized in a container surrounded by boiling water for one-half hour on three successive days. Scrapings from gut prepared in this way have been found to be absolutely sterile in one-half hour after submersion in the iodine solution.

The material is left in the iodine, or iodine-glycerin solution, until ready for use. It is then removed with sterile forceps, threaded and placed in sterile water. It seems to be preserved indefinitely in the solution without suffering deterioration. The formalin treatment is not intended to render the gut sterile, although it undoubtedly aids in the process, but merely to harden it. The addition of the boroglyceride, or glycerin, when necessary, to the iodine solution, is intended to render the gut more pliable after the hardening process.

Catgut so prepared has all the requirements of a perfect suture and ligature material. It is stronger than any ever seen by the writer when prepared by other methods. It practically has the tensile strength of silk, in fact. It is pliable, and not too elastic, knots well, and seems to be ideal in every respect.

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230 MICHIGAN STREET.

STROPHANTHUS IN LOBAR PNEUMONIA.

BY C. AM ENDE, M.D.,

NEW YORK.

IN a recent elaborate review upon lobar pneumonia, J. M. Ferrer[1] enumerates with brief criticism all processes and drugs employed in lobar pneumonia, with the exception of strophanthus. At the Atlantic City meeting of the American Medical Association neither Wells nor Tailer spoke of it, and the only mention the writer is aware of is, except one by himself in a discussion, one by W. Gilman Thompson.[2] As its employment in the writer's hands was followed by a favorable termination of all his cases on the fifth day, and as it is a drug readily obtainable everywhere, a few remarks upon it may be of wider interest.

With the tendency in this city to rush all patients into a hospital, the number of my cases is small, far too small for a general deduction; still with about twenty-five it would seem large enough for recommending this treatment for further observation, and probably improvement where facilities abound. This so much more, as these cases comprise quite a variety of conditions and complications from a 2½-year-old tot to a poorly nourished woman of 67—from a robust, sober young man to an inveterate old toper, who, after 48 hours of delirium tremens, added a left lobar pneumonia to his other little difficulty.

The necessity of sustenance of the heart having, now many years ago, been urged especially by A. Alexander Smith as the all important object in pneumonia, the question occurs, why, then, wait until the heart begins to flag or fail, and not tone it up and strengthen it from the beginning for the severe task ahead?

The administration, then, for this purpose of strophanthus, immediately upon the establishment of a diagnosis, proved in the very first case equally satisfactory to patient and doctor, and so has continued ever since; the dosage, of course, has varied according to circumstances.

Naturally other supporting measures and drugs were employed: strychnine always; nitroglycerin usually; oxygen occasionally; of the latter nearly a full cylinder in the delirium case; the intelligent wife, this man's only nurse, administering it every time the pulse would perceptibly weaken. This man's temperature, repeatedly above 105°, dropped on the evening of the fifth day to near normal, and two days later the delirium also subsided.

A very peculiar case occurred in a younger man, the sole support of a large family. As the consequence of prolonged absence from work would have been most serious, minim doses of strophanthus were administered every hour with full doses of aromatic spirits of ammonia, with the result that within about twenty hours the well-developed symptoms of the first stage had all disappeared, and the man returned to work four days later.

In a subsequent case lysis seemed to set in on the third day; the temperature was near the normal on the fourth; but on the fifth day an alarming, painful recrudescence occurred for about eight hours. Termination by lysis had been observed in a few earlier cases when the diagnosis was very carefully verified. Thompson also observed lysis.

Whether administration, *ab initio*, of other heart tonics would give similar results in lobar pneumonia, is a question which I did not feel justified in determining by experiment.

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Studious Royalty.—Few people realize the amount of educating that goes to the making of a continental ruler. One of the most studious queens in Europe is the German Empress, who cares but little for the pomp and ceremony of courts. Her Majesty's favorite study is medicine, and she has instructed herself so well in the art of healing that she is regarded as quite an efficient adviser in cases of ordinary illness.

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THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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THE EARLY DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER.

ON account of the inexpensiveness of attendance upon "sick call," the army surgeon has an excellent opportunity of seeing diseases in the earliest, even in the incubation, stages. This fact lends special interest to the article on the above subject in the *Journal of the Association of Military Surgeons* for September by Dr. W. C. Rucker. By "early" is meant the incubation period plus the first week.

The differential diagnosis of a disease presenting such a multiformity of aspects as typhoid fever is necessarily difficult, and especially in the earliest stages, when few infectious diseases present such great variations in their manner of onset. The diagnosis is further complicated by the fact that various organs may bear the brunt, the predominant symptomatology being pulmonary, renal, or nervous, and at the same time the disease may present itself under an abortive, mild, severe, hemorrhagic, or ambulatory type. The ill-defined languor and indisposition, mental depression, headache, vertigo, sacral pain, anorexia, and irregularity of the bowels, in the absence of fever and physical findings, are, however, in sharp contrast to the initial period of other febrile diseases which, during this stage, generally present no manifestations. In those cases which come under close observation careful examination of the temperature curve may disclose wide daily fluctuations, even though fever be absent. This, in connection with the symptoms, will often put the careful clinician on the road to an early diagnosis. Epistaxis is of value merely as part of the symptom-complex, but it occurs with far greater frequency in typhoid than in many other diseases which come into the differential diagnosis. It occurs in seven per cent. of the cases, most frequently during the incubation period or at the onset. Its value is lessened chiefly by its early occurrence in cerebrospinal meningitis and acute miliary tuberculosis.

The first febrile symptoms mark the onset, and are accompanied by slight, oft repeated, chilly sensations. So regular is this that a hard chill with a sharp rise of temperature usually eliminates typhoid fever at once. The temperature rises gradually with slight morning remissions, and at the end of the first week usually reaches 104° F. The curve of these step-like gradations is of great diagnostic weight, but though this is typical for typhoid fever there are occasional cases with a sharp initial rise in all respects similar to that of other infectious diseases. Remittent malarial fever presents a very irregular curve, while typhus, relapsing, and scarlet fevers, measles, and smallpox exhibit sharp initial rises; and in intermittent fever these are paroxysms hardly to be mistaken for the steady progression of typhoid. The closest resemblance of febrile curve occurs in Malta fever, and with a history of exposure elicited, the differential diagnosis in the majority of cases is impossible without the microscope and the serum test.

The pulse rate in typhoid, while strikingly parallel with the temperature curve, is relatively infrequent, not attaining the rapidity usually observed with like degrees of temperature. In no other febrile disease does this occur with such regularity. By the fourth or fifth day the pulse is already dicrotic, and usually remains so. This occurs more often in typhoid than in all other infectious diseases together, and is of great diagnostic value. Thus Oddo and Audibert found it in thirty-four out of fifty cases examined.

Of great diagnostic import is the roseola which appears during the second half of the first week, distributed over the abdomen, chest, and neck. Though the eruptions of other infectious diseases sometimes resemble this, they rarely deceive an experienced observer. In combination with the state of the spleen and bowels, the time of appearance and subsidence, its succession of crops, characteristic distribution, and efflorescence, it is perhaps the most valuable single sign of the disease. Its value is enhanced by its not being, as are most of the papular rashes of the exanthemata, preceded by an evanescent erythema. The eruption in typhoid fever appears later than in any other exanthematous disease—on the sixth or seventh day. The lesions of typhoid roseola are papular, bright pinkish-red, rarely coalesce, disappear on pressure, come out in successive crops, and when typical are raised above the surrounding level. Recently Gibbes has by special photographic methods succeeded in detecting the eruption several days before its visible development. Drug rashes hardly come into the diagnosis; that of copaiba is most often on the extremities, and lacks the bright hue of the typhoid; it appears suddenly, itches, and disappears on withdrawal of the drug; quinine, atropine, and turpentine rashes are scarlatiniform, the last being blotchy and only rarely resembling that of typhoid fever.

From the beginning there is a progressive hypoleucocytosis in marked contrast to the hyperleucocytosis usual in pneumonia, cerebrospinal meningitis, sepsis, and other diseases.

Though splenic enlargement occurs in all infectious diseases, it is of special significance in typhoid. Though it has been reported during the period of incubation, it is very unusual before the middle of the first week. But if we except Hodgkin's disease, malaria, and typhus, in which it occurs in the first days, in few infectious diseases does it occur so early or persist so long.

The diazo reaction occurs first from the fifth to the thirteenth day. Though present at times in pneumonia, scarlatina, variola, measles, septic conditions, and advanced malignant disease, its absence in a case closely simulating typhoid fever points rather against the latter.

The absence of profuse sweating, herpetic erup-

tions, jaundice, coryza, conjunctivitis, and vomiting is to be noted. Any one of these is rather a caution mark against a diagnosis of typhoid. In particular, coryza symptoms (sneezing, conjunctival catarrh, etc.) are among the greatest exceptions in typhoid, and a predominating coryza would speak rather for typhus or influenza.

As tonsillitis and laryngitis occasionally occur early and the bacillus of Eberth has repeatedly been isolated from these organs, the initial infection may in some cases take place through them.

The author discusses at some length the bacteriological questions involved. In particular, he quotes with approbation from the method of Wolff of Hartford, which combines the Widal serum reaction with the culture of the bacillus from the stools. Also the bacteriological methods for isolating the bacillus from the blood and that of Seeman for isolating it from blood taken from the rose spots are discussed. As an evidence of the value of the bacteriological examination of the blood it may be noted that Schottmüller in 119 cases discovered the bacillus of Eberth in the blood in 84 per cent.; in one case as early as the second day, and in a great many cases before the Widal test was positive.

After giving those valuable differential points between typhoid fever and the several diseases most likely to be confounded with it, the author concludes that there is no single symptom on which alone an early diagnosis can be based; it is only by a careful consideration of the symptom-complex that a clinical diagnosis can be arrived at. The most trustworthy as well as the earliest sign is the presence of the bacillus of Eberth in the circulating blood, and its demonstration there is not beyond the reach of the resources of any well equipped laboratory. The bacillus is found later in the fæces, and with comparative ease, its presence there being a valuable corroborative sign. The Widal reaction is rarely demonstrable in the earliest stages.

REPORT OF THE SURGEON-GENERAL OF THE ARMY.

The report of the Surgeon-General of the United States Army, for the fiscal year ending June 30, 1904, has just been issued. The health of the army during the past calendar year has been very satisfactory, the admission rate per thousand of strength showing an improvement over that of 1902, the rates being 1,451.13 and 1,716.51, respectively. This result has been brought about by the more careful attention given to sanitary matters.

The number of cases and rates per thousand of mean strength for disease in the army, reported in the calendar year 1903, were as follows: Admissions, 83,096, rate, 1,228.45; discharges for disability, 1,462, rate, 21.61; deaths, 475, rate, 7.02. Those for external causes: Admissions, 15,063, rate, 222.68; discharges for disability, 120, rate, 1.77; deaths, 154, rate, 2.28.

The admission rate in the United States per thousand for disease and injury was 1,206.89 and death rate 5.94, compared with 1,343.77 and 7.83 in 1902. Of this rate 961.50 men per thousand were admitted and 4.12 died from disease, and 245.39 admitted and 1.82 died from external causes.

The Pacific Islands and China furnished 44,767 admissions to sick report during the year, equivalent to a rate of 1,879.54 per thousand men, of which 53 were discharged on surgeon's certificate of disability and 375 died, giving rates of 2.23 and 15.74 respectively per thousand of mean strength. From Cuba and Porto Rico 2,384 admissions to sick report were reported, equivalent to a rate of 1,527.23 per thousand of mean strength, with rates of discharge for disability and death of 19.86 and 1.92, respectively.

The portion of the report, perhaps, which will give the greatest satisfaction is that which refers to the decided decrease of cholera in the Philippine Islands. This favorable state of affairs is undoubtedly due to the untiring efforts of the army medical officers in preventing its spread among the troops serving at the island stations. The improved health conditions prevailing among the United States troops is almost entirely owing to the advances made in sanitary matters since the war. A large proportion of the soldiers have been on practically war service in the Philippine Islands since 1898, yet the rates of sickness during the past year have been lower than at any time since the outbreak of the Spanish-American War. The mean strength of the whole army for the year 1903 of 67,643 men consisted of 59,671 white troops, 3,183 colored, and 4,789 native Filipinos. Of these the negroes show the lowest figures in sickness, while the white troops had by far the lowest mortality and the most sickness. The Filipinos had the highest mortality rate, almost double that of the negroes, and an admission rate which closely approached the high rate of the white troops.

Typhoid fever showed a gratifying decrease, as also did malarial fevers. The prevalence of tuberculosis varied but little from that of previous years. There were 636 cases of beriberi, nearly entirely confined to the Filipino soldiers, while of bubonic plague during the year 1903 there was not a single case. A further reduction in intestinal affections among the troops was noted. The number of admissions to sick report, however, for venereal disease during 1903 remains large. Although the admission rate for the whole army was slightly lower than that of the preceding year, the ratio of discharge per thousand of strength was a little in excess of 1902, and a total of 4 deaths was reported.

Three cases of wood alcohol poisoning were reported, with two deaths, both occurring in less than twenty-four hours. A slight decrease in the number of admissions for alcoholism is noted. Of the total number of admissions 1,541 were for acute alcoholism, 73 for chronic, and 56 for delirium tremens, equivalent to 22.78, 1.08, and 0.83 per thousand men. Of the 42,264 troops serving in the United States, 1,041, or 24.63 per thousand, were admitted for acute alcoholism, of which 6, or 0.14 per thousand, terminated fatally. For troops serving in Cuba and Porto Rico a higher rate than the large one of last year was reported. The rate of admission for acute alcoholism was 51.25, or nearly three times as great as the corresponding rate for the troops in the Pacific Islands and China. A slight increase in alcoholism occurred in the Pacific Islands and China over the rate of last year. Insanity was far less prevalent during 1903 than in the previous year.

The report lays emphasis on the fact that on account of the lack of medical officers, very few

are available for the examination of recruits, and this important duty is in consequence largely delegated to civilian physicians. These civilian medical men are ignorant as to what should be the physical characteristics of recruits, and their inability to fulfil their duties properly entails much expense and loss of good material to the Government. Many men are accepted who are unfit and *vice versa*. The report thus refers to this subject: "The physical examination of recruits is a specialty, the mastery of which requires instruction, study, and experience. It is not a branch of general medicine in which civilian practitioners can be expected to attain the results of qualified officers of the Medical Department. The efficiency of an army depends largely on the physical fitness of its recruits, and for their examination the technical skill of a physician in active practice, with knowledge of the requirements of the service—in other words, the skill of a trained medical officer is needed, who should be held to a strict accountability for accepting physically unfit men."

The report adds the usual testimony regarding the incalculable evil resulting from the abolition of the army canteen. It has been argued time and again, in both medical and lay journals, that the abolition of the canteen was a mistake of the gravest nature. This contention has been borne out by facts. Since the canteen was done away with, alcoholism has increased greatly in the army. Men who wish to drink will procure alcoholic stimulants by hook or crook. The canteen provided wholesome beverages, and was moreover a decided check upon the tendency to the abuse of alcohol. At the present time the stimulating beverages available to soldiers can be obtained only in saloons of a low character, in which liquors adulterated or of a low grade are sold, and in which all restraint is thrown aside. The consequence is that drunkenness is more rife in the army than ever before. The testimony of the majority of army medical officers is that the abolition of the canteen has been attended with evil results regarding the health and morality of the soldiers. It has been a striking instance of the harm done by the zeal of well-meaning persons being directed into wrong channels.

The Air of the Subway.

Among the many criticisms of the subway construction and management, the one which most imperatively calls for investigation is the statement that the system of ventilation is defective. According to the newspapers, several physicians have been collecting and analyzing samples of air taken on the platforms of the various stations, and have found the percentage of oxygen to be anywhere from 12 to 17, that at the City Hall station being the highest. The air at the level of the street contained at the same time about 20 per cent. of oxygen, or little less than normal. Assuming that these analyses were correct and that the published results show the average condition of the air in the subway, the need for a better system of ventilation would be evident. The reduction in the amount of oxygen would not in itself be dangerous, for an atmosphere containing 12 or 13 per cent. of oxygen is fit to support life indefinitely, but the increase in carbon dioxide, if proportionate to the oxygen loss, would be a matter of concern. But it is by no means certain that an analysis carefully made by a competent chemist would give any such results as these; and whatever the constitution of the subway air it surely cannot be so bad as that of the London underground railway, with its coal-burning locomotives, or even that of the "tuppenny tube," and a good many persons ride in those tunnels every day without apparent injury to health. However, the question is one that should be authoritatively determined by experts under the direction of the Health Department, and if the ventilation is so defective as to constitute a menace to health, the fact should be made known and remedial measures should be instituted without delay.

Death of Dr. Niels Finsen.

With the death of Dr. Niels Finsen a remarkable man passes away. He first came prominently into public notice by his discovery that light might be produced by mechanical means whereby lupus and other skin diseases might be successfully treated. Finsen sought to apply the well-known fact that sunlight is fatal to the germs of certain diseases and especially to the bacilli of tuberculosis. He asserted that he had discovered the essential bacteria-destroying principle of sunlight in the violet and ultra-violet rays, and perfected an electrical apparatus which threw off none but these rays.

The "Finsen rays" are largely used in many of the large hospitals of the world, the London Hospital in the east end of that metropolis having perhaps the most complete light equipment which can be found anywhere. The treatment has proved itself on the whole satisfactory, although it has not altogether fulfilled the expectations of its founder. Finsen also devised, or rather brought again into use, a method for preventing pitting in cases of smallpox. He believed that the suppuration of smallpox was largely if not wholly brought about by the action of sunlight. He accordingly reintroduced the treatment of smallpox by the red rays of light. Sunlight is shut out of the room in which lies the patient suffering from smallpox, only the red rays being admitted. Finsen tested this method himself in a comparatively small number of cases, and the theory can hardly be said to be proved, as the experiments have not been on a sufficiently wide scale.

Dr. Finsen received the Nobel prize in 1903 given to the person who has done the greatest work for the advancement of mankind. The deceased scientist was an admirable type of the unselfish investigator. He was a simple, kindly man, who cared little for fame or money, but was wrapped up in the work of his special field. He leaves an honorable untarnished name as a monument of his labors. In his life he was greatly loved by his fellow countrymen, and his memory will be revered on account of his high personal qualities as well as because of his great scientific attainments.

A Plea for the Oyster.

Some of the lay journals have lately published reports, sent in a curiously roundabout way by the United States Consul-General at Frankfort, of the findings of the French Sea Fishery Commission appointed to investigate the part played by the oyster in transmitting typhoid fever and various other diseases. The conclusion the commission is said to have reached is that oysters may be eaten with impunity at all seasons, and that they cannot transmit disease to human beings. The recent work of our own city Board of Health has shown that the conditions under which oysters intended for the market are often fattened in stagnant water

in close proximity to outhouses and the mouths of sewers are, to say the least, disgusting in the extreme, and even if there were no real danger, public sentiment should be kept awake to the undesirability of such procedures until their continuance has been rendered impossible. But, as a matter of fact, that there is danger of spreading typhoid fever by means of oysters fattened in sewerage-polluted streams has been abundantly demonstrated both in this country and in England, and the wide publicity given to the American consul's translation from a German newspaper of a translation from a Paris newspaper of the alleged findings of a committee appointed by the French Minister of the Navy seems to be rather in the interest of the oyster trade than in that of the public health.

A New Typhoid-Fever Serum.

At the French Medical Congress, held in Paris the latter part of October, Professor Chantemesse read a paper giving an account of the results obtained by a new antiserum in the treatment of typhoid fever. The serum is prepared by injecting soluble typhoid toxin into the horse, according to a method described by the author in a paper read at the International Congress of Hygiene, in Madrid in 1898. He has been using this serum in his service at the Hôpital du Bastion 29, for three years and a half, treating in that period 545 cases, with only 22 deaths, showing the remarkably low mortality (for Paris hospital cases) of 4 per cent. During the same period there were treated by the usual methods, in fourteen of the Paris hospitals, 3,199 cases, with 581 deaths, showing a mortality of practically 18 per cent.

As to the mode of action of this serum, Chantemesse says it exerts a rapid and energetic specific effect upon the defensive apparatus of the organism—the spleen, the lymphoid tissue, and the bone marrow. The stimulation which it produces is the greater and more effective the earlier in the course of the disease it is used. The organism must be still capable of reaction, and if the nervous system is already profoundly depressed, the benefit of serum medication is much less evident. Its mode of employment is very different from that of diphtheria antitoxin. In the case of diphtheria, the more severe is the disease the stronger should be the dose of antitoxin; but the reverse is true, Chantemesse says, in the case of the typhoid serum which he employs, for the more profoundly the patient is affected the weaker must be the dose of serum.

Railroad Death Record.

The last quarterly bulletin of the Interstate Commerce Commission contains what is termed "an alarming exhibit" of the record of railway accidents for the twelve months ending June 30, 1904. Altogether there were 55,130 casualties, 3,787 killed and 51,343 injured. This is an increase over the previous year of 5,599 casualties, or 233 killed and 5,366 injured, and makes a new record in disasters. These figures do not include accidents at highway crossings, to trespassers or persons walking along the tracks, in shops remote from the railroad, or to employes not actually on duty. Accidents of this nature always add several thousand to the total.

It is interesting to note that but three accidents occurred on roads provided with block signalling apparatus, and that these involved the loss of three lives, whereas the roads not furnished with this system continue to contribute increasing lists of casualties to the records.

News of the Week.

Medical Society of the State of New York.—Before closing the program which is in preparation for the approaching meeting of the Medical Society of the State of New York, which is to be held the last in January at Albany, the committee requests all who intend to read papers to communicate with it soon. The committee, as already announced, is composed of Drs. Henry Flood, of Elmira, chairman; A. Edward Davis, of New York City, and L. H. Neuman, of Albany, secretary, to any one of whom anything relating to the matter may be addressed.

The Fifth New York State Conference of Charities and Correction will be held at Syracuse, November 15 to 18, 1904, under the presidency of Robert W. Hibbard, Esq., of Albany. The subject of discussion on Friday morning, November 18, will be "The Mentally Defective." The following is the program for this session: Report of the committee by the chairman, Dr. Eugene H. Howard, Superintendent of the Rochester State Hospital, Rochester. Paper, "Importance of Recognition and Appropriate Care of Distinct Phases of Mental Defect," by Dr. William L. Russell, Medical Inspector of Institutions for the Insane, Poughkeepsie; Discussion opened by Dr. Robert B. Lamb, Medical Superintendent of the Dannemora State Hospital, Dannemora. Paper, "Duties and Responsibilities of Managers, Visitors, and Trustees of Institutions for the Care of the Mentally Defective," by Daniel B. Murphy, member of the Board of Managers of the Craig Colony, Rochester: Discussion opened by Dr. Charles Bernstein, Superintendent of the Rome State Custodial Asylum, Rome. At the close of the Conference there will be excursions to the George Junior Republic at Freeville, the State Prison at Auburn, the Onondaga County Penitentiary, the Onondaga County Almshouse, and other nearby institutions.

The Bellevue Superintendency.—The Municipal Civil Service Commission will soon, it is said, take up officially the discussion of an examination for the superintendency of Bellevue and Allied Hospitals. For the last six months the hospital has been in charge of Michael J. Rickard, assistant superintendent. When Dr. Mabon left Bellevue to take a place in the State Lunacy Commission, the Board of Trustees named Dr. William P. Spratling, head of the Craig Colony for Epileptics, as the new superintendent. The State Civil Service Commission certified Dr. Spratling, but the Municipal Civil Service Commission would not let him take the place without an examination, and the examination was not prepared.

The State Civil Service Commission announces general examinations to be held December 3, 1904, for the positions of physician, fourth grade, State hospitals and institutions, and resident physician, State Industrial School, Rochester. Applications for these examinations must be made on or before November 28. Full particulars of the examination and blank applications may be obtained by addressing the Chief Examiner of the Commission at Albany.

The Effects of Preservatives on Health and Digestion.—Dr. W. H. Wiley, Chief of the Bureau of Chemistry in the United States Department of Agriculture, delivered at Philadelphia on November 4, under the auspices of the Franklin Institute, a lecture entitled, "The Results of Experimental Studies of the Effects of Preservatives on Health and Digestion." He pointed out that various methods of preserving food have been practised since earliest times.

Among such methods are the removal of water and the use of certain condimental substances, such as salt, sugar, vinegar, and wood-smoke. More recently sterilization of food by heat and the exclusion of germs has been practised and constitutes one of the safest and most approved methods of preservation. Still more recently a system of food preservation has grown up, based on the use of so-called antiseptics which have the power of inhibiting or destroying the germs of putrefaction. The more common of these are boric acid, borax, salicylic acid, benzoic acid, sulphurous acid, and formaldehyde. There is a wide difference of opinion among physiologists and chemists as to the effects of such substances. In order to clear up the matter a series of experimental observations were made for a period of nine months under the auspices of the Department of Agriculture, borax and boric acid being added to food, beginning with small amounts (9½ grains) and gradually increasing them to from 45 to 60 grains daily. It was found that the maximum amounts caused disturbance of digestion and derangement of health, as manifested by impairment of appetite, loss of weight, a feeling of uneasiness and sometimes of pain in the stomach, a sense of fulness in the head, often developing into a dull and persistent headache, a general disturbance of the metabolic activities of the digestive organs, and other unpleasant symptoms. When the small amounts were employed for a long time similar symptoms developed, though in lesser degree. It may, therefore, be concluded that while the injection of small amounts of borax occasionally with the food would do no permanent injury to an ordinary healthy individual, it might prove distinctly hurtful under the reverse conditions. Corresponding observations have been made with salicylic acid, benzoic acid, and sulphurous acid, but the results are not yet ready for publication, and studies upon the effects of formaldehyde and various coloring matters on health and digestion are to be made.

Free Treatment by the Medical Faculty of the University of Michigan.—The Regents of the University of Michigan have ruled that the medical faculty of the University of Michigan must grant gratuitous medical and surgical treatment to everybody applying therefor, whether rich or poor. This has led the Wayne County (Mich.) Medical Society to pass resolutions declaring that such a ruling deprives the medical citizens within the radius of the influence of the University of Michigan of part of their rights in an unwarranted manner, and is harmful to the State as well as to the medical profession, and calling upon the Board of Regents of the University of Michigan to rescind its ruling concerning the indiscriminate free medical and surgical treatment of those who apply for treatment at the University clinics.

To the Druggists of Rome.—The following circular note has been sent by the Rome (N. Y.) Medical Society to the druggists of that town: "It is with a deep feeling of regret that we, as physicians of Rome, organized into a city society for the promotion and improvement of the public health, and depending on the druggists of Rome to assist us therein, frequently notice in the local press glaring advertisements of 'cure all' remedies. These advertisements mislead the public and react adversely to the object which the local society is (and the druggists should be) endeavoring to promote. We believe the druggists and physicians should co-operate in working for the betterment of the public health, and that such notices in the papers as we refer to are distinctly detrimental to the public health, and that all true pharmacists should see to it that such misleading statements do not appear over their individual or firm signature. Respectfully submitted as per resolution of the Rome Medical Society. C. A. Frost, M. D., and Charles Bernstein, M. D., Committee."

Suit Against Milk Dealer.—The State of New York has caused papers to be filed in Buffalo bringing suit against a milk dealer to recover $14,900 for alleged violation of the law covering the sale of adulterated milk. Milk from this dairy is supposed to have caused a recent outbreak of scarlet fever. The State's complaint contains 149 specific counts against the defendant, on each of which counts the State seeks to recover $100.

Harvard Training School for Nurses.—It is announced that a training school for nurses is to be added to Harvard University under the direction of Dr. Alfred Worcester, of Waltham. Dr. Worcester has just returned from a six months' trip in Europe, where he was sent by the University for the purpose of studying the various training schools in Germany. The course is to be one of four years, and is to comprise both hospital work and training experience in private homes.

Alien Asylum Patients.—According to a communication from San Francisco a report from the local United States immigration inspectors has been forwarded to the commissioner of immigration, on certain frauds perpetrated by aliens. The Administration has discovered that in nearly every State in the Union a large percentage of the inmates of asylums for orphans are children who have been sent to this country especially for the purpose of being placed in such institutions, where the care is better than that given in European institutions. The facts will be presented to Congress.

Tuberculosis in the Post Office Department.—An order has been issued by the Civil Service Commission debarring consumptives from government employment in positions which bring them in contact with the public. The order applies particularly to post offices, and states that hereafter all applicants for employment with the government must submit to a physical examination, if the presence of tuberculosis is suspected, and that if the disease is found the sufferer shall not receive an appointment.

The Hospital Ship of the Hull Fishing Fleet.—The hospital ship *Alpha,* which carried some of the victims of the Russian naval engagement in the North Sea back to Hull, is a steam trawler belonging to the Royal National Mission to Deep Sea Fishermen. *The Hospital* says that she is adequately fitted in every way, and carries an *x*-ray equipment. The swing cots, which are particularly comfortable, are amidships. The *Alpha,* like every other hospital ship belonging to the Mission to Deep Sea Fishermen, carries a fully qualified medical man, and every Mission skipper holds a certificate for "first aid." The ship's nurse is the surgeon's mate, who is also responsible for the care of the dispensary. Besides being a floating hospital, the *Alpha* trawls, like any other steam trawler.

Medal for Best Hospital Plans.—Dr. A. J. Ochsner and Meyer J. Sturm, of Chicago, were awarded a gold medal for hospital plans exhibited at the Louisiana Purchase Exposition. Plans of a city hospital, a country hospital, a hospital for towns, and a hospital for the treatment of contagious diseases were exhibited, showing a radical departure from any existing hospital structures now in use.

Illinois State Board of Health Wins Medal.—A gold medal has been awarded this Board for its ex-

cellent exhibit in the section of hygiene at the Louisiana Purchase Exposition.

Trained Nurse for Bridge Crowds.—A waiting room with a trained nurse in attendance is to be installed at the Manhattan end of the Brooklyn bridge for the purpose of caring for cases of fainting and minor injuries.

Japanese Medical Commission.—A Japanese imperial medical commission which has been studying the Health Departments of the principal cities of this country and Europe arrived in this city last week. The members of the commission are Professors Tanba, of the Department of Pharmacy, Takamine, of the Department of Chemistry, and Mortora, of the Department of Psychology, and Dr. Sato, Chief Surgeon, all of the Imperial University at Tokio. The commission visited the Health Department and a number of the hospitals here.

The New York County Medical Association will hold its regular monthly meeting at the Academy of Medicine on November 21. A paper on "The Dangers of the *x*-Ray" will be read by Dr. Milton Franklin and discussed by Drs. Allen, Beck, Coley, and Morton. The second paper will be on "Medical and Surgical Features of the Russo-Japanese War," by Dr. Louis L. Seaman. This will be discussed by Surgeon-General Wyman, of the P.H. and M.H. Service; Captain Purokowski, of the German Army; Major Powell, Surgeon U.S.A., and others.

Smoker of the Eastern Medical Society.—The annual smoker and social reunion of this society was held at Clinton Hall on the evening of November 5, and was unusually successful, being marked by a large and enthusiastic attendance. Dr. E. K. Browd was the chairman of the house committee in charge of the entertainment.

Race Suicide in France.—The vital statistics of France show a continuance of the decrease in the birth rate as compared with other nations, for while the excess of births over deaths in 1901-1902 was 21 per 10,000 inhabitants, the ratio for the same period in Germany was 153 and in Great Britain 119. The official figures just published of the population of France in 1903 are as follows: Births, 826,712; deaths, 753,606; excess of births, 73,106; excess in 1902, 83,944. The population of France in 1902 was 38,961,945, and in 1903 was 39,119,095, but in 1903 there were 18,666 fewer births than in 1902. The number of deaths was fewer by 7,828 than in 1902. It is pointed out in the report that the increase of population was not due to any increase in the general birth rate, but solely to the steadily declining death rate.

Obituary Notes.—Dr. Samuel Woodhouse died at Philadelphia on October 24 at the age of 83 years. He was graduated from the Medical Department of the University of Pennsylvania in 1847. He was surgeon at Fort Delaware in 1854, and at one time resident physician in the Philadelphia Hospital and the Eastern Penitentiary. In the capacity of surgeon he accompanied the expedition to establish the boundary between the Creek and Cherokee Indians, and he was a member of the Sitgreaves-Zuni expeditions to New Mexico and Central America.

Dr. Mordecai Price died at Philadelphia on October 29 at the age of 61 years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1866.

Dr. David G. Hetzell died at Philadelphia on October 26 at the age of 68 years. He was graduated from Jefferson Medical College in the class of 1858. At the outbreak of the Civil War he became assistant surgeon to the Thirty-fourth New Jersey Volunteer Regiment. Later he served with the Twenty-third New Jersey regiment and he remained in the service to the end of the war.

Dr. Guilford H. Gunter died at Camden, N. J., on November 5 at the age of forty-six years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1881.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent)

MEDICAL SOCIETY—MIDWIVES' BOARD—SMALLPOX RESEARCH—WATERLOO HOSPITAL—CREWKERNE HOSPITAL—HOSPITAL SATURDAY—PROPOSED PENNY FUND—OBITUARY NOTES.

London, October 21, 1904.

The session of the Medical Society of London opened with its annual meeting on the 10th, when, after formal business, the incoming president, Mr. John Langton, delivered his address. He referred to the deaths of Fellows during the year, particularly Sir W. Mitchell Banks and Dr. Gilbart Smith, both of whom had taken prominent positions in the work of the society. He then passed on to consider some of the problems that have recently attracted the close attention of the profession. As to tuberculosis, he remarked that Great Britain now had the lowest death-rate. He compared aseptic and antiseptic methods in surgery, emphasizing the former. With regard to cancer, he noticed the importance of Dr. Bashford's discovery of the conjugation of the young cells. He then dwelt at length on the radical cure of hernia—an operation dating from Celsus. He had operated on 2,319 patients, only nineteen of whom had died, less than 1 per cent. Hospital statistics were likely to be fallacious, as two to four years should elapse before the true result could be stated. Out of 246 private cases he had ascertained the results in 214. Three had been fatal—one from acute sepsis, two from venous embolism. Only twenty-six had relapsed. The chief question at present was the age at which to operate. It was certainly best to do so in early life—some said as early as possible. But the time would vary with circumstances. Hernia in children might disappear from time to time. Continuous pressure never cured.

After the address, Mr. Marmaduke Shield read an account of a case of gigantic renal calculus, illustrated with remarks on cases where renal stones form obvious tumors. In Mr. Shield's case the calculus, which entered up into the dome of the diaphragm, was ten inches in circumference, and in the dry state weighs sixteen and one-half ounces. The patient had had attacks of hæmaturia from 1890, but had not laid up until 1903, when he was in hospital for fourteen days. Last January he had an attack with pain, which laid him up for three weeks. On February 10 he was obliged to give up work. On the 19th operation was performed, the diagnosis being doubtful and inclining to malignant tumor. On dividing the abdominal wall, an abscess which contained two small stones was opened. The gigantic stone was then felt and with difficulty removed, as was the "shell of the kidney." The patient recovered, and is now at his work (omnibus conductor). Mr. Shield directed attention to the fact that a large renal calculus or a number of small ones may form an abdominal tumor, the nature of which may easily be misunderstood. In the museum of St. Bartholomew's hospital there is an enormous calculus which weighs over two pounds. A tumor was detected during life; the patient died suddenly, and at the post-mortem this and other calculi were found. The value of *x*-rays, Mr. Shield said, was in these cases limited, an opinion with which subsequent speakers, including the president, coincided. Mr. Mayo Robson said the origin of such tumors could be made out by distending the colon with air. A Higginson's syringe would serve the purpose. With this he had only once failed to detect the origin, and that was in a case of suprarenal tumor. I think the slight amount of pain in some of these cases very remarkable, and no doubt to some extent it depends on the smoothness of the calculus, as small, jagged stones often give rise to intense suffering. In fact, so far as my limited experience goes, renal calculus is always very painful. Yet, in the cases under consideration the encroaching calculus leaves but a mere shell of renal tissue by the time surgical aid is sought.

The Central Midwives' Board has at last yielded to the ridicule and indignation provoked by its absurd attitude towards the Dublin schools of midwifery. The board has intimated to the Rotunda its intention to ask the Privy

Council to modify the rules so as to allow the Rotunda certificates to be accepted. It was time, indeed, to make the concession, unless the egregious Board desired to perish by its own ineptitude. I have previously reported to you some of its absurdities, and perhaps no Board has ever equalled them. The favorite plan of governments to refer troublesome questions to commissions, or to settle them for a time by committing them to Boards, has often resulted in mere postponement, or in prolonging the state of unsettlement, as in the case of the Medical Council, which has never given satisfaction, and in this newly authorized Midwives' Board.

This last threatens to prove a tolerable representative of the "ignorant gumps" it was proposed to get rid of. At its meeting on the 29th ult., there was one medical man, two ladies and a chairman. A complaint was made against one of its registered midwives, who had been previously written to by a doctor, and had replied, "It is much like your *impotence* to write to me, so please mind your own business." The Board resolved it could not move until a local authority requested. Then a letter from the Obstetrical Society was read, announcing that its certificate had been revoked in the case of a midwife, whereupon the ladies of the Board resolved to demand evidence as to the charges. After this the ladies resolved to give their advice as to the suitability of some hospital wards. Probably the ladies, if asked, would be willing to superintend surveying or building hospitals. But they refused to agree to the proposal of the medical member to have the statement of accounts sent out a few days before the meeting, so that members might have time to consider them. The chairman joined in with the ladies and declared the doctor's suggestion unnecessary, so until a further proposal is made and carried, members of the Board must be content with a hurried glance at the accounts when produced at a meeting.

On Saturday the Asylums Board discussed a report of their Hospitals Committee stating that the Local Government Board had sent a letter mentioning that thirteen London Boards of Guardians had protested against one of the hospitals being used for experiments on animals in connection with the causation of smallpox. The Local Government Board asked for particulars. The committee merely pointed out that it is most desirable to find out the cause of the disease, and reduce the great expense incurred in its treatment, and that the hospitals of the Asylums Board presented the only opportunity of investigation in London. An amendment disapproving the committee's report was moved, but it was lost. The report of the committee was then agreed to.

The Duchess of Albany presided on Tuesday at a meeting of the Ladies' Commission of the Royal Waterloo Hospital for Children and Women. The rules of the association were adopted. An executive committee was formed and a room in Mayfair has been offered as an office free of rent. It is now determined to form a Children's Guild on the same lines. The duchess was elected president of the association and the Princess Alexander of Teck of the Guild. With these two organizations formed to help it the hospital ought to prosper.

Crewkerne has built a hospital as a memorial to Queen Victoria, and, what is more, has paid for it. It was opened free of debt on Tuesday, the cost being £53,000. The opening ceremony was perfromed by Sir F. Treves, who at the subsequent luncheon said it was admirably fitted, replete with modern conveniences, excellently designed, and perfect in all its details. He congratulated the architect and builder and wished the hospital success.

Hospital Saturday was kept in London and the suburbs for the thirty-first year, on Saturday last, but the returns from the district committees cannot be completed for about a fortnight.

Perhaps we shall escape the infliction of a penny hospital fund, which, I mentioned a month ago, had been proposed by a journal. The scheme was to sell booklets of hospital stamps and give 75 per cent. to certain hospitals. Already several of the hospitals have protested against the plan and refuse to be in any way associated with it.

One of the oldest practitioners in Scotland, Dr. James Wallace, J.P., was found dead in his bed on the 10th inst. He was in his usual health on the night before. He was in his 80th year. He was a Glasgow graduate, M.A. and M.D., and formerly an examiner in that university. He had also been for more than thirty years surgeon to the Greenwich Infirmary, and was medical officer of health for that town at the time of his death. At his doctor's jubilee in 1902 he was entertained at a banquet and presented with his portrait and an illuminated address.

The death is announced of Mr. Henry Campion, M.R.C.S., the leading dental surgeon of Manchester, who retired a few years since, after a career in which he gained the respect of all who knew him. He played an important part in the dental reform movement. In 1882 he was elected president of the British Dental Association, in succession to Sir J. Tomes. He also served the presidency of the Manchester Odontological Association, and was for many years surgeon to the Victoria Dental Hospital, and afterwards consultant to it.

MUSIC AS A THERAPEUTIC AGENT.

To the Editor of The Medical Record.

Sir: Dr. Kennedy's paper on "Music as a Therapeutic Agent," in the Medical Record of October 29 last, is full of interest. Psychiatrists have long recognized the beneficent influence of music on the insane. It would be difficult, in my opinion, to go among the physicians in the State Hospitals of this country and find one of experience who did not agree with this statement. Personally, I had ample opportunity for observing it during a five years' service in an institution for the insane, and I have witnessed the same thing among the epileptics at Sonyea.

There are cases of epilepsy in which stimulation of the emotions, or the imagination, along certain lines (erotic, for instance), will induce epileptic attacks, and others in which the influence of musical harmony acting on an agitated and unbalanced nervous system, will restore it to a more nearly normal condition.

Last summer a musical service by a celebrated violinist was held at the Craig Colony in place of the regular service, which usually embraced a sermon few of the patients could understand in a way to keep them mentally alert and interested in what was going on. The result of the musical service was striking. Instead of eight to ten seizures during the hour, two only occurred, both being innocent in character; that is, neither was active nor demonstrative.

Dr. Merrins, in studying "The Malady of King Saul," which he concludes to have been epilepsy, says: "The Evil Spirit is said to have 'terrified' Saul. We have already seen that among the psychical aura is a sensation of fear, of terror, or a fixed idea that some calamity was impending. David's music is said to have made Saul breathe more freely" (Bibliotheca Sacra, October, 1904).

My chief purpose in writing this is to call attention to the possible value of carrying out some experiments along this line in institutions for the insane and epileptics. It would be an excellent thing if the Rockefeller Institute, for instance, could be induced to set aside a fund of $1,000 for this purpose; the experiments to be carried over several months, and to include cases carefully selected for the purpose.

W. P. Spratling, M.D.

Sonyea, N. Y., November 1, 1904.

Marmorek's Anti-Tuberculous Serum in the Treatment of Pulmonary Tuberculosis.—Arthur J. Richer believes that antitoxins exercise a toxic influence if given too late in the disease. This is notably the case in diphtheria. In the case of tuberculosis, we are dealing with a disease in which the types clearly differ. There are, for example, many cases in which there are localized or discreet lesions, these patients never showing any effect of toxine absorption. Again, there are other patients showing exacerbations during the course of chronic tuberculosis, in which the influence of the serum seems limited to the recent involvements. The writer then appends a number of observations of various types of the disease treated with Marmorek's serum. Although it is as yet very difficult to say whether Marmorek's anti-tuberculous serum possesses bactericidal powers, the writer feels positive as a result of clinical tests that it is truly an antitoxin, and that it does possess the power of inhibiting the growth of the tubercle bacillus, but as with all antitoxins, this power is ephemeral. The writer reports a case in which the physical signs had entirely disappeared after thirty inoculations, while what little expectoration still persisted was free from bacilli; yet two months after this hopeful report the patient now shows some bacilli in the sputum, and some indication of the return of the disease at the original spot. The writer thinks that now that we have fair evidence that we possess an antitoxic serum capable of conferring passive immunity, we have every reason to believe that it can be further made use of to protect human beings while under treatment with bacillary extracts of the tuberculin group in attempting to make the human organism under treatment produce its own antitoxin, as well as its bactericidal humors. The writer is now attempting that form of treatment.—*The Montreal Medical Journal.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, November 3, 1904.

Three Cases of the Association Neurosis, with Remarks on Its Genesis.—John E. Donley reports these cases. The first patient was a man who, previous to an attack of herpes zoster, had always been in good health. This attack occurred about nine months ago, and was accompanied by severe pain. Although the external appearances of the trouble disappeared in due time, the pain continued. About 5 o'clock every morning, before the patient was up, this pain began. It had no relation to muscular activity. Indeed, if the patient got up and moved about for a few minutes the pain would disappear. The patient was mentally depressed and discouraged about himself. For its suggestive effect, faradism was applied to the spine, and a bromide mixture was administered. The patient was assured that this treatment would result in relief. He was told not to get up till 6 o'clock the next morning. The pain was not so severe on this morning, and after continuing the treatment for ten days it completely disappeared. The other two patients were troubled with nausea and weakness, but were entirely relieved by suggestion. The writer states that association or habit neuroses constitute a large class of purely functional nervous affections, in which the disagreeable features result from an atypical or not normal association of elements, which in themselves are in no sense pathological.

New York Medical Journal, November 5, 1904.

Woman's Duty Toward the Health of the Nation.—S. A. Knopf considers that every American woman should familiarize herself with the status of the national health so that they may act intelligently. They should further their own health by proper dress and food and a simple life. They should nurse their own children and understand the proper cooking of food. They should put themselves on record as to their belief in the efficacy of vaccination for smallpox, antitoxin for diphtheria, and modern methods for stamping out tuberculosis. They should take a firm stand against the fallacies of the "anti-vivisectionists." They should carefully instruct their children against the evil effects of alcohol and decry the indiscriminate use of patent medicines. There is a call to-day for broader education, heroic example, self-sacrifice, much work, and a great deal of devotion.

A Clinical and Statistical Study of Convergent Strabismus.—W. Reber presents the following propositions: Esotropia is most likely to manifest itself before the end of the third year. The degree of deviation will average about 30° in a large number of cases. It is in no special way bound up with the degree of refractive error. The amblyopia of esotropia is presumably an amblyopia ex anopia, the present day evidence being against Sahweigger's theory of a congenital amblyopia. The degree of amblyopia increases with the length of time elapsing between the appearance and the time of treatment. Improvement may be expected in the amblyopic eye in fifty to sixty per cent. of cases by properly adjusted glasses. While a defectively developed fusion apparatus has much to do with the genesis of esotropia, the influence of hypermetropia and its allied states seems almost as important as in the days of Donders. The part played by astigmatism is no little one. A very high degree of hypermetropia does not necessarily exclude strabismus, as three cases in the series presented were of 11 D. and over. If taken before the fifth year there seems no reason why the strabismus should not be cured by non-operative methods in seventy per cent. of cases. This percentage will, in all probability, be increased to eighty per cent. in the next ten years. The results of non-operative treatment in children, if adhered to with any persitence, are infinitely better than any "scissors" statistics thus far offered.

Medical News, November 5, 1904.

Report of a Case of Splenomedullary Leukæmia Treated for Nine Months by the X-Ray.—William Fitch Cheney reports a case of this kind. The patient, a man of 27 years, had been treated by all of the ordinary and well-tried methods employed in this ailment. No treatment had ever done more than to temporarily mitigate the symptoms. The *x*-ray treatment was then begun and up to date 144 applications have been given (in a period of 9 months). The general condition has been so much improved that the writer declares that from a symptomatic standpoint the man is cured. But the other manifestations of the disease have not kept pace with the symptoms, although there has been improvement. The free fluid which had been noted in the abdomen has disappeared. The spleen has become gradually more freely movable in the abdomen and the tension has decreased so that the wall has become less resistant to palpation. The contour of the splenic tumor, however, has not materially changed. Blood examinations show a decided change for the better. No ill effect of the treatment has been observed except the dermatitis.

Endotracheal Medication.—J. J. Richardson believes that in intratracheal injections we have a valuable method of treating many of the inflammatory and infective diseases of the lower respiratory tract. The syringe used by the writer consists of a glass barrel inclosed in metal and having a spiral spring attached to the piston. The medicaments used should in general be antiseptic, stimulating, non-irritating, and soluble in the vehicle employed. Oily solutions are now used with excellent results. The diseases treated have been bronchitis, bronchial asthma, trachetitis, bronchiectasis, and pulmonary tuberculosis. The greatest field of usefulness of this method is in the treatment of bronchitis. The writer advocates for these cases the use of 5 per cent. camphomenthol with eucalyptus and thyme and sterilized olive oil, or a highly refined bland petroleum. A few injections will often entirely relieve the cough and expectoration. The injections should be given daily, and one or two drachms of the liquid may be injected at a time. This treatment neither disturbs digestion nor interferes in any way with other treatment which may be carried out in conjunction with it.

American Medicine, November 5, 1904.

The History of Pediatrics and Its Relation to Other Sciences and Arts.—A. Jacobi presents the following conclusions: Pedology is the science of the young. The physical, intellectual, and moral conditions of the young who are the future makers and owners of the world will decide whether the globe will be more Cossack or more Republican, more criminal or more righteous. The physician, mainly the pediatrist, should become responsible for their education, training, and capabilities. Heredity and the health of the pregnant mother are the physician's concern. The regulation of labor laws, factory legislation, and the prohibition of marriages of epileptics, syphilitics, and criminals are some of his preventive measures to secure a promising progeny. To him belongs the care of the production and distribution of foods. He has to guard the school period from sanitary and educational points of view, for heart and muscle and brain are of equal value. It is in infancy and childhood, before the dangerous period of puberty sets in, that the character is formed, altruism inculcated, or criminality fostered. The physician has great possibilities and responsibilities. It is not enough that he work at the bedside and in the hospital. In the future he is to control school boards, health departments, and legislatures. He is the legitimate adviser to the judge and the jury. The writer concludes by urging the physician to participate in politics and never to miss any of his public duties.

Taine's Ill-Health.—George M. Gould gives an interesting sketch of this brilliant student. His troubles began at the age of 21, and by means of excerpts from his letters and from his biographers' notes, a sketch of his life is given from that period till the age of 36. It is the history of unrelieved eyestrain. The patient suffered greatly with headache, insomnia, depression, limited power of working, and inability to use the eyes. With all this suffering, however, his letters often speak of being in "good health" during the very periods when he was temporarily suffering from migraine. The writer states that such an experience is a well-known clinical fact. He states that in the case of the reflexes of eyestrain the clinical histories are likely to vary astonishingly according to the organs that bear the brunt of the derouted nerve discharges. But even in the most aberrant types there are certain facts and phases common to all. The suffering, whatever its form, is directly consequent upon the use of the eyes. It increases in intensity with the lessening of the accommodative power. The only way of stopping the suffering is by nonuse of the eyes. Depression is always present. As the disease is functional and not organic, the essential health and vitality are not, at least for a long time, if ever, irremediably affected. A late photograph of Taine (he lived till 1893, dying at 64) shows that toward the end of life there was paretic ptosis or drooping of the lids. The right eye is plainly strabismic, or turned in. The writer concludes by calling attention to the case with which the entire list of evils suffered by Taine can be prevented in modern patients.

Röntgen Ray in the Treatment of Sarcoma.—Joseph F. Smith declares that in his hands the Röntgen ray has been a disappointment in the treatment of sarcoma. In no case has there been the slightest evidence of benefit from the treatment of large primary or secondary tumors when covered by skin or other protecting tissues. The writer believes that the only hope of benefit from the employment of the Röntgen ray in these cases and the treatment which would seem to offer the patient the greatest probability of cure is through surgical removal of the entire tumor, or as much of it as possible, and the application of heroic doses

of the Röntgen ray to the open field, carrying the treatment to the extent of producing necrosis of the healthy tissue immediately about the site of operation. In the treatment of carcinomas, the writer's best results with this treatment have been obtained in the case of epitheliomas or other superficial carcinomas.

Journal of the American Medical Association, November 5, 1904.

Some of the Therapeutic Uses of Hydrastis.—W. B. Stewart gives his experience with this remedy, which he has found especially useful in many forms of chronic catarrh of the intestinal tract, especially in alcoholic patients. For this purpose he prefers the fluid extract. It is superior for this purpose to the hydrastic. For local use he prefers the glycerite, which is especially serviceable in sub-acute and chronic conditions of the genito-urinary tract. The hydrastin in muriate is an excellent remedy for menorrhagia and should be given in doses of from one-fourth to a grain. It is slow in action, but the latter is more prolonged than is that of ergot. It may produce abortion in pregnant women. It is useful also in epistaxis, hæmoptysis, hæmatemesis, and hæmaturia.

How to Produce Milk for Infant Feeding.—E. F. Brush details his dairy experience and declares that dairymen should be held responsible for the stomach and intestinal condition of otherwise healthy infants fed on milk that they furnish, providing that nothing is added, except sterilized water, cane sugar, or cream that comes from the cows under their control. Certainly the milk must be carefully guarded, kept cold, below 50° F., and away from contaminating influences, or the addition of milk sugar, lime water, pepsin, pancreates, or any other articles except as above specified. He maintains that the surest test that milk is good food for the baby is the baby itself. The percentages of fat, the proportions of proteids, and all the other chemical data amount to nothing, if the baby is thriving the milk is good.

The Initial Contamination of Milk.—R. C. Newton refers to certain advances which have been made in the conduct of modern dairies. He believes, however, that it is impossible to produce actually sterile milk as judged by bacteriological tests. The covered pail should come into general use. The requirements which will produce a milk coming up to the "certified" standard are not unsurmountable even for the small farmer with only a few cows, provided certain essential rules of cleanliness are followed and the proper utensils employed. The covering of the pail with a sterile cheese-cloth diaphragm is undoubtedly one of the safest as well as one of the simplest measures of safety. Elaborate statistical tables are introduced to support the author's contentions.

The Use of Nitroglycerin in the Treatment of Erysipelas.—On the basis of four cures this remedy is highly extolled by J. W. Wherry. The customary dose of 1-100 grain is given every three or four hours. An ointment of ichthyol and zinc oxide was used in each case, but the author ascribes to it only a soothing effect on the skin, and in one instance it did not even produce this effect, for the patient would rub it off as fast as it was put on. All these cases presented several features in common as the result of this internal treatment, viz., a reduction of temperature, moist skin, good appetite, steady pulse after the first day, absence of prostration, general feeling of comfort, and a fairly rapid disappearance of the inflammatory process.

The Lancet, October 29, 1904.

On Streptococcal Infection and the Use of Antistreptococcic Serum.—S. Anderson reports two successful cases, and says that to achieve the best results with the remedy the following factors seem necessary: (1) That where the infection is "single" and a polyvalent serum is obtainable possessing the "immune body," it should be applied as soon as the illness is recognized, the object being to inject before much toxin has formed. (2) That the serum should be as fresh as possible. (3) In those cases in which the serum is doing good, there is no danger in administering an excess, and also from the above arises a second corollary, viz., that in those cases where there is no apparent benefit there is no evidence to show that it does harm. (4) That since the serum acts mainly by increasing phagocytosis and since in certain cases very little antidote is formed, the administration of the serum should be continued for some time after apparent recovery until its action is quite complete.

Purpura Convalescentium Following Measles of Mild Variety.—J. Fortune records the case of a girl of five years who had apparently an ordinary measles, but on the fifth day she had epistaxis, and the entire skin was mottled with a petechial rash, and the urine contained some blood. There was no fever, and all the organs seemed normal except the spleen, which was somewhat enlarged. There had been no vomiting sickness, convulsions, or joint swelling. Pulse was 112, soft, and full. There was an exhavasation in the right labium. Under tannic acid insufflation the nose bleed ceased. Internally ergot and chloride of calcium were given, and under these remedies all the symptoms gradually abated and recovery followed. The author believes that the petechial rash was a sequel of the action of the measles toxin.

British Medical Journal, October 29, 1904.

Spasmodic Neuralgia Treated with Bromide.—J. H. Potter describes the case of a woman, aged 81 years, who had suffered nearly all her life from attacks of neuralgia of the fifth nerve, and for the last three months from spasmodic paroxysmal attacks. The age of the patient was against the excision of Meckel's ganglion. Of all the drugs employed, injections of morphine were the only thing that gave even partial relief. The writer decided to try the effect of large doses of bromide and gave a teaspoonful of powdered potassium bromide in milk, with immediate relief. The dose was repeated at night. There has been no pain since the second dose. The patient now sleeps and eats well and requires no morphine at night. The patient is convinced that her relief is the result of the medicine, as on no other occasion has the pain ceased so suddenly.

Berliner klinische Wochenschrift, October 17, 1904.

Experiments on the Dissemination of Tuberculosis in the Female Genitals.—Baumgarten reports on some interesting work done in co-operation with Basso to study the course of progression of genital tuberculosis in the female. Over fifty rabbits were used and the results obtained were consistent in all cases. The lower and upper portions of the vagina, the horns of the uterus, and the pertioneal cavity were infected either with emulsion made from perlsucht nodules or with actual bits of the tissue itself. The peritoneal infections never invaded the tubes or any other portion of the genital tract, and though infection starting from the uterine coruna readily traveled downward it never progressed in the opposite direction toward the distal end of the tubes. Infection of the vagina never passed upward, but only downward, and only the urethra was invaded of the urinary tract. The author, therefore, concludes that, as he has already shown for the male, so in the female tuberculosis of the urinary and genital systems is not reciprocal and that in each case it follows the direction of the normal local currents. In the genital tract this is from the ovary toward the vagina, and in the urinary tract it is in the direction of the urinary flow. Common ground for the two types of infection is, in the male the prostate, and in the female the urethra and lower vagina.

Mechanical Compression of the Thorax in Dyspnœa.—Boghean says that the treatment of dyspnœa by the various respiratory drugs and other measures at our command is still very unsatisfactory. The question of whether it is the accumulation of carbon-dioxide or the lack of oxygen that is the more important factor in the production of dyspnœa has been answered by the researches of numerous observers, who state that both of these elements are concerned in the production of the condition, but that the body is much more tolerant of deficiency of oxygen than of excess of carbon-dioxide. Numerous forms of apparatus have been devised for the purpose of mechanically assisting the expulsion of the air from the lungs by compression of the thorax, but they have been unsuitable for general application on account of the lack of a suitable motive power. The fatiguing nature of the work renders it impracticable to have either the patient himself or an attendant furnish the energy required, and the author describes and illustrates a somewhat complicated chair provided with pads, to be applied over the front of the patient's chest, and operated by a small electric motor. The machine once set in motion compresses the thorax at each expiration to a greater degree than the patient's unaided efforts could, and by increasing the carbon-dioxide output promptly relieves the subjective sense of dyspnœa.

Münchener medizinische Wochenschrift, October 18, 1904.

Sequestra of the Lung.—Büdinger describes the operative removal of a pulmonary sequestrum following abscess. The patient was a middle-aged man, who suddenly developed a septic process in the right lung, which, after the lapse of some weeks, gave signs pointing definitely to abscess. The third rib was resected and the greatly thickened pleura incised, revealing a large cavity filled with pus. In this cavity a detached mass of lung tissue was observed, and on drawing it out of the incision it readily separated from its attachments. The mass was the size of the first and had evidently possessed a pedicle containing a good-sized bronchus, for it was well aerated. The cavity was drained and the patient made a good recovery. A portion of an ear of wheat was found in the interior of the mass, and had evidently served as the original source of infection. The author gives a résumé of what is known concerning this very rare condition, and says that it may be caused by a dis-

secting pneumonia, by abscess of the lung, and by combinations of abscess of a superficial part of the lung with empyema.

The Simulation of Mental Disease.—Schott says that the simulation of insanity in perfectly sane individuals is very rare, and that it is usually found associated with mental degeneration of greater or less degree, forming one symptom of the morbid state. In other words, the fact that an individual confesses to having simulated insanity does not prove him to be mentally sound, for simulation and mental disorders frequently are associated. Great care and prolonged study is frequently necessary in these cases, and a diagnosis of malingering is to be made only when there is positive proof of the individual's sanity. Violent measures are not justified in attempting to "unmask" such persons, though a device that is often successful is to mention in the subject's hearing that some specific symptom—bed-wetting, for example—is lacking to complete the picture, when the malingerer will usually promptly supply it. Even then, however, caution is needed to exclude hysteria. In all cases of this sort prolonged observation in an asylum by specialists is essential.

The Pathogenesis of Postanæsthetic Paralysis.—Glitsch discusses this question in the light of a case of his own, and of some experiments on the cadaver he was induced to make in consequence of his experience. According to the commonly accepted views, the paralysis is produced by pressure on the bracchial plexus, either through compression between the first rib and the clavicle, owing to the approximation of these bones, resulting when the arm is raised above the horizontal line, or through direct pressure of the head of the humerus, owing to the greater prominence of the latter caused by elevation of the arm. In the author's case there was great relaxation of the capsule of the shoulder joint, probably due to an old inflammatory process, possibly tubercular, on both sides, and by experiment with a cadaver, after opening the joint so as to permit subluxation of the bone, he found that in certain positions of the arm direct pressure was caused by the head of the humerus on some strands of the plexus. The position giving rise to this pressure was that of hyperelevation of the arm, combined with inward rotation. The author, therefore, advises that the greatest care be taken to avoid this position, and that the arms should frequently be moved during the course of long operations. If medico-legal complications arise in such a case, it is necessary to make careful search for some predisposing condition, such as relaxation of the capsule, joint disease, etc., as this may furnish the conditions suitable for the causation of the pressure paralysis.

Deutsche medizinische Wochenschrift, October 20, 1904.

The Significance of the Venous Valves in Relation to Varicose Veins.—Ledderhose believes that the conventional views as to the functions of the valves in the veins are inexact, and that these play a less important part in the mechanism of the circulation than is usually taught. He discusses in detail various theoretical considerations, discrediting the ideas that the hydrostatic column of the blood in the veins of the lower extremities is supported by the venous valves; that these are a feature in assisting the muscular action to accelerate the circulation and that the valves prevent regurgitation of the blood stream in sudden changes of position of the limbs. The importance of the valves is further belittled by the fact that they decrease rapidly in number with increasing years, at the age of twenty-five 17 per cent. have disappeared, and at the age of seventy 81 per cent. have been lost. The author's theory is that in most cases the valves play no part in the adjustment of the circulation, but that this is, as a rule, effected by retrograde stasis and variations in speed. The author applies these views to the subject of varicose veins and their cure by Trendelenburg's operation of ligating the saphenous vein. The aspirating effect of movement at the large joints on the vessels causes blood of the femoral vein to be drained out more rapidly in the act of walking, and if the saphenous vein has been ligated the varicosities can more easily discharge their contents into the deeper vessels without receiving any additions from the long saphenous blood column.

The Treatment of Tumors, Especially Ovarian Cysts Complicating Pregnancy and Labor.—Dührssen advocates vaginal operation as warmly during pregnancy as he does in the absence of this complication, and describes a number of cases in which tumors were easily removed under these conditions. The attempt to replace incarcerated ovarian or parovarian cysts in pregnancy or during labor by forcible manipulations with or without anæsthesia is unsafe and should never be resorted to, owing to the danger of injury to the pedicle with consequent internal hemorrhage. In such cases the proper treatment is vaginal ovariotomy, to be succeeded by laparotomy, which, if the proper preparations have been made, does not increase the danger to the patient. During labor abdominal removal of the tumor is to be preferred only in case the genital tract or the tumor contents have become infected. During pregnancy tumors which can be pressed down into the anterior or posterior vaginal vault are to be approached through the vagina. Tumors which are situated too high up to be made accessible in this way should be left untouched during pregnancy, provided they do not increase in size and that the general condition remains good. After involution has taken place these growths may also be removed by vaginal operation. Myomata which block the paturient canal and are not drawn up by the uterine contractions may be exercised either by anterior or posterior colpotomy, together with vaginal cæsarean section. The uterus may then be emptied and extirpated, or the different tumors may be enucleated and the necessary incisions closed by suture.

Annals of Surgery, September, 1904.

Adenoma of the Mucous Glands of the Lips as a Cause of Macroeheilia.—Daniel Eisendrath reports such a case which is interesting not only from a diagnostic, but from a prognostic, standpoint, owing to the fact that some of the cases diagnosed as epithelioma of the lip may prove on microscopical examination to be carcinomata of the glandular type arising from these glands. So far as he could determine this is but the second case of adenoma of the mucous glands that has ever been reported.

Lingual Goitre.—Henry R. Storrs concludes that lingual goitre is a tumor at the base of the tongue, arising from an accessory thyroid gland which may be found in the course of the development of the thyroglossal duct. It has all the characteristics of ordinary goitre. It occurs almost exclusively in women between the ages of fifteen and forty. It grows slowly, and may exist for years without causing any annoyance, until some unknown cause stimulates its growth and produces symptoms. These are functional and not constitutional, and consist of trouble in swallowing, breathing, and speaking, accompanied by frequent hemorrhages. The tumor is round or ovoid, elastic, and covered with a very vascular mucous membrane, and is almost never ulcerated. Dermoid cyst offers the only difficulty in differential diagnosis, but this is generally yellow, grows rapidly, pits on pressure, and has not the vascularity of goitre. Operation is the only radical cure. There are two ways of reaching the tumor, namely, through the mouth and through an incision in the suprahyoid region, the former being the best. The prognosis is good.

A Posterior Incision in Certain Appendicitis Operations.—John G. Sheldon describes an operation in which the appendix is reached through Petit's triangle. A vertical incision is made along the outer border of the latissimus dorsi and extends from the crest of the ilium upward. This exposes the outer border of the quadratus lumborum and the lumbar fascia and aponeurosis of the transversalis, which extends anteriorly from the outer border of this muscle. The second incision is made transversely, close to the iliac crest, through the lumbar fascia and transversalis, exposing the parietal peritoneum directly over the ascending colon and cæcum. This method is especially advantageous in treating an inflamed appendix or its most frequent complication, a localized abscess. In lean persons, the operation has few advantages over the method ordinarily employed. In obese patients the posterior operation is more rapid, and is less likely to be followed by hernia.

Repair of the Urethra by Transplantation of the Urethra of Animals.—J. Hogarth Pringle describes three cases, in which patients with defects of the urethra have been treated by grafting into their tissues portions of the urethra of the ox. Two of the patients were men who had sustained a complete and extensive rupture of the urethra in the perineum; while the third was a boy with hypospadias, in whom there was a deficiency of the floor of the urethra for the whole of the penile portion of the channel. The treatment of these three patients represents five operations in which portions of an animal's urethra, varying in length from five to thirteen centimetres, have been implanted with success; that is to say, the grafted tissue lived and remained a patent channel.

The Formation of an Artificial Vagina by Intestinal Transplantation.—James Fairchild Baldwin tells of a method he had intended to carry out in a patient whose entire vagina had sloughed away following her delivery by instruments and after craniotomy at term. A careful dissection was made upward between the bladder and rectum, but not a trace of vaginal wall could be found at any point. The uterus was finally reached, but no cervix could be made out; it seemed to have sloughed away with the vagina. Douglas' cul-de-sac was opened, and through this the lower segment of the womb could be quite thoroughly outlined. This opening was carefully packed and the patient sent to her room, with the expectation that forty-eight hours later a second operation might be made for the maintenance of

the new canal. She absolutely refused to have anything more done and passed from observation. The method he planned to carry out was to utilize for the lining of the new vagina the sigmoid flexure of the colon, or a loop from the lower end of the ileum . The abdomen was to be opened and the sigmoid seized at about its centre by a pair of forceps introduced from below through the new canal and drawn down to the perineum. The length of bowel thus drawn was to be detached by a transverse incision through the gut, but without injuring the vessels in the mesocolon, the continuity of the colon being at once restored by an anastomosis. One end of the vaginal loop would then be inverted and closed by a continuous suture, not penetrating the mucous membrane. By pulling up the fundus of the uterus until the cervix, or opening into the uterus, was exposed, the lower end of the bowel would be attached around the cervix so as to form a canal for the uterine discharges. Finally, the patient being placed in the lithotomy position, the loop of intestine still held by the forceps would be opened, the bowel cleaned, each limb of the loop packed with gauze, and the edges of the opening in the bowel attached to the surrounding skin. At the completion of this operation there would be a double vagina, each canal being approximately of the size of the colon, and with the nutrition positively provided for by the integrity of the mesocolon. At the end of ten days or two weeks the septum between the two vaginas could be easily removed by clamp pressure.

The American Journal of the Medical Sciences, Oct., 1904.

Acute Leukæmia in Early Life.—Frank Spooner Churchill presents the following conclusions: All cases of leukæmia are myelogenous in origin. As in adults, the acute variety is more apt to be of the lymphocytic type. The disease is rare in early, as well as in later life. It is probably more common than has been supposed, however, 22 cases of the acute or subacute variety having been reported since 1898, while previous to that date only seven cases are on record. The course in children differs from the adult type only in minor details, hemorrhages are fewer and less severe, and the lymphacytosis is more apt to be of the small variety. The disease is always fatal. It is suggested that injections of sera be used in the treatment of this disease. Experimental inoculations with leukæmic blood and with cultures of pathogenic organisms are desirable. These inoculations should be made directly into the bone-marrow. The administration of arsenic is useless. The record of cases treated with the *x*-ray thus far gives no promise of permanent help. The writer gives the detailed history of his own case, the patient being a boy aged four years.

Experimental Arthritis and Endocarditis Produced by a Streptococcus Isolated from the Blood of a Case of Rheumatism, Endocarditis, and Chorea.—Morris J. Lewis and Warfield T. Longcope report a fatal case of rheumatism, endocarditis, and chorea. The patient was a girl, eight years old. Before death a streptococcus was isolated from the blood. This microorganism, when injected intravenously, is moderately virulent for rabbits, and gives rise, with the greatest constancy, to a multiple arthritis which is rarely fatal. In one case, however, the arthritis was complicated by an acute vegetative endocarditis, and the rabbit died. It is only after a more or less definite incubation period of from 4 to 9 days that the onset of the joint symptoms is noticeable. Before this time the animals seem to be perfectly well. Swelling and tenderness in the ankles are usually the first indications of the joint involvement. There seems to be pain, also, for the rabbits move but little, and they limp when they are made to hop about. In certain cases the infection remains localized, while in others it spreads to practically all of the joints in the body. Small swellings may also develop upon the muscle tendons. The writers declare that the organism from its morphological and biological properties could not with any certainty be differentiated from the usual varieties of streptococcus pyogenes. They have not been able to investigate the question of pathogenicity for animals of streptococci from sources other than rheumatic fever.

Pulmonary Streptothricosis.—Aldred Scott Warthin and Herbert S. Olney have had an interesting case of this nature under observation. The patient was a farmer, aged 45 years. There was no family history of tuberculosis. Three years ago his trouble began with an attack of "la grippe," after which a moderate cough and expectoration persisted. He became much weakened and emaciated, and was so distressed with digestive disturbances that he was compelled to live upon a milk diet. He kept at work, however, until six months ago, when he was sent to Colorado with the clinical diagnosis of tuberculosis. He was examined again, and the clinical picture on the whole suggested a chronic bronchitis or broncho-pneumonia of tuberculous origin. The sputum which was collected for examination consisted of about one ounce of a yellowish-gray, nearly homogeneous, and somewhat gelatinous substance, containing large numbers of minute grayish granules. It was not stringy. There were no blood streaks in it, and it had no noticeable odor. No yellow elastic tissue was found. The small grayish granules proved to be masses of a filamentous organism, closely interwoven and freely branching. No tubercle bacilli could be found. When the organism was stained with carbol-fuchsin, the branching threads retained the stain after treatment with 25 per cent. sulphuric or nitric acids, although they gradually lost the color when washed in 95 per cent. alcohol. These threads stained beautifully with Gram's. The length of the branches varied greatly, though most of them were short. In specimens stained with carbol-fuchsin (acid decolorization) and by Gram's method, there was invariably present a filamentous organism showing true branching. In the carbol-fuchsin specimens the majority of the threads showed a beaded appearance, which seemed to be dependent upon the degree of decolorization. The beading was not so marked in the Gram specimens. The organism, according to the writer's belief, was evidently a streptothrix, morphologically identical with the ones described by Bughholz and Flexner. Cultural studies were not made of this organism, as the patient suddenly died. No autopsy could be obtained. The conclusion reached by the authors is that there is a distinct form of pulmonary infection clinically resembling tuberculosis, and caused by an acid-resisting streptothrix having a wide geographical distribution.

Tuberculosis and Heart Disease.—George William Norris bases his conclusions upon the study of 1,764 autopsies, 1,276 clinical histories, and a review of the literature. He believes that valvular heart disease exerts very slight influence, if any, either inhibitive or curative, upon tuberculosis, even if satisfactory compensation is maintained. Small hearts, either as the result of wasting or hypoplasia, are commonly found at tuberculosis autopsies, while large hearts are not often noted in uncomplicated cases. It is doubtful, however, whether smallness of the heart predisposes to pulmonary tuberculosis to a greater degree than can be explained by the general systemic underdevelopment and lack of resistance so common in such individuals. A large proportion of cases of stenosis of the pulmonary orifice die of pulmonary tuberculosis. A common result of tuberculous intoxication is arterial and endocardial thickening. Pericarditis, especially when chronic, is often due to the presence of the tubercle bacillus. Tuberculous endocarditis and myocarditis are rather rare. So is tuberculosis of the aorta. Fatty and fibroid changes in the cardiac muscle are common in pulmonary tuberculosis, a fact which explains the failure of certain heart stimulants, such as digitalis, to benefit these cases. The writer finally declares that he could accept the most absolute evidence only as a proof that either the coincidence of another pathological condition or the administration of a special remedy has conferred a benefit upon the patient.

An Unusual Ovarian Condition.—Lewis Schooler observed the case which he here describes. The patient was suffering with a tumor in the left side. This growth was gradually increasing in size. As medicinal treatment seemed to offer no relief, operation was resorted to. The incision was begun a little higher than the point usually selected for an ordinary ovariotomy. The uterus was found to be dragged upward and to the left, and the Fallopian tube felt double its normal size, and extended from the uterus to the enlarged and displaced spleen. The incision was extended upward to bring the spleen into view. It was six times its normal size, and looked like an old blood clot, only firmer. It was black and glistening. A bit of this organ was removed for examination, which confirmed the original diagnosis. Examination of the field showed that at the lower pole of the spleen there was complete and firm union of the spleen, ovary, and fimbriated extremity of the tube. Close inspection, indeed, was necessary to identify these structures, so close was the union. The tube, ligament of the ovary, and the upper edge of the broad ligament were hard and firm from the tension. They were divided between two ligatures, and the abdomen was closed. Healing took place by first intention. Four weeks after the patient had left the hospital she was found to be suffering from obstruction of the bowels. The condition improved at first, but later became so grave that a second operation was performed. The obstruction was found to be due to extensive adhesions almost the entire length of the descending colon. These adhesions were ligated at several points, and the bowel was freed and filled with salt solution. The uterus and spleen were both normal. The patient made a good recovery. The writer cannot explain how two organs, normally so far apart, became united. The patient had never suffered from malaria.

Studies upon the Capsule of the Kidney.—Haven Emerson has studied the capsule of the kidney of the dog, the rabbit, and the pig. The aim of his experiments has been to ascertain whether the capsule would allow or prevent

the absorption into the blood of salts in solution, and to determine the result of decapsulation of the kidney upon the animal and the organ. He believes that after decapsulation of the kidney a temporary relief from pressure may be hoped for, and if the conditions are proper, the vascular supply may be increased for a limited period. But there is a certainty of the formation of a quickly-growing, dense, and contracting capsule. There is also a probability of the establishment of a chronic interstitial nephritis in the majority of the cases, and a possibility, only, of any permanent increase of the renal blood supply. It is fair to state that the newly-formed capsule is efficient to protect the kidney from absorption from without, and from extremes of vascular pressure from within. The new capsule does not differ essentially from the original one, except in its tendency to persistent and uneven contraction. The writer believes that the possibility of attaining more than a temporary improvement of a diseased condition of a kidney by decapsulation is slight.

French and Italian Journals.

Typhoid Fever with Cutaneous Necroses in a Child of Ten Years.—Ley calls attention in this report to the power of causing necrosis, which is inherent in the bacillus of Eberth. The lesions caused by this bacillus in the intestinal follicles are clearly necrotic, but the development of gangrene elsewhere than in the intestines is rare. He cites the case of a girl aged ten years. The family and personal history were both excellent. The symptoms of typhoid began to show themselves on December 10. Profound weakness characterized the attack. Nine days after the first appearance of the disease rose spots appeared, and on the same day the writer was astonished to note the appearance of a spot of necrosis over the sacrum. The lesion was as large as a franc. In spite of the greatest care the lesion increased in size, and others of the same nature appeared in different parts,—on the thigh, the heels, and the toes. The formation of each gangrenous spot was preceded by congestion of the skin, and the development of a bulla filled with cloudy serum. Finally, a huge eschar developed in the skin of the abdomen. The general adynamic condition of the patient increased, and in spite of every effort death supervened. Autopsy was not allowed. It is interesting to note that a servant in the house contracted the disease, and died a few weeks later. She presented the same adynamic symptoms, and the same large plaques of disseminated cutaneous gangrene. Widal's reaction was obtained with the serum taken from a bulla, in the case of the first patient, although the serum was highly diluted.—*Revue Française de Médecine et de Chirurgie,* October 10, 1904.

A Study of The Variations of Astigmatism with Age.—Et. Ginestous briefly notes the history of the study of astigmatism, and then refers especially to the results of the recent researches in this subject made by Louis Sonder. Some of the conclusions reached by this investigator are as follows: Hypermetropic corneal astigmatism has a tendency to diminish with age. This tendency is the more accentuated as the hypermetropia is greater. Myopic corneal astigmatism has rather a tendency to increase. But the degree of increase is a little less than the degree of decrease in hypermetropic astigmatism. This tendency is more apparent in proportion as the fault in refraction is greater. In the defects of weak refraction the astigmatism, whether it be hypermetropic or myopic, does not undergo very sensible modifications. The differences that have been noted in examinations made at different ages, and which consisted sometimes of diminutions, sometimes of augmentations, prove that the cases do not conform to a fixed rule. The decrease in hypermetropic astigmatism appears to be due to partial contractions, prolonged and permanent, of the ciliary muscles. The increase in myopic astigmatism can be explained by the minimum of accommodation which is found in a myopic eye, and by the natural elongation of the eye. Sonder has examined most carefully 100 patients suffering with astigmatism; these patients had been examined 10 years or less before. He has thus been able to make these deductions from the comparison of the various examinations.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux,* October 9, 1904.

Contribution to the Theory of Autointoxication in the Pathogenesis of Death from Burns.—Alfonso Pirera brings forward a case of slight burn observed by him, resulting in death, to support the theory of autointoxication as the cause of such deaths. The patient was 12 years of age. She was scalded on the right cheek and neck over a surface only a few centimetres square. The symptoms were not severe at first, but after a lapse of some hours severe vomiting set in, with symptoms of acute intoxication, followed by heart weakness and death in collapse. Examination of the internal organs showed degeneration of the kidneys so severe that there was necrosis of many of the epithelial elements of the tubules. The liver cells showed a similar degeneration. The spleen was not much changed, nor were the lungs. The changes were such as are characteristic of acute phosphorus poisoning. He concludes that (1) Autointoxication is of the greatest importance in the etiology of death from burns, and is the result of the formation of toxic substances in the burned tissues. (2) The changes are characteristic of acute degeneration of different degrees from engorgement to necrosis. (3) In the kidneys the lesions are limited to the epithelia of the canaliculi, the glomeruli and capsule of Bowman escaping. (4) In the liver the lesions are unexpectedly severe, since the liver is an antitoxic organ par excellence. (5) The severity of the intoxication bears no relation to the extent of the burned surface.—*Giornale Internazionale delle Scienze Mediche,* September 30, 1904.

The Mechanical Treatment of Œdema.—Carlo Colombo considers that massage is the most effectual remedy for œdemas, in whatever location and in all circumstances. The established technique for this treatment does not seem to be fully understood. Pressure movements are the only ones that are useful in œdema. Pressure by the hand is to be used in œdema that is not too firm, and is situated in the limbs, especially the knee and foot. After placing the limb on a proper support the operator grasps the limb firmly with the palm of the hand and the palmar surface of the fingers, at the portion nearest the body; a progressively increasing pressure is exerted for thirty to forty seconds, a sulcus being produced in the swollen tissue. The movements are repeated just below the sulcus, and so on to the end of the limb. The skin of the limb will now have lost its tension, and the œdema have diminished. The movements are repeated until the œdema is reduced as much as is desired. When the œdema is more firm he uses pressure with a bandage three or four metres long and seven to eight centimetres wide. He begins at the end of the extremity in this case, bandaging the limb spirallyy, so that each fold is half covered by the next layer. The bandage is to be put on as tight as possible. After some seconds it is removed and again adjusted. An elastic bandage may be used with advantage. The pressure by the hand may, with advantage, precede that with the bandage.—*Rivista Internazionale di Terapia Fisica,* October 1, 1904.

Two Popliteal Aneurysms in the Same Patient.—Durand reports this interesting case. The aneurysm on the right side ruptured spontaneously. Gangrene of the left leg set in, and the writer extirpated the aneurysmal sac and performed an amputation below the knee, thus putting an end to the destructive process. On the left side the tneurysm was extirpated, with perfect results. The patient was a man of fifty-four years, with nothing of special interest in his history. It was in the first part of 1903 that the patient first noticed the existence of the two aneurysms, but as they did not trouble him, he paid no attention to them. In the first part of August, 1903, he felt a sharp pain in the right popliteal space. This area increased rapidly involume, and shortly after the dry gangrene of the great toe began to appear, gradually spreading upward. The writer emphasizes the fact that the correct treatment of popliteal aneurysms is extirpation. He calls attention to the results obtained in both of these aneurysms. Rupture of an aneurysm is not very common. Extirpation of the sac in this case of ruptured aneurysm enabled the writer to avoid amputation of the thigh. This unusual case demonstrates that extirpation is the method of choice as well in simple as in ruptured aneurysms.—*Lyon Médical,* September 11, 1904.

Painful Lipomata.—Debove describes a patient of sixty-nine years who had taken to bed, as she disliked even to move. She had been afflicted with painful lipomata for about 12 years, although her statements concerning the beginning of this malady were not very definite. The pain of these tumors is the most important symptom, and next to that stands the asthenia. A sort of mental debility is also noted in these patients. These tumors are not spontaneously painful, but on pressure only. They may be seen by simple inspection. They are covered by normal skin, and have a few blood vessels coursing through them. They are not adherent to the deep tissues. Some of them attain the size of a pigeon's egg. They are elastic, but are also resistant, like fibrous tumors. In this patient they are numerous on the forearm, in the upper two-thirds. They are not found on the hands. There is a mass on the back of this patient with all of the characteristics of a diffuse lipoma. These growths are also in the tissues of the abdomen. There is no trace of paralysis in this patient. The psychical troubles are very striking in this case. The mental state is very like that which is seen in certain forms of cerebral softening. The prognosis of this affection is not grave in respect to life, but it becomes serious when the psychical and physical weakness are considered, for these symptoms are sufficient to put the patient in bed for years before death.—*Gazette des Hôpitaux Civils et Militaires,* September 27, 1904.

Book Reviews.

A Treatise on Obstetrics. By Edward P. Davis, A.M., M.D. Second Edition. Philadelphia and New York: Lea Brothers & Company, 1904.

A comprehensive work in six parts, treating respectively of pregnancy, its diagnosis, physiology, pathology, and treatment; labor, the puerperal state; infancy, with a section on the diseases of infancy, including dentition and the infectious diseases; and lastly, the jurisprudence of obstetrics. This book has the disadvantages of its class. Where so much ground is covered in one volume, the detail is too great for a beginner's comprehension, and yet it is not great enough to satisfy a scholar. This is markedly true in the section devoted to the development of the embryo and the fœtus. The same holds true in the discussion of rare incidents, as hæmatoma of the vulva. The usual remarks are made, but the author's handling of the subject is not that of the master. The description of the mechanism of labor is very clear to those who already understand it. The nomenclature is simple, formally recognizing but two positions—first and second, and two presentations—vertex and breech. The book, as the author states, is well up to date in its descriptions of treatment and general technique. Being, in addition, fairly well written, and illustrated with 39 plates, some of them colored, and nearly 300 smaller figures, it will take a well deserved place among our books of reference.

Surgical Differentials. By J. W. Draper Maury, M.D., Rockefeller Institute Research Fellow in the Laboratory of Experimental Surgery, Columbia University, New York City. Illustrated. New York; James T. Dougherty, 409 and 411 West Fifty-ninth street, 1904.

This book was written for students preparing for the examinations of the various New York Hospitals. It does not claim to be a text-book, but only a guide to the proper selection and grouping of the facts learned from books and at clinics. The writer has been eminently successful in his endeavor to help the student; and the volume contains several very useful tables of differential diagnosis, schemes for the proper and complete answering of examination questions, and clear outline sketches, giving the maximum of useful information in very little space. We would recommend the student to get the book and use it during his third and fourth years, and not to wait till he is thinking of his hospital examination. Among the more important of the topics treated, are: inflammation, aneurysm, shock, sepsis, tuberculosis, syphilis, gonorrhœa, injuries of the head, the stomach, intestinal obstruction, fractures, dislocations, and hernia. Samples of examination questions of several of the New York Hospitals are appended. The author states that "in the opinion of over one hundred graduates who during the past six years secured hospital positions, the ability to apply the scheme (presented in this book) was the primary cause of their success."

The Principles of Hygiene. A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A.M., M.D. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

This is a second edition of a book which first appeared some two years ago, and was here reviewed in these columns. While the book is much improved in its second edition, it is still open to many criticisms, previously justifiable. Chief among these is the fact that no man can write a book on hygiene thoroughly suited to be "a practical manual for students, physicians, and health officers." The requirements of these several classes vary and it would be better if Dr. Bergey had properly appreciated this fact and prepared his book accordingly to meet the needs of the particular class he desired to reach. Dr. Bergey's claim to supply all wants of the tyro and the expert within his 520 pages is comprehensive if not modest. He devotes some 65 pages to quarantine laws, and some sanitary laws of the State of Pennsylvania, which surely he does not expect his students to learn, and which certainly have no applicability to the duties of physicians and health officers of most towns outside his own state. He overloads the student with unnecessary matter, while the health officer who does not have an intimate knowledge of more than is given in this book must be regarded as scarcely competent for his position. The same applies to certain of his chapters, as those on military and naval hygiene—for few students will have any call for information on such technical matters, and those that do will derive little benefit from the meager information which he gives. On the whole, the book can be studied with advantage by students if considerable parts are omitted, while health officers and those better informed in hygiene will preferably resort to works of a more comprehensive character. Dr. Bergey's book is well written, and if condensed by one-third would make an excellent student's text-book, which is something needed at the present time. If further editions are to be forthcoming, it is hoped that he will recognize this fact and refrain from attempting to provide something to serve at once the purposes of the sanitary primer and of the encyclopædia.

Self-Propelled Vehicles. A Practical Treatise, with Illustrations. By J. E. Homans, A.M. New York: Theo. Audel & Company, 1904.

The large number of physicians who have come to realize the many advantages the automobile offers to them in their daily practise, and especially those who live remote from the larger cities, will appreciate the appearance of this book on Self-Propelled Vehicles—originally published in 1902, and now revised and largely rewritten, bringing it up to date. To the man who takes a personal interest in his automobile and who wishes to obtain an intelligent understanding of its workings—be it steam, gasoline, or electricity—this work will prove an admirable instructor and guide. The book opens with a chapter on the general principles of automobile construction, followed by an extensive account of the theory, construction, and operation of gas engines. Perhaps one of the most interesting features of the whole volume is the extensive chapter devoted to the description of leading types of gasoline vehicles, including the most important of American build. The chapter on electric vehicles—in fact, the whole subject of electricity, from the fundamental principles to its application to automobiles—is fully and clearly discussed. The merits of the several types of steam carriage are well set forth.

The book closes with a chapter on gasoline vehicle management, and one containing hints which will be found most useful and instructive, the various technical terms being readily interpreted by reference to the complete index at the end of the volume.

The book, on the whole, will appeal both to the mechanician and to the amateur, and, although many of the subjects treated are of a technical nature, nevertheless they are dealt with in such a way that the intelligent reader cannot fail to acquire a good knowledge of his subject.

Lectures to General Practitioners on the Diseases of the Stomach and Intestines. With an Account of Their Relations to Other Diseases and of the Most Recent Methods Applicable to the Diagnosis and Treatment of Them in General; also "The Gastrointestinal Clinic," in which all such Diseases are Separately Considered. By Boardman Reed, M.D. Professor of Diseases of the Gastrointestinal Tract, Hygiene, and Climatology in the Department of Medicine of Temple College Philadelphia; Attending Physician to the Samaritan Hospital; Member of the American Medical Association, American Climatological Association, American Academy of Medicine, American Electro-Therapeutic Association, Foreign Member of the French Société d'Electrothérapie, etc. New York: E. B. Treat & Company, 1904.

The author explains the publication of the above volume as being due to the desire of the profession to obtain a book which would give concise, practical, and easy methods of diagnosis and treatment of gastrointestinal disorders, the appropriate chemical tests such as could be performed by the general practitioner, and the means of determining size, position, and motility of the stomach, colon, etc., such as would be permitted by the patient and performed by the doctor without undue difficulty. To this end he has not included the historical introductions, the uncertain etiology, much of the pathology, and the usual bibliographical lists. With these omissions the work is fairly complete, and will probably be met by a large demand from those in general work who have not the time for more extensive reading. The author is clear and sound in his teachings, simplifies conditions as far as possible, and gives a good practical working knowledge, such as he has gathered from a large experience in his special field. The first part deals with the anatomical, physiological, chemical, and diagnostic data, the second with the methods of examination, the third with the methods of treatment, and the fourth part, which he names the "Gastrointestinal Clinic," with a consideration of the separate diseases.

On the mooted question of appendicitis, the writer holds conservative views regarding immediate operation. He strongly advocates the Ochsner method of rectal feeding and gastrointestinal rest, and in the less severe cases of chronic appendicitis claims that a cure may often result from purely medical means.

The work would have been more valuable to those to whom good surgical advice is not readily accessible if the author had been more explicit regarding the need and the elective time for operative interference in such cases, *e.g.*, as hematemesis, although this is a point to be settled as a rule by the surgeon. There was need of such a book written by a practical observer, who gives to the reader the easiest and most useful methods destined to be employed in general practice more and more in this rapidly progressive department of medicine.

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

Section on Pediatrics.

Stated Meeting, Held October 13, 1904.

David Bovaird, Jr., M.D., Chairman.

A Case of Sclerema Neonatorum.—Dr. Sara Welt-Kakels presented a boy, seven and one-half weeks old, who was brought to the Mt. Sinai Dispensary on September 12. The patient was born at full term. The labor was tedious, lasting 36 hours, the child finally being delivered instrumentally. It was asphyxiated at birth, and it was three-quarters of an hour before it started to cry. The child was restless, and cried whenever it was touched. The bowels were rather constipated and vomiting was frequent. The child was breast-fed. Two days before the child came under observation the mother noticed a hardening of the skin on the neck and upper arm. Examination revealed an induration of the skin along the entire back, from the neck to the coccyx, over the cheek bones, on the shoulders, on the sides of the chest, and the anterior aspect of the right and left femur. The skin in these regions was of a reddish-brown, livid color, band-like, and could not be raised in a fold; there was no pitting on pressure. The joints were movable. The organs of the chest and abdomen were normal. A tumor was situated on the right side of the neck; this was easily movable and rather tense to the touch; it caused no pain on pressure. It was probably of embryonic origin, the result of cystic dilatation of a branchial fissure obliterated at both ends. Dr. Welt-Kakels said that sclerema or scleroderma of the new-born occurred most frequently among children with feeble heart action, in the asphyxiated and premature. The disease was more commonly met with in foundling asylums, among bad hygienic surroundings. In America it was extremely rare. An interesting feature of the case under discussion was that when first seen the rectal temperature was 101° F. In most of the cases on record a sub-normal temperature was reported. The child was apparently improving under treatment, the main feature of which was hot baths.

Dr. William P. Northrup said he had seen but one case of scleroderma neonatorum, and that was many years ago, at the New York Foundling Hospital. That case formed almost a composite picture of the various descriptions of this condition found in the text-books. The sub-normal temperature was a marked feature of the case. The induration of the skin was first noticed on the cheeks; then on the neck and shoulders. Artificial heat was applied in every possible way, but it made no impression on the bodily temperature. After death, sections of the tissues were removed from different parts of the body, and hardened and stained in various ways and examined microscopically, but the results were absolutely negative.

The Influence of the First and Second Dentition Periods in the Etiology of Epilepsy.—Dr. William P. Spratling said it was his conviction that we were never justified in looking upon the convulsions of infancy and early life as harmless manifestations. Numberless convulsions appeared at this period that began as benign and sooner or later ended as such, but many others began as benign, sooner or later to end in established epilepsy. The speaker said he was led to make this statement after ten years' experience at the Craig Colony for Epileptics, during which time he had studied the etiology of the disease in nearly 2,000 cases. Infantile convulsions that appeared in connection with the first and second dentition often disappeared entirely for years, only to recur at some future time when the child was passing through a period of physiological stress, particularly like that which so commonly characterized the epoch of puberty. The lesson we often failed to learn was the necessity for constantly recognizing in such children the presence of the convulsive tendency. To keep the child free from convulsions in the future, this tendency should be borne in mind, and always respected. The question he particularly desired to discuss was whether difficult dentition alone, or acting in conjunction with a previously prepared organism, was ever capable of causing epilepsy. Many physicians of the present day denied that teething ever caused epilepsy or even epileptiform convulsions. From this view the writer dissented. He had long felt that in selected cases, the "stress" of difficult dentition was the touchstone in the causation of epilepsy.

In connection with his paper, Dr. Spratling exhibited a number of charts. Chart No. 1 gave the age for each year at the onset of epilepsy in 1,215 cases, from the first to the twentieth years, inclusive. These 1,215 cases, all under 20 years of age, represented 80 per cent. of all patients admitted to the Craig Colony up to the time these figures were made. One hundred and seventy-five of these patients, equal to more than 14 per cent. of the entire number, developed the disease during the first year of life. After passing the first year, there was a very decided and continuous decline up to and through the fifth year, there being only 33 in that year, or about one-fifth as many as during the first year. After leaving the fifth year, we entered upon the period of the second dentition, and there was a very decided rise in the number of cases through the sixth, seventh, and eighth years, 45, 69, and 67 cases, respectively, the number dropping to 55 during the ninth year. Chart II showed that epilepsy was present in 80 cases during the first month of life; the second month showed a decline to five cases and in the third month only three cases occurred. A notable increase took place during the fourth month, followed by a second decline through the fifth and sixth months, after which a very positive rise was noted during the seventh month, 20 cases occurring during that month, equal to 25 per cent. of the entire number. The sole fact of importance about the very notable rise during the seventh month was that it marked the beginning of the influence of the first dentition period. Chart III was made from a grand total of 3,523 cases, in all of which epilepsy developed before the twentieth year. Of these, 376 developed during the first year of life; these cases he ascribed to congenital causes, heredity, birth accidents, and the first dentition. Passing the first year, a continuous decrease was noted through the second, third, fourth, fifth, and sixth years, when only 127 cases out of 3,523 occurred. The seventh year showed an increase to 168, this increase continuing through the eighth year, and reaching 174. After this a fluctuating rate was noted until the twelfth year, when the stress of puberty began to be felt. The four years that covered the developmental period showed a vast increase in the number of cases, a grand total of 877 cases out of 3,523 occurring during those four years. Passing the epoch of puberty, the decline was sharp and continuous, so that by the time the twentieth year was reached the period had ended during which more than eight-tenths of all cases of epilepsy developed.

Dr. A. Jacobi said that convulsions were very frequent in early infancy, and should always be considered as serious occurrences. Dr. Spratling had emphasized the statement that the convulsions in infancy that led to epilepsy were the "teething convulsions," instead of referring to them, as Dr. Jacobi would have preferred to do, as convulsions occurring during the teething period, or convulsions that occurred from some cause or other while the child was teething. As a matter of fact, the process of teething began very early in fetal life, and the teeth were practically fully developed in the gums when the child was born. The actual eruption of the teeth generally occurred about the seventh or eighth month of life; sometimes earlier, sometimes as late as the twelfth or sixteenth or seventeenth month. This retarded protrusion of the teeth was not the fault of the teeth themselves, but was due to the general condition of the child. Such children were frequently rachitic, which meant an abnormal condition of the meninges of the brain. That was why we saw convulsions

simply on the basis of rachitis. In such children the convulsions were not the result of the teething, but of the peculiar condition of the child. Convulsions would not be looked for in a normal child during the dentition period. It was peculiar that so many convulsions occurred during the first month of life, because the reflex activity of the new-born was almost *nil*. The convulsions at that early age were not of reflex, but of cerebral origin, and in many instances were the result of hemorrhage. The blood-vessels of the new-born were very friable, and hemorrhages were not uncommon. Another cause was sepsis, sometimes of a very mild type. Premature ossification of the sutures of the bones of the skull might also give rise to epilepsy and paralysis. Dr. Spratling, in the history of his cases, had emphasized teething in the causation of the epilepsy, but had said nothing about other important factors, such as improper feeding, etc. Very recntly, Dr. Jacobi said, he saw a child in convulsions. The child was teething, it was true, but it had also been fed on sour-krout and frankfurters during the day. A single convulsion, from whatever cause, might produce hemiplegia and epilepsy. In most of the cases reported by Dr. Spratling the fathers were drunkards; in some, both parents were drunkards, and probably there were several generations of drunkards. Every case of epilepsy should be judged by its own history. Dentition could not be regarded as a general or even a frequent cause. The normal child would not suffer during dentition, excepting, perhaps, from a slight salivation, or a diarrhœa in consequence of swallowing so much saliva. In most cases, epilepsy dating from childhood resulted from local changes in the brain.

Dr. Charles G. Kerley said he agreed entirely with the remarks made by Dr. Jacobi, and he called attention to the fact that, according to the chart shown by Dr. Spratling, convulsions during the second year were of much less frequent occurrence than during the first year, in spite of the fact that teething was much more difficult during the second than during the first year. It was during the second year that the canines and molars were cut.

Dr. Floyd M. Crandall said that two questions were raised by Dr. Spratling's paper: first, the influence of dentition in producing convulsions, and, second, as to whether these convulsions that came on early in life developed into true epilepsy. The speaker said that while it seemed to him that teething exerted some influence on the child's condition, he had never been able to convince himself that dentition was the cause of convulsions in a healthy child. He had seen cases, however, in which children with rickets, bad digestion, bad feeding, added, perhaps, to bad heredity, had developed convulsions during the dentition period. One or all of these drawbacks had proved to be the straw that broke the camel's back. The convulsions of infancy were always to be looked upon as grave misfortunes to the child: in no instance should they be regarded as benign, and Dr. Crandall said he had long made it his practice carefully to look after these children, treating the rachitic condition, if there was one, regulating the diet, and guarding against every possible source of further convulsions, so that true epilepsy did not develop.

Dr. Spratling, in closing the discussion, said he had not tried to prove the assertion that dentition had a marked influence upon the development of epilepsy, but had simply brought the facts and figures before the members of the section. In many of the cases included in his list, there were doubtless other factors besides dentition in the production of the epilepsy. The speaker said he was aware of the fact that teething began during embryonic life, but the trouble did not occur while the tooth was in the gums, but when it began to cut through the gums; that was the critical period. His list did not include healthy, normal children, but diseased children; those whose constitutions were run down or who had a bad heredity. That was the class of children in whom convulsions developed and who ultimately might suffer from epilepsy.

Sequelæ of Cerebrospinal Meningitis—Dr. Henry D. Chapin said that of the 18 or 20 cases of cerebrospinal meningitis he had observed during the present epidemic a certain proportion of them had developed a neuroretinitis. In presenting a series of these cases before the New York County Medical Society last Spring he had mentioned this fact, and in the discussion that followed one of the ophthalmologists present said that this was a very unusual feature of the disease. Since then, Dr. Chapin said, he had had special attention paid to the examination of the eyes in these cases, and he had at present under his observation a baby of four months in which the cerebrospinal meningitis was accompanied by a marked neuroretinitis on the right side, and a slight one on the left. Dr. A. E. Davis, who had made the examination of the eyes, seemed to think that the neuroretinitis was a pecular feature of the present epidemic.

Dr. L. Emmett Holt said his experience showed that cases occurring in children under three years of age were almost invariably fatal. Two remarkable cases of recovery, however, fell under his observation. One of these was a boy of four years, who was taken suddenly ill; he was unconscious, blind and deaf, and for ten weeks had a continuous high temperature. At the end of that time consciousness slowly returned; then his improvement became more rapid, and he was now entirely well, with the exception of a certain degree of irritability. In connection with the treatment of cerebrospinal meningitis, Dr. Holt said he was impressed with the absolute futility of drug treatment. In the case he had just mentioned, potassium iodide had been given until the patient's stomach became disturbed. Inunctions of mercury were also tried, and for the pain morphine was given hypodermically. The feature of the treatment that apparently saved his life was the careful, constant attention to his nutrition. The pulse ranged between 130 and 150 until the temperature became normal; then it dropped suddenly, ranging for several days from 48 to 60. It appeared perfectly marvelous that this child should have recovered with perfect sight, hearing, and intellect. In the other case he had in mind, there was a high temperature for 84 days, and during the greater part of that time the patient was unconscious. The case gradually went on to complete recovery. In this instance, as in the other, life was also apparently saved by careful attention to diet and nutrition. Both patients became extremely emaciated, and probably would have died of exhaustion, as most of these cases did, had not the nutrition been so carefully looked after. In another typical case the patient had developed a secondary hydrocephalus, the child's head being enlarged two and one-half to three inches beyond what it should be for its age. The symptoms pointed to a persistent basilar exudate. As regarded the eruption, Dr. Holt said he saw it in a number of cases early in the course of the disease. In one instance it was so intense that the diagnosis of measles was made.

Dr. Jacobi said he had seen about 18 cases of cerebrospinal meningitis during the present epidemic. His death rate was between 30 and 40 per cent., which was less than he had expected. The eruption he had observed in very few instances. Deafness seemed to be a more prominent symptom than in previous epidemics or in the stray cases that were occasionally observed. Out of eight or nine patients that he had in his ward, three became hopelessly deaf. Why the eyes and the ears did not become more frequently affected the speaker said he was not able to say, because in practically every case the nasal mucus showed almost a pure culture of meningococci, and there was plenty of opportunity for them to spread. The nasal involvement was very marked during the present epidemic.

Dr. L. E. LaFétra said that in discussing the mortality of cerebrospinal meningitis, it was important to keep in mind the age of the patients. The speaker said he had seen 20 cases during the past summer, 18 at the Babies' Hospital and two at the Vanderbilt Clinic. The diagnosis had been confirmed by lumbar puncture in every case but one. Of

the 19 punctures made, there was a positive growth in the fluid drawn from 14. In four of the others there was no growth, but pus cells and an excess of fluid under pressure. Dr. Marple found a papillitis in several of the cases. Of the 20 cases, 11 were boys and 9 girls, the ages of the patients ranging from three months to three years. Eight patients were under one year old; seven were between one and two years; four between two and three years. The children had been ill for periods ranging from two days to three months before admission to the hospital; none of the cases developed in the hospital. In two instances there was another child in the family ill with the same disease. Six began with a cough. In ten there was a history of vomiting, which was usually accompanied by convulsions. Eight had convulsions and fever. The temperature ranged between 102° and 106°, according to the stage of the illness, and would at times fall to normal for long periods, to be again followed by a rise. There was rigidity of the neck in 16 cases; in three cases there was no rigidity at any time. In two cases the fontanelle was depressed; in two it never bulged. *Tache cérébrale* was present in 16 cases; not recorded in four cases. The pulse was irregular at some time in 13; regular in seven. It was irregular and slow in only one case, a child of three years. The respirations were noted as Cheyne-Stokes in one case; as regular in 13 and irregular in six. There was apathy and iritability in all cases. Kernig's sign was present at some time in 16 cases; it was absent throughout in four cases, of which three were fatal and one recovered. Babinski's sign was noted in one case. There was no record of Macewen's sign. Petechiæ were observed in three cases, and bilateral herpes in one case, an infant of seven months. Opisthotonus was present in 12 cases; absent in eight. Tremor was present in four cases. Wasting or marasmus was absent in all cases. The length of the disease varied from four days to four months. The earliest case began, according to the history, in January; 12 cases began in April and May. Death occurred in 16 cases; two were apparently completely cured; one case developed a chronic hydrocephalus and one was lost sight of. Of the two that recovered, one had the disease for three months and one for 43 days.

Dr. Northrup showed the temperature chart of a case of cerebrospinal meningitis in which death occurred after 135 days' illness. The patient was a girl, 14 years old, of a particularly robust type, who was very fond of horseback riding. Her illness came on suddenly. The eruption, the herpes on the lips, and the emaciation were prominent features of the case. Death occurred of exhaustion, in spite of every effort to increase the patient's ability to assimilate food. Dr. Northrup said that during the recent epidemic he had seen ten patients with the disease in private practice, and of these, eight died. Of the two that recovered, one went 107 days and the other 42 days. One was two years old; the other four. They had all the characteristic symptoms of the disease. Among the cases he saw at the hospital one child recovered, but was deaf, blind, and idiotic. The speaker said that the most marked peculiarity he had observed in the recent epidemic was the great variability and infinite variety of the symptoms.

Dr. William L. Stowell said that in one of the eight cases he had observed the patient recovered with an endocarditis. This began when the child had been ill about two weeks, and the endocarditis lasted about eleven weeks. The case went on to complete recovery. In another case, a child of 22 months, a choroiditis developed; this case died in convulsions after two and one-half months' illness. One patient recovered without any unusual manifestations or sequelæ. All the other children died. Dr. Stowell said that in a case which he saw during an epidemic several years ago there was apparent total blindness, but since then sight was gradually restored and was now practically normal, showing that atrophy of the optic nerve was evidently not complete. The mental condition of that child, however, was much impaired.

Dr. William M. Leszynsky said that during the recent epidemic he saw upwards of 30 cases, and the remarkable feature of the cases, to which one of the speakers had already called attention, was the variability of the symptoms. One patient, a boy of ten years, in whom the diagnosis was made only through lumbar puncture, had no rigidity, no loss or exaggeration of reflexes, and simply remained in a semi-conscious condition. He answered questions from time to time; his pulse was slow, his temperature subnormal, and death occurred in about four days. No autopsy was obtained. Another patient was a girl, who developed a lesion of the cornea, which probably was infected by herself, and which terminated in perforation and the loss of the eye. In this case the emaciation was so extreme that the skin ulcerated over the protruding pelvic bones. This patient also died. Dr. Leszynsky said he had made ophthalmoscopic examinations in all his cases as a matter of routine, and in only a few instances was an optic neuritis demonstrable. In several instances where a bad prognosis was given the patients made a complete recovery, without any sequelæ. He had not seen any cases of the fulminating type.

Dr. Northrup said he had seen one case of the fulminating variety in which death occurred within 20 hours after the onset of the disease. During that time the patient was a raving maniac. In another case, death occurred within 14 hours.

Dr. F. S. Fielder spoke of a case now in Bellevue Hospital which appeared to correspond to that referred to by Dr. Holt, in which there was a secondary hydrocephalus, with chronic basilar exudate. The child was taken ill about the 1st of May. The case was first supposed to be one of pneumonia, and from that drifted into cerebrospinal meningitis. On the 1st of June it was admitted to the Post-Graduate Hospital. The child was unconscious, and ran a very irregular, fluctuating temperature, ranging from 105° and 106° to normal. There was also diarrhœa and gastric irritability. Subsequently, Klebs-Loefiler bacilli were found in the nose and throat, and the patient was transferred to the Willard Parker Hospital. It remained there about five weeks in an unconscious condition, with marked retraction of the head and nystagmus, chiefly upwards, so that it was practically impossible to make an ophthalmoscopic examination. There was also contraction of the muscles of the arms, and the hands and feet were in a flexed position. The patient was subsequently transferred to Bellevue and now had some semi-lucid intervals. At the Post-Graduate Hospital, lumbar puncture was done several times. Four times the fluid withdrawn was clear, once it was turbid, and once bloody, but in no instance was the meningococcus positively identified. About the middle of September, lumbar puncture was again made and the meningococcus found in the serum. The child was still in the hospital and was believed to have a chronic basilar meningitis.

Dr. Henry Heiman referred to a few cases of cerebrospinal meningitis that occurred during the past summer in the wards of Dr. Koplik. One patient, after being under observation for over three months, developed symptoms of hydrocephalus with marked opisthotonus. This patient was treated by repeated lumbar puncture, the quantity of fluid withdrawn being gradually increased, up to 175 c.c. Most of the cases showed great fluctuations in the temperature. In one case seen in private practice, a boy of 16, the onset was of the fulminating character. Lumbar puncture was done, and a purulent fluid withdrawn. The meningococcus was found in this specimen. The boy made a complete recovery and had since returned to his home in Cuba.

Exemption for Fathers of Families.—The Czar has extended the decree originally exempting from service in the Far East reservists in the southern industrial districts who had more than three children, so that now its provisions cover the whole of European Russia.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held October 18, 1904.

Dr. CHARLES H. LEWIS, CHAIRMAN.

Specimen of Malarial Urine.—Dr. E. E. SMITH presented a specimen of urine which was passed during a paroxysm of malaria; it was very dark in color, due to the presence of oxyhæmoglobin. After the paroxysm had passed the urine became normal within two or three hours. The patient gave a malarial history, although no parasites were found in the blood. He said that the statement was usually made that the urine contained methæmoglobin during the paroxysm and not oxyhæmoglobin. When passed the specimen contained oxyhæmoglobin, although it soon turned to methæmoglobin.

Report of a Case of Appendicitis with Unusual Findings.—Dr. CHARLES H. LEWIS reported the case of a man, twenty-nine years old, who was admitted to St. Vincent's Hospital with the following history. Eight days prior to admission he had headache, anorexia, general malaise, nausea and vomiting. The vomiting was accompanied by pain over the epigastrium, which gradually extended and settled in the right hypochondrium. The patient described it as a severe, tight, oppressive pain, much increased on breathing. The patient was somewhat jaundiced. The temperature ranged between 104° and 100°, with irregular and sudden remissions. The prostration was great. On admission he was thought to have typhoid fever, and that diagnosis seemed to be warranted. On the first day of admission he could not sleep because of the pain, which extended over the whole abdomen. He complained of dull headache, constant thirst, depression of spirits, and felt very ill. The conjunctiva and skin were jaundiced. Petechial spots appeared over the abdomen and chest. The heart was pushed to the left and the breathing was shallow and intercostal on account of the painful diaphragmatic movements. The abdomen was moderately distended, and generally tender on pressure. There was muscular rigidity of both recti. The whole abdomen was uniformly tympanitic. The pulse was 96, temperature 103.2°, respirations 22, and leucocyte count 20,000. On the following day the temperature fell to 100°, the leucocyte count rose to 22,400, the jaundice became deeper, and the urine contained much bile. The case was then thought to be one of infective cholangitis, other biliary tract disturbance, or an intestinal toxæmia. Intestinal irrigations, anodynes and stimulants were given, but no new symptoms developed until death, which came three days later. At autopsy an abscess the size of a large orange in the cæcal region was found. The appendix was gangrenous and free in the cavity. The pelvis was partly filled with a sero-purulent fluid. There was a general peritonitis. The liver contained numerous abscesses, varying in size from a small pea to a hazelnut. The special points of interest were (1) date of beginning appendicitis, which ran on to abscess formation, its insidious onset simulating typhoid fever; (2) the multiple abscesses in the liver. He thought there was no doubt but that they were secondary and directly due to the appendicular abscess. (3) The situation of the pain in the epigastric and right hypochondriac region.

Dr. MORRIS MANGES said that in any case where a cholangitis was suspected the condition of the appendix should be investigated.

A Case of Filiaria Sanguinis Hominis.—Dr. MORRIS MANGES presented a patient, a laborer, twenty-five years of age, who had had some digestive trouble three and one-half years ago. About one year ago chyluria was noted. Three years ago he was in the Philippine Islands, when he noted some discolored urine. One year ago he was in Cuba, and six months ago, at Fort McKinley, filiaria was found. At present pains in the back and bladder appear about the middle of the night; he then passes white water, and is then all right and returns to bed. The filaria have only been found at these times. Dr. Manges presented a sample of the chylous urine. The microscopical examination of it showed fine points of emulsion, some red cells, and crenated white cells.

Two Cases of Duodenal Ulcer with Operation.—Dr. W. L. BAUER reported two cases in which the premonitory symptoms did not lead to a diagnosis of ulceration until perforation had actually occurred. In both cases operation was unfortunately deferred until general peritonitis had begun. Both patients died. The noticeable feature of the first case, besides the absence of all premonitory symptoms, was the close resemblance to gall-stone colic. In the second case, the history of distress after eating was suggestive of duodenal ulcer, but was obscured by the possibility of a simple alcoholic gastritis. In both cases the extreme severity of the pain was noticeable, as was the absence of hæmatemesis or melæna. In both cases the seat of tenderness was transferred after about twenty-four hours from the site of the lesion to the region of the appendix. This was presumably due to the gravitation of the ingested fluids into that region.

The Malarial Types of Infective Endocarditis.—Dr. WARREN COLEMAN of New York said that although cases of infective endocarditis simulating malarial fever had been reported from time to time for half a century, adequate attention had scarcely been given the subject. Such cases fell broadly into two groups, acute and chronic, the duration of the former being measured by weeks, of the latter by months. The following types of malarial endocarditis have been reported: double quotidian, quotidian, tertian, quartan, septan, mixed types, and irregular types. A single case might present during its course several of these types. The paroxysms might be identical with those of malarial fever. The onset also was often like a simple malarial attack. Dr. Coleman gave cases illustrative of the different types. He said that the diagnosis of a malarial form of infective endocarditis was often very difficult. Sometimes the heart gave neither signs nor symptoms. If the infective process had been grafted on an old valvular lesion there was not so much difficulty encountered, but the cryptogenic cases, or those giving histories of recent apparent malarial attacks, severely taxed the skill of the clinician. The patient may have been taking quinine, and attribute temporary interruptions to this drug. A complete examination of the blood would at once rule out malaria, but the presence of the malarial parasite did not necessarily exclude infective endocarditis. In this condition there was generally leucocytosis, the polynuclear leucocytes were increased, while in malaria, leucopenia was the rule except during paroxysms, and pigmented leucocytes were found in nearly all severe or fatal cases of malaria. The red cells showed much the same changes in both conditions. The recovery of the infective agent from the blood was often possible and always conclusive, provided no other nidus than the valves of the heart could be found. One notable feature of infective endocarditis was the strength of the patient between paroxysms. The classical picture of sepsis was lacking. The changes of type should be of much aid in diagnosis.

Dr. NATHAN E. BRILL asked if all cases of endocarditis were not infective. This pathological condition occurred in a great many diseases, and it was a well-established fact that endocarditis followed many bacterial infections, syphilitic, pneumonic, streptococcic, after scarlet fever, rheumatism, and many others. Although it had not been definitely determined that rheumatism was the result of any bacterial infection, many investigators had isolated a diplococcus usually associated with the disease, and he thought the bacterial origin of this might soon be determined. He referred to a patient seen in the wards of the hospital, who had erythema multiforme, tonsillitis, pains, pyrexia 103° to 104° F. One joint after another became involved. A petechial eruption soon followed the erythema multiforme, then appeared erythema nodosum. A blood

culture was made and diplococcus tenuis was found which, when guinea-pigs were inoculated, gave rise to arthritic pains and injured the valves. He asked how to explain such a case. It was an infective endocarditis. He deprecated the attempt to classify or to separate as distinct types clinical forms of a disease.

Dr. Morris Manges said that much confusion already existed in our classification of disease. He reported the case of a young woman, the daughter of a man from Trinidad, who was taken ill, and it was decided to take her to her home in Scotland. On the way she stopped in New York and he saw her. The diagnosis was very difficult. The blood was examined and looked suspicious, but could not be proven to contain malarial parasites. Of distinct value in making the diagnosis were the condition of the heart and a conjunctival petechia; in this case but one petechia was found. The rash did not appear until the patient reached her home in Scotland weeks afterwards. There was a decided leucocytosis. In acute cases he said one was easily misled, and the case he reported was one of the difficult ones to diagnose.

Dr. E. Libman believed that the cause of rheumatism had not yet been found, for it had not been proven that the diplococcus or streptococcus was the cause of rheumatism. In cases of mastoid infection one may have swellings of the joints, and such swellings may follow suppurations elsewhere. At present he thought it best to state that there was a group of cases resembling rheumatism clinically, due to a diplococcus or attended by a streptococcus infection. The diagnosis of endocarditis did not appear to him to be as simple as some supposed. The diagnosis may be made of bacteria in the blood on top of an endocarditis; there are cases of infections in the blood with a previous endocarditis, in which the bacteria did not affect the valves. This probably accounted for so many so-called cures of malignant cases of endocarditis.

Dr. Warren Coleman said he was following a precedent in regard to his treatment of the malarial types of endocarditis, for this type had been known for half a century. Because they are frequently mistaken for cases of malaria, it was well to emphasize the fact that there are cases of septic endocarditis which follow malarial attacks and paroxysmally. With regard to petechiæ occurring, he did not attempt in his paper to give the differential diagnosis as a whole, but only to differentiate malarial types from malaria itself.

The Present Status of the Clinical Value of Laboratory Tests as an Aid to the Practitioner.—Dr. John S. Thatcher said that the delight of medical work rested upon the variety of things it included, all the resources of nature being called upon to aid in the practice of medicine. In diagnosis there was no department of science that was not called upon, chemistry, physics, instruments of precision, biology, in fact, every department of science. As a result there was an enormous armamentarium in diagnostic work. He said he would attempt a brief review of the different kinds of assistance which the laboratory offered the general practitioner, some being old and some quite recent.

Examination of the Urine.—This was done for the detection of inflammatory or neoplastic conditions. We were also learning something regarding the clinical manifestations of abnormal metabolism, and the various forms of intoxications. Tests for sugar, acetone, indican, ethereal and fixed sulphates, uric acid, urea, the diazo-test, all throw some light upon changes in metabolism or intoxications. The determination of the ratio between the uric acid and urea was of value. The functional activity of the kidneys could be determined, although this did not seem to be of any great value in the ordinary practice of medicine.

Examination of the Fæces.—This gave interesting results, especially in those cases, so often seen at the hospitals, which gave all the appearances of pernicious anæmia; an examination of the fæces often revealed an abundance of eggs of intestinal parasites, and permitted a vigorous treatment, and elimination of the nematodes soon resulted in the cure of the patients. Testing for blood threw light upon certain diseases in which there had been slight hemorrhages in different parts of the intestinal canal.

Examination of the Blood.—The examination of the blood for hæmoglobin and red cells was not of great importance, because by simply looking at the patient one could, as a rule, readily tell whether the patient was anæmic or not. On the other hand, counting the leucocytes was very important, because it helped us very much in differentiating various diseases, such as typhoid fever, anæmia, malaria, sepsis, etc. This was especially valuable in differentiating the infectious diseases, such as scarlet fever from measles. Much was promised from the chemical examination of the blood when taken in considerable quantities. The bacteriological examination of the blood revealed much that was of diagnostic value. Blood could be obtained even from the spleen without disturbance to the patient; Dr. Osler had obtained blood from the spleen in more than 300 cases without injury to the patients. In typhoid fever blood so taken showed cultures of the typhoid bacillus in 90 per cent. of the cases. Blood cultures from veins had given many observers 80 per cent. positive results. One observer in forty-three cases of typhoid fever obtained positive results in every case. Better results were obtained with higher dilutions. The search of the blood for the pneumococcus had been successful, and this was best done with low dilutions. Positive findings in syphilis and rheumatism still remain *sub judice*.

The Diazo-Reaction.—This seemed to be more highly thought of now than formerly. In over 1,000 cases positive results had been obtained in over 80 per cent., and in fifty cases at the Johns Hopkins Hospital it was positive in 77 per cent. during the first week of the disease. In the second or third week of typhoid fever the diazo-reaction indicated that things were more serious. When found in pneumonia it gave a bad prognosis. It was to be regretted that the diazo-test was to be had in so many other conditions, yet the fact remained that finding a positive diazo-reaction in doubtful cases aided greatly in the diagnosis, especially if measles and certain forms of tuberculosis be excluded.

Widal Reaction.—In 5,000 cases collected by Brill, positive results were obtained in 98 per cent., and in a series of 100 cases collected consecutively by Dr. Tuttle, positive reactions were found in from 95 per cent. to 98 per cent. Since then the percentages had not been so high. In the presence of jaundice the Widal test often gave positive results. In doubtful cases of typhoid it was very strong presumptive evidence. He said that it had lately been modified by using an emulsion, a suspension of dead typhoid bacilli; this gave a test which could be used, and in solutions which could be kept for many months, and without any danger in carrying the solution about.

An examination of the spinal fluid was often profitable, although much of the work done so far that had been published was of little value. In exudations and transudations from the pleura and peritoneum the leucocyte count was of value, especially in making a diagnosis between tuberculous and other forms of exudates. Knowledge of infectious diseases was only advanced by bacteriological examinations. A correct classification of fevers by bacteriological work was the foundation upon which our knowledge of treatment must be based.

Dr. Andrew H. Smith said that the estimate placed upon the various methods of diagnosis seemed to militate against the general acceptance of them, and it meant that many men were in danger of losing their fine sense of diagnostic discrimination. The clinicians were likely to throw this work upon the laboratory men, and so neglect that close observation which was at the bottom of correct diagnoses.

Dr. W. Gilman Thompson said that the whole question was becoming quite a serious one, because it was leading to the development of an entirely new type of medical men,

who look upon the laboratory as the royal road to learning, and, in many instances, he thought it was a grave mistake. In making a diagnosis at the bedside one should keep to the ordinary methods, and not rely too much upon the results of laboratory work. Only experts should make the laboratory tests, and of this he was more and more convinced. He protested against making a diagnosis from a single examination of the gastric contents. He had seen many cases of tuberculosis in which the tubercle bacilli were not found until after four or five examinations were made.

Dr. Lewis A. Conner said that it had been his experience that the oldest and most widely known methods of examinations of the urine had given the most unsatisfactory results. He looked upon the ordinary urinary examinations as being almost valueless. Six out of ten patients in the hospital will show albumin and a few casts.

Dr. Louis Faugères Bishop said that what was very much needed was to have the clinical pathology more easily available, *i. e.*, so arranged that the examinations could be made by experts and without very great expense. He suggested that young men late from college might be given this work while waiting for practice.

New Instruments.

AN ADAPTATION OF THE HÆMACYTOMETER AND OUTFIT TO THE NEEDS OF THE PRACTICING PHYSICIAN.

By FRANK WILLIAM SMITHIES, M.D.,
CHICAGO, ILL.

However much or little the varieties of hæmacytometer, at present upon the market, may differ in construction, they all resemble each other in at least one important particular, namely, in their total unfitness for use by the physician in active practice. Blood-counting—especially the estimation of the white-cells—has become so great a factor in diagnosis that even in general practice the physician frequently finds it necessary to carry his "blutkörperzahlapparat" to the patient's bedside and secure the desired sample. It is then that, even with the best apparatus available, those difficulties are encountered which have led so many medical men to discard blood-counting as wholly impracticable for the busy physician. In the present state of affairs, he must carry his diluting fluids in small bottles, lying loose in his satchel, or in his several pockets; his puncturing needle is usually anywhere but at hand, and, finally, when, after various exasperating experiences, the desired blood has been obtained,

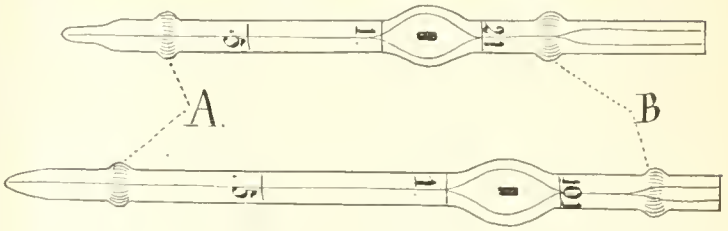

Fig. 2.—Tubes, showing glass rings A, B, near each end.

the last spark of scientific enthusiasm is extinguished by his having to carry his glass tubes back to the office, held carefully in one hand, while driving with the other. The tubes may not be returned to the case, for, if they are, the leakage that invariably occurs, particularly from the white-cell tube, is so great that all semblance of accurate dilution is lost. As a result, the count is utterly worthless—nay, it is often worse than this, for, if the leakage pass unnoticed, grave clinical mistakes may be made.

After many trying experiences along the lines above indicated, the writer has planned several modifications of the hæmacytometer and outfit at present in use. Briefly, they are:

1. A case of convenient size for pocket or satchel, containing everything requisite for obtaining samples of blood.

2. Hæmacytometer tubes, slightly modified in construction, to enable the adjusting of

3. Small rubber-caps, of peculiar structure, to close the ends of each tube, after the dilution of the sample blood, and thereby prevent leakage.

In detail, the outfit is constructed as follows:

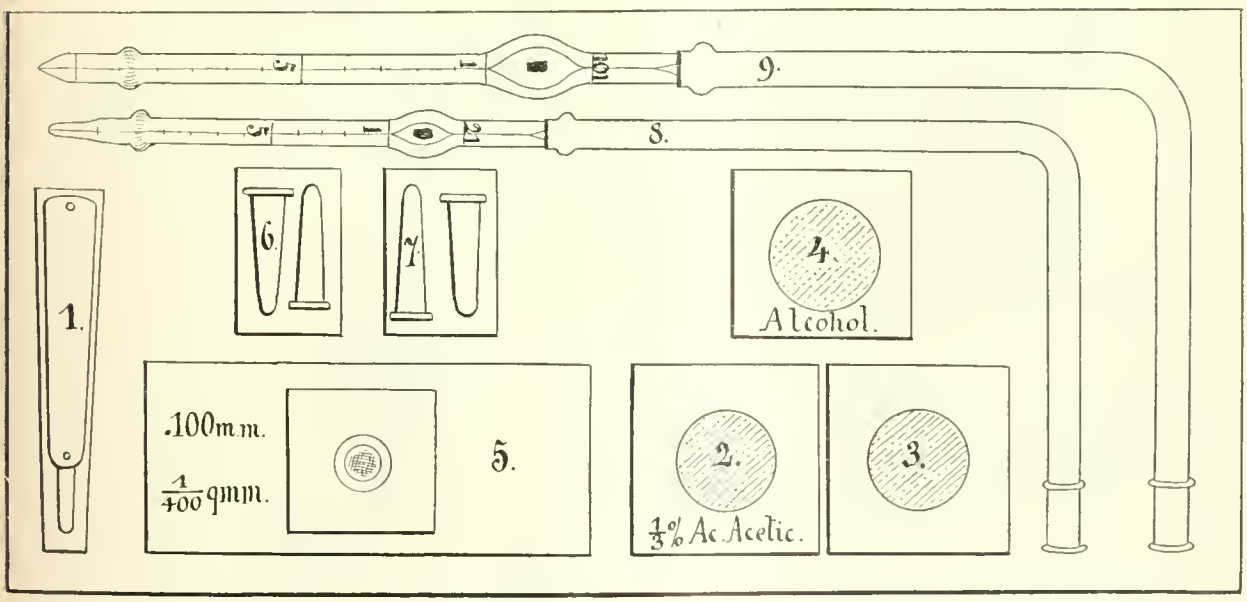

Fig. 1.—Plan of Case I. 1, Puncturing needle; 2,3,4, dilution caps; 5, counting slide and cover; 6, white-cell counter end-caps; 7, red-cell counter end-caps; 8, 9, counting tubes.

1. The case (Fig. 1) is of wood, leather-covered and velvet-lined. It is 8½ inches long, 4 inches wide, and about 1½ inches thick. It contains grooves for the glass and rubber-tubes and the counting slides, as do other hæmacytometer-boxes, but differs from them in having three wells, 1¼

inches square, into which fit small glass cups, with ground-glass stoppers and metal screw-caps, which are designed to hold the diluting fluids, viz., 1-3 per cent. acetic acid, Hayem's or other fluid, and dilute alcohol, for cleaning purposes. The acetic acid and the alcohol cups are so marked, the remaining cup

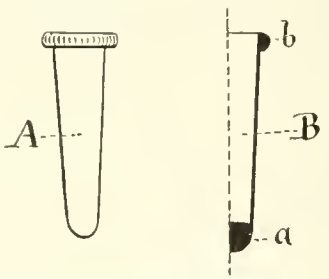

Fig. 3.—End-caps; A, outline of cap; B, sectional view, (*a*) solid rubber at blind end, (*b*) solid rubber edge.

is left unmarked, to be used at the pleasure of the owner. In addition to these wells, the case has a groove made to hold a folding puncturing-needle, and also two small grooves to carry the rubber end-caps, above mentioned. The snug relation of all parts is seen by consulting the illustration.

2. The counting-tubes (Fig. 2) are modified only externally. Three-fourths of an inch from each end of each tube is a raised ring of glass. This protrudes about one-eighth inch. Its purpose is to hold securely.

3. A small rubber cap (Fig. 3), made to fit closely over the ends of each tube. These caps are of thin but strong rubber throughout, except at their blind ends, where they are solid for one-eighth inch, and at the open ends, where the edges are thickened in the form of a band. The solid extremity acts as a pad to prevent snipping of the glass at the ends of the counting-tubes. It is also capable of being removed while the end-caps are being adjusted, and thus prevents back-flow into the tubes. The rubber-caps which are made to fit the red-cell tubes are colored red and those for the white-cell tubes are colorless. In this way the same caps are always used on the same tube, and even the slightest mixing of the diluting fluids is prevented.

The advantages of this outfit will be seen to be many and obvious. The physician has constantly at hand everything necessary for a blood-count. We have all seen cases—*e.g.*, is it typhoid fever or appendicitis?—when we would have given much to have had available at the bedside materials with which to secure blood for a white-cell count. With this modified hæmacytometer, the necessary dilutions may be made, the rubber-tubing removed, the rubber end-caps adjusted, the counting-tubes replaced in their case, and the drive to the office made in comfort, the practitioner knowing that his dilutions will still be accurate when he arrives there. It is to be hoped that the adoption of this modification will lead to the more general use of hæmacytometers, and that, as a result, much valuable material may thereby be added to the science of hæmatology.

7810 Lowe Avenue.

An Illustrious Colleague.—It is not generally known that M. Combes, the French premier, is a doctor by profession, and still retains his old copper nameplate "Docteur Combes" on the front door of his house at Pons. While not in active practice he never refuses his aid to such of his old townspeople who ask it, and he says he is more gratified by a victory over disease than by success in some political combat. He is also an ardent student of foreign languages and a devotee of the bicycle.

SOME SUGGESTIONS ON THE TREATMENT OF TALIPES.*

By M. M. EDMONSON, M.D.,
KANSAS CITY, MO.

The importance of this subject is emphasized by the fact that a very large proportion of the cases seen by specialists have been treated previously, in many cases three or four operations having been performed, and we also see aggravated cases in the adult that have never been corrected. These facts indicate very clearly that some of the essential features in the successful treatment of this deformity have not been overcome. I refer especially to Talipes varus and equinovarus, as these forms include a very large percentage of deformities of the feet. The cause of failure, I believe, has been due primarily to the incomplete reduction of the deformity at the time of the operation, either by tenotomy or forcible reduction by the Lorenz method, and, secondly, to the inability of the surgeon to prevent a relapse during the necessary period required by the weakened set of muscles to regain the power requisite for the performance of their natural function. In referring to the first cause of failure, I recall the emphasis laid on the necessity of overcorrection by my preceptor, Dr. Lewis A. Sayre. To attain this end we now have the experience of Dr. Lorenz to aid us, and its great value is especially shown in these cases, as it demonstrates the amount of force that we can safely use, if properly directed. A division of tendons alone is not sufficient, as all the tissues are contracted, and in moulding the foot by force all the tissues are stretched, to conform to the new position, so that we have much less tension than under the older method. However, if force is not sufficient we should cut and keep on cutting until the foot is overcorrected, so that little or no force is required to hold the corrected position. If inability

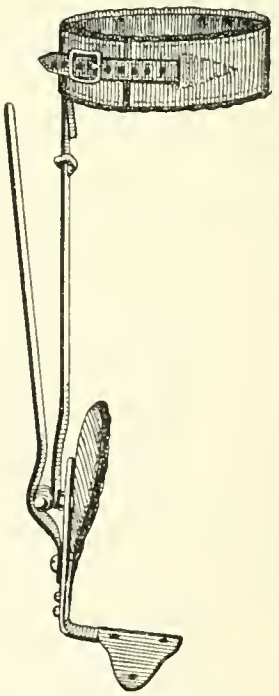

Fig. 1. Clubfoot brace.

to accomplish this has been the cause of failures in twenty-five per cent. of the cases, I believe fully fifty per cent. of the relapses are due to the ineffectiveness of the after-treatment. At this point I would emphasize the value of patience and persistence in the class of chronic cases that come within

*Read before the Hodge Medical Society, Butler, Mo., July 7, 1904.

the domain of Orthopedic Surgery. And no less would I emphasize the necessity of looking closely after the details of treatment, as the neglect of some

Fig. 2. Same child as in Fig. 3, before treatment.

apparently unimportant point may result in failure. The fact that it is not often a life or death matter does not justify us in the thought that we can operate again. The suffering incident to forcible correction, and the inconvenience to the family, should incite us to our best efforts. This applies to all cases in which there is a possibility of relapse, but more especially to cases of talipes. As it has been truly said that a "half cure in these is no cure."

In many cases the treatment is only begun when the foot has been corrected, for the muscles involved are not only weakened, but, from the malposition of the foot, are elongated, and the ligaments, fascia, and distorted bones must assume their proper relation and function before a cure is perfected.

If the above deductions as to the cause and frequency of relapse are true, then the form of retentive appliance we use should be of prime importance. To obtain the best functional results the following conditions should be met: (1) A mechanism that will hold the foot in its corrected position. (2) It should have free motion at the ankle, thus permitting exercise and development. (3) It should be simple in construction and made thoroughly durable.

Without in any way criticising the club-foot shoes and braces at present in use, I can only say that they have not met the requirements in my hands. When cases can be under one's direct supervision and the brace kept in good repair, they might prove satisfactory. But this is not feasible in a great number of cases, as it requires from one to two years before all danger of a relapse has passed.

About two years ago I had made the brace here pictured (Fig. 1). It consists of the main upright bar, with a universal joint at the ankle, bent at the lower end, and flattened out broadly to attach to the shoe. At the upper end it is fastened firmly to a band encircling the leg below the knee. Between the joint and the ankle and the lower end of the brace there is a strong steel spring, so riveted as to permit motion; this is curved out sharply to pass over the joint and extends to the upper end of the brace below the band, where it is held in position by a small sliding clamp. The size of the brace and the strength of the spring should be proportionate to the age and development of the child.

In the child in arms I use a sole of aluminum or German silver, strapping the heel and toes. In these cases if there is a tendency for the tendo Achillis to contract, an elastic running from the outside of the foot-plate to the uper end of the brace will prevent this. I have never found this necessary in the walking case, the weight of the body being sufficient to prevent contraction. As can be

Fig. 3. Child with clubfoot after the correction of its deformity and application of the brace.

readily seen, the important feature of the brace is the spring, which everts the foot, and in this position the ankle is more easily flexed.

Rialto Building.

Horseflesh Causes Typhoid.—It is reported that the origin of the typhoid epidemic which prevailed in Berne, Switzerland, during the latter part of the summer has been traced to certain horseflesh served at the cheap restaurant in the poorer part of the city. This horseflesh, it is said, was bought from the Bacteriological Institute, where the animal had been subjected to experiments with typhoid bacilli. The charge has created general indignation, and a searching inquiry into the whole affair has been demanded of the Berne sanitary authorities.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgement will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Saunders' Question-Compends. Essentials of Medical Chemistry, Organic and Inorganic. Containing also questions of Medical Physics, Chemical Philosophy, Analytical Processes, Toxicology, etc. By Lawrence Wolff, M.D. Sixth Edition, Thoroughly Revised. By A. Ferree Witmer, Ph.G. 12mo, 225 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $1.00 net.

Examination of the Urine. By G. A. De Santos Saxe, M.D. 12mo, 391 pages, illustrated, leather. W. B. Saunders & Company, Philadelphia. Price, $1.50 net.

A Text-Book of Clinical Diagnosis by Laboratory Methods. By L. Napoleon Boston, A.M., M.D. 8vo, 547 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $4.00 net.

The Medical Epitome Series. Nervous and Mental Diseases. A Manual for Students and Practitioners. With an Appendix on Insomnia. By Joseph Darwin Nagel, M.D. Series Edited by Victor Cox Pedersen, A.M., M.D. 12mo, 276 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia, Pa. Price, $1.00 net.

Refraction and How to Refract. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, Etc. By James Thorington, A.M., M.D. Third Edition. 8vo, 314 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price $1.50 net.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D. Vol. 3. September, 1904. 8vo, 284 pages, illustrated, paper. Lea Brothers & Co., Philadelphia.

A Manual of Practical Medical Electricity, the Röntgen Rays, Finsen Light, Radium and Its Radiations, and High-Frequency Currents. By Dawson Turner, B.A., M.D., F.R.C.P., M.R.C.P. Fourth Edition. 8vo, 435 pages, illustrated, muslin. William Wood & Company, New York. Price, $4.25 net.

Saunders' Question Compends. Nos. 3, 7, 20 and 21. Essentials of Anatomy. By Chas. B. Nancrede, M.D. Seventh Edition. 12mo, 419 pages, illustrated, muslin. Price, $1.00. Essentials of Materia Medica and Therapeutics. By Henry Morris, M.D. Sixth Edition. 12mo, 295 pages, muslin. Price, $1.00. Essentials of Bacteriology. M. V. Ball, M.D. Fifth Edition. 12mo, 343 pages, illustrated, muslin. Price, $1.00. Essentials of Nervous Diseases and Insanity. By John C. Shaw, M.D. 12mo, 196 pages, illustrated, muslin. Price, $1.00. W. B. Saunders & Company, Philadelphia.

New Methods of Treatment. By Dr. Laumonier. Translated and Edited by H. W. Syers, M.A., M.D. 12mo, 321 pages, muslin. W. T. Keener & Company, Chicago. Price, $2.50 net.

A Text-Book of Quantitative Chemical Analysis by Gravimetric, Electrolytic, Volumetric and Gasometric Methods. By J. C. Olsen, A.M., Ph.D. 8vo, 513 pages, illustrated, muslin. D. Van Nostrand Company, New York. Price, $4.00.

A Manual of Experimental Physiology for Students of Medicine By Winfield S. Hall, Ph.D., M.D. 8vo, 245 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia.

Die Wirkungen von Arzneimitteln und Giften auf das Auge. Von Dr. L. Lewin und Dr. H. Guillery. Band 1. 8vo, 857 pages, illustrated, paper. August Hirschwald, Berlin.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D. Vol. 3. Fourteenth Series, 1904. 8vo, 302 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia. Price, $2.00 net.

The Essentials of Chemical Physiology for the Use of Students. By W. D. Halliburton, M.D., F.R.S. Fifth Edition. 8vo, 224 pages, illustrated, muslin. Longmans, Green & Company, New York.

A History of Columbia University, 1754-1904. Published in Commemoration of the One Hundred and Fiftieth Anniversary of the Founding of King's College. 8vo, 493 pages, illustrated, muslin. The Macmillan Company, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 5, 1904:

	Cases.	Deaths
Measles	70	5
Diphtheria and Croup	304	23
Scarlet Fever	178	9
Small Pox	2	.....
Chicken Pox	72	.....
Tuberculosis	344	150
Typhoid Fever	91	19
Cerebro-Spinal Meningitis	.....	5
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,061	211

Differenees of Belief.—One of the fundamental differences between faith curists and Christian Scientists is that the former believe that there is such a thing as disease, but that it can be cured by spiritual faith and prayer, whereas the latter believe that disease has no existence except in the imagination of the patient.—*The Globe.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the period from October 29 to November 4, 1904:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
California, San Francisco	Oct.	15–22	1	..
Illinois, Chicago	Oct.	22–29	14	..
Michigan, at 50 Places	Oct.	15–22		(Present.)
Grand Rapids	Oct.	22–29	1	..
Minnesota, Hennepin County	Oct.	17–24	11	..
Ramsey County	Oct.	17–24	5	..
Stearns County	Oct.	17–24	47	..
Missouri, St. Louis	Oct.	22–29	8	2
Pennsylvania, Philadelphia	Oct.	22–29	1	..
Tennessee, Memphis	Oct.	22–29	1	..
Wisconsin, Milwaukee	Oct.	22–29	9	..

SMALLPOX—FOREIGN.

Africa, Cape Town	Sept.	17–24	4	..
Austria-Hungary, Prague	Oct.	8–15	7	..
Belgium, Brussels	Oct.	8–15	..	1
Brazil, Bahia	Oct.	1–8	21	2
China, Hongkong	Sept.	10–17	1	1
				(Imported.)
France, Paris	Oct.	8–15	10	..
Great Britain, Glasgow	Oct.	14–21	1	..
Leeds	Oct.	8–22	4	..
Manchester	Oct.	8–15	1	..
Newcastle-on-Tyne	Oct.	8–15	5	..
Nottingham	Oct.	8–15	2	..
India, Bombay	Sept.	28–Oct. 4	4	..
Italy, Palermo	Oct.	8–15	11	2
Russia, Moscow	Oct.	1–8	3	2
Odessa	Oct.	8–15	1	..
St. Petersburg	Sept.	25–Oct. 8	11	1
Spain, Barcelona	Oct.	10–20	..	2
Turkey, Alexandretta	Oct.	10		(Epidemic.)
Beirut	Oct.	8–15		(Present.)
Constantinople	Oct.	2–17	..	39

YELLOW FEVER.

Cuba, Punta de Sal, Santiago	Oct.	24	1	..
Ecuador, Guayaquil	Sept.	30–Oct. 5	..	1
Mexico, Coatzacoalcos	Oct.	15–22	2	2
Merida	Oct.	16–22	1	..
Tehuantepec	Oct.	16–22	1	..
Texistepec	Oct.	16–22	53	5

CHOLERA.

India, Bombay	Sept.	27–Oct. 4	..	7
Madras	Sept.	24–30	..	1
Persia, Enseli	Oct.	17		(Epidemic.)
Resht	Oct.	17	120 to 140 deaths daily.	
Senemditah	Oct.	17		(Epidemic.)
Russia, Trans Caspian District	Sept.	17–29	44	23
Turkey, Bagdad and vicinity	Sept.	12–26	1513	1017

PLAGUE.

Brazil, Bahia	Oct.	1–8	..	1
China, Hongkong	Sept.	10–17	4	4
Egypt, Alexandira	Sept.	10–30	12	8
Port Said	Sept.	17–23	1	..
Great Britain, South Shields	Sept.	19	1 case on S. S. *Bishopsgate* from Rossario, via Hamburg.	
India, Bombay	Sept.	27–Oct. 4	..	80
Karachi	Sept.	25–Oct. 2	14	8
Mauritius	July	8–Aug. 4	8	6
Peru, Eten	Oct.	8		(Present.)
Lima	Sept.	1–Oct.	13	..
Pacasmayo	Oct.	8		(Present.)

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Original Articles.

THE BACTERIA OF THE STOMACH.

BY E. PALIER, M.D.,
NEW YORK.

UNDER the direction of Prof. Ficker of the Hygienisches Institut der Kgl. Universität, Berlin, I commenced at that institute a systematic series of researches into the bacteria of the stomach. Work in this field, it is true, has been done before, but it has been done in a desultory manner, and is of no practical value. From the work that has been done before one cannot tell what microbes are found in such and such a condition of the stomach, and it cannot thus be made use of for the purpose of clinical diagnosis.

Thus, Mathieu[1] refers to numerous bacilli that have been isolated from the stomach, but from the description given by the authors quoted by him one could not say precisely in what condition of the stomach the mentioned bacilli were found. According to Lesage, there are more microorganisms in hyperchlorhydria with alimentary stasis than in hypochlorhydria, a result which Mathieu thinks could not be expected theoretically, as the reverse might be expected *a priori*. My results will show how far they agree with the statement of Lesage.

The works on bacteriology are not more explicit on this subject. Thus, the statement is usually found in them that such or such a bacillus was found in a person suffering from dyspepsia; but as we know dyspepsia is not a disease, but only a symptom, the same as cough, for instance.

Without wasting any more space on quotations which will not clarify the matter, I will pass over to a description of the methods which I have employed and the results obtained.

In Berlin, my bacteriological examinations extended over six samples of gastric juice; but since then I have examined seven more, in all thirteen cases; and the results obtained have been so uniform in some respects that I feel justified in publishing them in spite of the comparatively small number of cases examined.* The samples of gastric juice examined in Berlin consisted of three cases of cancer of the stomach, one case of hypochlorhydria, or hypoacidity, as the Germans call it, and two cases of hyperchlorhydria, or hyperacidity, of the stomach. I will deal with these six cases first, and afterwards with the other cases which I examined later. The samples examined abroad were obtained from cases at the polyclinic of Prof. Ewald, and the clinical diagnosis was established there after long and careful observation; it can, therefore, be taken for reasonably certain that the clinical diagnosis was correct.

I will not, therefore, describe these cases in detail, but will only say that of the three cases of carcinoma ventriculi, one was in an old woman and one was in an old man, and tumors could be distinctly felt in the epigastric region. The third case was in a man of about 38 years, and the disease was in its incipiency. A tumor could not be distinctly felt in this case, but only some resistance and pain in the epigastric region. These are, indeed, cases which are frequently mistaken for gastritis anacida; but Prof. Kutner, at Ewald's clinic, arrived in this case at the diagnosis of carcinoma ventriculi after a careful study of the case, and I think we can accept this diagnosis as reasonably certain. The bacteriological findings in this case were similar to those of the other two cases, which is very interesting and important.

The case of hypochlorhydria was in a young chlorotic girl of nineteen, and the diagnosis was established also after careful observation. The two cases of hyperchlorhydria were in two middle-aged men, and were clear cases of chronic ulcer of the stomach.

The other samples of gastric juice which I subsequently examined I obtained from my own patients in New York, and these cases will be described in greater detail when we come to them. I shall first describe the methods used and the results obtained in the first six samples of gastric juice.

Cultures were made on neutral agar-agar and on gelatin, both in test-tubes and in Petri dishes. I shall first relate the results of the three cases of carcinoma ventriculi. On agar-agar in Petri dishes by smear, at 39° C., colonies of bacteria appeared in 24 hours; in 48 hours the colonies reached their full development. The same took place in agar slant test tubes by smear. In sugared agar by stab the culture grows along the whole stab, till the bottom of the tube, giving rise to a growth resembling a thick, coarse thread, and on the surface of the agar at the stab there is also an outgrowth. On gelatin, which, of course, must be kept at a lower temperature, there is no growth the first few days; but in sugared gelatin by stab there appear whitish points along the stab, at intervals. The growth is evidently very poor at a low temperature. On the top of gelatin at the stab there is a small growth. In plain gelatin, in Petri dishes, no growth at all the first few days, but later a few colonies appear. No fungi make their appearance in test tubes; but in Petri dishes in gelatin fungi appear in a week or so. On agar they do not appear at all. As the Petri dishes were opened for examination it is reasonable to suppose that the late appearing fungi were derived sooner from the air than from the inoculated stomach contents. I must say now that this absence of fungi in the cultures from all the three cases of carcinoma ventriculi is extremely characteristic, and is quite the opposite of what took place in all the samples examined, and this I consider of great importance; but I will revert to it again and deal with it more fully. As was said before, the bacterial growth is poor on gelatin, but is rich on agar-agar. The optimum of temperature is 39° C.

We shall now take up the several microorganisms which I was able to isolate. On agar in Petri dishes one can see by the appearance of the colonies that

*Since the above was written I have examined many more cases, and have found bacteriological findings similar to those described in the text.

there are several kinds of bacteria. Not to waste space on unnecessary description, I will say that in one case of carcinoma ventriculi the staphylococcus pyogenes aureus and in another case the staphylococcus pyogenes albus grew in abundant colonies in Petri dishes on agar. I have isolated them and obtained pure cultures in test tubes on agar slant.

In the third case—that of the middle-aged man mentioned above, in whom a distinct tumor could not be felt—colonies similar to those of the staphylococcus pyogenes albus appeared in agar, but the colonies were of a whitish-creamy appearance and much moister than those of the staphylococcus pyogenes albus. Unstained in a hanging drop, they were big, somewhat oval cocci, and appeared morphologically very much like the micrococcus prodigiosus, for which I was at first inclined to take them; the more so that some authors claim to have isolated this microbe from the stomach, though they don't say in exactly what condition of the stomach; and it is also stated[2] that this microbe sometimes loses its red color in successive cultures. But I have isolated the colonies in question and obtained pure cultures, and on examining microscopically the third generation they proved to be nothing else than staphylococci, which stained very well according to the method of Gram. In a fourth generation, which I subsequently obtained by reinoculation, many individuals assumed the shape of round diplococci. The creamy-whitish appearance of the colonies, the morphological form of the microbe of the third generation, and its being Gram positive, distinguish it sharply from *Micrococcus prodigiosus*, for which I mistook it for a while, and I have no doubt that it is a staphylococcus. I say *a* staphylococcus, and do not say *Staphylococcus pyogenes albus*, because, though it is very similar to this, yet its moist growth and big oval appearance in the first generation leads to the presumption that it is akin to the other, but has undergone some change, owing to the peculiarities of the medium from which it was obtained.

I said above that on sugared agar by stab, a rich colony grew at the top. In two cases I found the colonies to be typical staphylococci. In the third case, namely, that of the middle-aged man, the colony was the same as those found in agar in Petri dishes described above, viz., a moist, creamy growth, which, under the miscroscope, was seen to consist of big oval cocci. But in further cultures they also proved to be staphylococci.

In all the three cases of carcinoma ventriculi, then, staphylococci were found in great abundance.

This is also of great importance. Indeed, it is said that the presence of some pus globules in the gastric juice is a valuable sign in the diagnosis of carcinoma ventriculi, which, of course, must be taken in connection with other signs. The detection and identification of pus corpuscles in the gastric juice, however, is not an easy matter, unless the pus is in great abundance; but it is comparatively easy to make cultures and detect the staphylococci.

In one of the three cases there were a few colonies of yeast on agar-agar in the Petri dishes. It is usually stated that yeast is absent from the gastric juice of carcinoma ventriculi; this is indeed so in most cases, as yeast develops best in an acid medium, but as in carcinoma ventriculi there is usually a deficiency of HCl, there is also absence of yeast. But the fact is that in all cases of hyperchlorhydria, or even normal chlorhydria, I have been able to obtain yeast in cultures in neutral media, such as neutral gelatin and agar, as will be seen soon; and there is no reason why yeast should not occasionally be found in a stomach whose contents are neutral, or whose acidity is due to something else than free HCl. Besides, which is most likely in some cases, there may be some HCl, free or in combination, but the ordinary test may not be fine enough to show it, and yeast may thus develop. In a case diagnosed as one of cancer of the stomach, by Prof. Rosenheim of Berlin, at his polyclinic, there was also yeast present in the stomach contents, though the usual tests failed to show the presence of HCl. In two cases of hypochlorhydria soon to be described, there were also colonies of yeast. In short, yeast may be found in stomach contents which, by the usual tests, do not seem to contain HCl.

I will now take up the study of a microorganism about which a great deal has been said and written, namely, the so-called lactic acid bacillus, said to be found in cancer of the stomach. Boas[3] claims to be the first to have noticed it in the gastric juice of such patients, and claims that it is pathognomonic of this disease. He describes it in his book as a long bacillus, "sometimes motile, and sometimes non-motile." Riegel[4] also describes long bacilli, *Fadenbazillen*, found in the gastric juice of carcinoma ventriculi, and presents a picture of them as they appear in an unstained drop of gastric juice. Oppler,[5] a pupil of Boas, also lays stress on the presence of these bacilli in the gastric juice of carcinoma ventriculi, though he acknowledges that he was unable to obtain them in pure cultures. Kauffman[6] succeeded in obtaining them in pure cultures, and gives a rather incomplete description of them as they appear in pure cultures.

The bacilli in question assume in a drop of gastric juice a knee-shaped or elbow-shaped form, *i.e.*, two bacilli come together with their ends in opposition and form various angles.

I think it is absolutely needless to say that we can never identify any bacillus from the way it appears in a drop of fluid in an impure culture. A microbe to be identified must be first submitted to a series of tests. Many other bacteria assume the same form as the one in question. Thus, *Bacillus geniculatus*, *Bacillus scaber*, *Bacillus virgula*, found in cheese[7], morphologically resemble the so-called lactic acid bacillus of carcinoma ventriculi, as it is found in the gastric juice. Of course, no bacteriologist of repute would make a diagnosis of diphtheria, for instance, by simply examining under the microscope a drop of the exudate from a patient's throat. We are just as little justified in saying that we have such or such a microbe by simply examining a drop of the gastric contents under the microscope.

Boas's description of this bacillus as "sometimes motile and sometimes non-motile" is in itself indefinite. A bacillus is either non-motile or it is motile. A non-motile bacillus is always so, because it has no flagella; a motile bacillus is always motile in fresh cultures, though it may lose its motility in old cultures. The fact is, as is known to all, the motility or non-motility of a bacillus is one of the main characteristics by which it is identified. When, for instance, one should see a bacillus which in every particular resembles the diphtheria bacillus, except that it is motile, one should hesitate very much before pronouncing it a true diphtheria bacillus, which is known to be non-motile.

Without going any further into discussion, I will described the results obtained in cultures. It was said above that when a stab culture of the gastric juice of carcinoma ventriculi was made in a test tube of sugared agar, the bacterial growth extended along the whole stab and the top consisted of staphylococci. Breaking off the bottom of the tube, I expelled the mass, cut it open, and examined the bacteria from the bottom, and also made fresh cultures therefrom. The bacteria in a hanging drop present rod-shaped

individuals, some shorter, some longer, ranging from 2 μ to 6 μ in length, and about 0.5 μ in breadth. On the average, however, their length is about 4 μ. They do not form filaments, but are distributed singly or in very small groups. They do not appear to have spores, and are *always* non-motile, except occasionally a slight oscillatory motion. Frequently two of them come together with their ends in opposition, and form various angles, thus presenting a knee-shaped or elbow-shaped appearance. Similar bacilli are indeed seen in a drop of gastric juice of carcinoma ventriculi; but that these are the same bacilli we can only surmise, but we cannot affirm with certainty. The bacilli which I obtained in pure cultures are shorter than those which are seen in the gastric juice in question; but this may be due to a process of involution, as will be seen in another case.

I made successive cultures from the bacilli in question, till the sixth generation, and found that in grape sugared agar stab they grow along the whole stab, but from no outgrowth at the top. They also form some cracks in the agar, showing that they develop some gas. On agar slant by smear, the growth is extremely sparse. The colonies at the end of 48 hours at 39° C. are not numerous; they are fine, transparent and in size like pin points. When a stab innoculation into sugared agar is made from the agar slant, the growth again develops along the whole stab. This shows the bacillus in question to be an anaërobe, but since it slightly grows also on agar slant it is not a strict anaërobe. Its uniform growth in cultures, and its other peculiarities, soon to be described, show that we are dealing with a pure culture.

As to staining, it is stained easily by the ordinary stains, and is Gram positive. I have tried several times to bring out spores, but failed with the ordinary methods of staining. I believe these bacilli have no spores. In stained preparations their morphology is as follows: In the first and second generations they are of a rather straight, rod-shaped appearance, of the size stated above, with straight ends; but some of them assume a bent knee-shaped form, and some are even slightly curved. In successive generations the curved appearance predominates, so much so that some individuals are very much bent on themselves, and they look very much like the vibrio of cholera. I have found the same characteristics in all the three samples of gastric juice from carcinoma ventriculi, except that in one case, the first culture contained some very long individuals, which, however, underwent involution in successive generations.

Owing to the curved and knee-shaped appearance of this microbe, I think an appropriate name for it is *Vibrio geniculatus;* but in order to distinguish it from other geniculated bacteria, we may call it *Vibrio geniculatus ventriculi,* by which name I shall refer to it in the future.

I said that I found these bacteria in stab cultures; but I also isolated them from agar in Petri dishes. There they grow in fine, transparent, isolated, pinpoint colonies, nearly the same, in fact, as on agar slant. Under the microscope they are small, circular colonies, slightly opaque in the middle. Having thus isolated the bacillus in question from three cases of carcinoma ventriculi, I was for a while tempted to think, like the authors mentioned above, that it might in some way be the causative factor of carcinoma ventriculi, though *a priori* it is very unlikely. Indeed, it is very unlikely, and this objection has been raised before on similar occasions, that a microbe which grows with such comparative facility, in such a short time, should in any way be the cause of a disease which is more of a chronic than an acute nature. My further researches proved this objection to be true, as will be seen from the results obtained in other non-cancerous cases.

It will be remembered that among the first six samples of gastric juice examined there was one of hypochlorhydria. In this case I found the following: The gelatin in Petri dishes was overgrown in 48 hours with fungi. On agar, in Petri dishes, there appeared a few colonies of staphylococcus pyogenes aureus, colonies of oidium, and colonies which were similar to those of the vibrio geniculatus ventriculi described above. In sugared agar stab there was a growth along the whole stab, and a whitish abundant outgrowth at the top. On examining the growth at the top I found it to be an oidium, having the appearance of oidium lactis. On examining the growth from the bottom, after breaking the tube, I found it to be very similar to the vibrio geniculatus ventriculi, except that it has more of a straight than a curved appearance. It is also non-motile, is Gram positive, and evidently has no spores, as I could not bring out any by the ordinary methods of staining. On agar slant by smear they also grow in small, isolated colonies, though they are somewhat bigger than the colonies of the vibrio geniculatus carcinomæ ventriculi. The morphological appearance in the third generation, however, differed in this, that the bacilli in this case became smaller, lost their curved shape, had somewhat rounded ends and were lying in groups, forming little squares, having the shape of the bacillus mensentericus vulgarus. That it is not this bacillus can be seen from its cultural peculiarities.

In spite of some differences in the micro-organisms in question, after careful consideration I must say that they are evidently of the same type, which undergoes some change, owing to the peculiarity of the medium from which it was obtained. In two other cases of hypochlorhydria to be described soon, I also isolated a similar microbe. In order to verify the matter still further, I examined the bacteria developing in the putrefaction of food. As it would be out of the scope of this article to enter lengthily into the study of putrefaction, I will only say that in the putrefaction of meat I found in a drop of fluid examined under the microscope bacilli similar to the vibrio geniculatus carcinomæ ventriculi. In cultures I could isolate from the bottom of the tube in sugared agar stab a geniculate microbe, which was Gram positive. It differed only in this that it was slightly plumper in culture than the vibrio ventriculi. I found the same in putrefaction of egg albumin. Furthermore, I took a piece of cooked meat of about 2 c.c. and added to it in a test tube about 6 c.c. of filtered gastric juice from case C, to be described soon. The gastric juice in question, as will be seen soon, contained HCl, and reacted on congo paper well. After 48 hours, however, as digestion of the meat took place, the reaction on congo paper disappeared, and there appeared lactic acid in the test tube. On examining the fluid bacteriologically, bacilli similar to the vibrio geniculatus ventriculi were found. I repeated the experiment several times, and found it the same. If an excess of gastric juice is added to a piece of meat, and is again added 24 hours later, as digestion is taking place, so as to keep it strong enough to react on congo paper, these bacilli do not appear. By adding pepsine alone to meat and water in a test tube, similar bacilli appear in 48 hours, but few other putrefactive bacilli; whereas, by keeping meat and water alone in a test tube, about half a dozen kinds of bacilli soon develop there. If we add to a piece of meat a solution of HCl of about 2:1000, and add again a fresh solution a few days

later, so as to keep it strong enough to react on ordinary congo paper, few bacilli appear for a long time, and when they appear they are of a different nature, being similar to those which are found in hyperchlorhydria. The same when we use pepsin and HCl, provided we add a fresh solution of HCl as digestion takes place.

From the above simple experiments it will be seen that the vibrio geniculatus ventriculi will develop in any medium where there is a deficiency in HCl; or, in other words, it is rather a product of putrefaction or a putrefactive bacillus. But as will be seen from the above experiments, when there is a weak antiseptic present, such as a weak solution of gastric juice or pepsin alone, most of the putrefactive bacilli are hindered in their growth, and only the vibrio geniculatus ventriculi appears, which seems to be more resisting in this respect than the other putrefactive bacilli. Pepsin alone seems also to have some antiputrefactive power, as evidenced from the fact that when it is added to a test tube containing meat and water, only the bacilli in question appear at first, and the disagreeable putrefactive odor present in the tube containing only meat and water, as well as the many other microbes which appear soon are absent for some days, but do appear later, though not to such a great extent. The antiseptic power of pepsin, however, on the whole is very weak.

That is precisely what takes place in the gastric contents of carcinoma ventriculi. There are not found the many putrefactive kinds of microbes which are met with in the test tube containing meat and water alone; nor is there usually so much formation of indol in carcinoma ventriculi, as there is in unmitigated putrefaction. Evidently, then, either a trace of HCl, or the pepsin present, exercises some antiseptic powers in carcinoma ventriculi, as well as in hypochlorhydria.*

Now, Kauffman and Schlesinger[8] claim to have found the bacillus in question in 19 cases out of 20 of carcinoma ventriculi, and they wish to conclude therefrom that it is characteristic of this disease. Much as I would like to corroborate their statement, I think that from the facts stated above we must say that the presence of these bacilli show only a deficiency of HCl, and nothing else.

I went to such pains in dealing with the bacillus in question, because so much has been written about it, and in many polyclinics of gastrointestinal diseases abroad this bacillus is demonstrated and is said to be pathognomonic of carcinoma ventriculi.

Is it a lactic acid bacillus? Neither in the morphology nor in cultural peculiarities is the bacillus similar to the lactic acid bacillus of the laboratory, which is found in the fermentation of milk. The lactic acid bacillus of the laboratory forms on agar by smear a white pellicle, covering the whole surface, unlike the isolated, small colonies of the vibrio geniculatus ventriculi. Besides, their morphology is different, and the bacillus acidi lactici has spores.

Is it a lactic acid bacillus of another type? In my experiments on lactic acid formation, which cannot be dwelt on here, but which I will describe in another paper, I found that many bacteria, by their development, bring about lactic acid formation. That *Vibrio geniculatus ventriculi* does by its development help the formation of lactic acid I have found it to be a fact; but that it is not *the* lactic acid bacillus I am sure, for reasons which will be seen when we come to other cases of hypochlorhydria with the presence of lactic acid.

In addition to the vibrio geniculatus, I found in the cultures in Petri dishes a bacillus which seems to be the mesintericus vulgaris, and also a microbe which resembles the lactic acid bacillus mentioned above. But these latter have not been found in all the three samples examined. On milk the vibrio geniculatus ventriculi does not seem to have a coagulatory effect, for I could not succeed in coagulating sterilized milk with it.

To sum up, then, the bacteriological findings in these cases of carcinoma ventriculi: In all the three cases were found (*a*) staphylococci in abundance, and (*b*) the vibrio geniculatus; and all the three cases were marked by the absence of fungi or *Schimmelpilze* in cultures, of the kind that are usually met with in simple hypochlorhydria.

What is the cause of the absence of fungi? As will be soon seen, fungi were found in cases of hypochlorhydria; it cannot, therefore, be said that their absence in carcinoma ventriculi is due to the deficient acidity of the medium. Furthermore, as will be remembered, in a case of carcinoma ventriculi, I found a few colonies of yeast in the cultures, yet no moulds. In experimenting with the staphylococci, as to their effect on lactic acid formation, I found, contrary to the recent assertions that they do form lactic acid, that in certain media, such as cane and grape sugar, they not only do not by their presence increase the lactic acid formation, but, on the contrary, hinder it; which is not the case with many other microorganisms, especially the oidium lactis. In a watery solution of grape sugar, fungi and bacteria appear in a few days, and also lactic acid. But on addition of the staphylococci carcinome ventriculi, an amorphous precipitate forms on the bottom, and no lactic acid can be detected by the usual tests. And I surmised that the presence of abundant staphylococci in cancerous gastric juice was the cause of the absence of the fungi. To put the matter to the test, I exposed an open agar slant test tube of staphylococci, isolated from carcinoma ventriculi, before an open window for 24 hours; yet no fungi have appeared till now. It was contaminated by the micrococcus prodigiosus, the sorcina lutea and some other soprophytes, but not by fungi. When I leave in the same place other cultures, though they are well plugged with cotton, they invariably soon get covered with fungi. By oversight I had previously left for a long time another test tube of staphylococci from carcinoma ventriculi, among the abandoned cultures in the place mentioned above, and I noticed that it remained pure, whereas the other cultures were covered with mould. Furthermore, I inoculated a test tube of staphylococci ventriculi with the fungi from another test tube obtained from a case of hypochlorhydria, soon to be described under case 1, but no fungi appeared on the staphylococci. I am, therefore, inclined to the belief that the presence of staphylococci is a hindrance to the development of fungi. In the case of hypochlorhydria mentioned above, some colonies of staphylococci were found, and also fungi; but the staphylococci were few, and in sugared agar stab the top was covered, as said above, with oidium and not with staphylococci. Cultures of the vibrio geniculatus get easily contaminated with fungi, even when they are plugged with cotton.

The two cases of hyperchlorhydria, which, as will be remembered, form part of the six samples of gastric juice examined abroad, I will describe together with the other cases of hyperchlorhydria examined here, as the bacteriological findings were similar, and it will be best to describe them together.

In addition to the case of hypochlorhydria mentioned above, I examined three other samples of gastric juice of hypochlorhydria while here.

*The bacilli geniculati ventriculi give a slight indol reaction in some media.

The history of the three cases in question is briefly as follows:

Case I.—Man of 35, born in Austria; occupation, peddler; had been sick for about two years; previous history to illness in question negative. Physical examination, heart and lungs normal; stomach, bruit de clapotage or succussion sound till umbilicus, three hours after meals; slight tenderness on pressure at pit of stomach; no tumor palpable anywhere. Patient complains only of lassitude, weakness and heaviness after meals. Stomach contents, obtained one hour after Ewald-Boas test meal, amount to about 500 cc. and contain food rests from previous days. Absence of HCl, as seen by the negative reaction on congo paper, and presence of lactic acid, as seen from the positive reaction with dilute solutions of chloride of iron and with Uffelman's reagent.

Case II.—Man of 54, born in Russia; occupation, jeweler; had been sick with illness in question for 15 months; previous history, negative. Illness began with weakness in legs, pain in mouth, occasional swelling of tongue. Patient suffers from anorexia, and vomits occasionally. He is very cachetic, presenting a pale, waxy appearance. His legs are edematous, he is weak and cannot stand without support. Patient complains of pain in both sides. Physical examination: heart and lungs normal, palpation of abdomen shows no tumor, except slight tenderness in epigastrium; no succussion sound of stomach. Stomach contents after a test meal amount to about 20 cc. of rather pretty well divided food; no alimentary debris from previous days, but there is absence of HCl, and presence of lactic acid.

Case III.—Man of 44, tailor, born in Russia; claims to have been sick with present illness for 15 years; complains of cough, lack of appetite, heaviness after meals and general weakness. Patient is undersized and is very emaciated. Patient attributes his present illness to having slept 15 years previously at an open window, and having contracted a cold. Physical examination shows some transient moist rales at apex of both lungs; heart normal. Abdomen, succussion sound in stomach several hours after meal till below the umbilicus; slight tenderness in epigastrium, but no tumor could be felt anywhere. Owing to the great nervousness of patient stomach could not be emptied, but only a few cc. could be obtained for examination; but a great deal was left inside. Stomach contents showed absence of HCl and presence of lactic acid.

All the three cases are such in which one must be very careful how one excludes carcinoma ventriculi. Indeed, many cases which are diagnosed as simple gastritis anacida turn out to be carcinoma ventriculi. But in case No. 1 I am sure there is no malignant growth; first, from the history and physical examination of patient, and, secondly, because patient has greatly improved under treatment. Case No. 2 is a more difficult one. This case was kindly referred to me by Dr. A. J. Ronginsky, of New York. By another physician it was diagnosed as carcinoma ventriculi. But from the fact that the patient had been sick for 15 months, and no tumor could be felt, I think cancer can be excluded. Furthermore, an examination of the blood showed the red corpuscles in a condition of poikilocytosis and a few red blood corpuscles contained nuclei. I made the diagnosis of pernicious anemia. Subsequently I learned that the patient had previously been for some time in a hospital in New York and that the same diagnosis was made also there.

I cannot speak with so much assurance of case No. 3, the more so that I soon lost sight of the case. But I think that cancer can be excluded in this case also. I suspected tuberculosis; but a careful examination of the sputum failed to show any tubercle bacilli, I found, however, numerous streptococci. Cases No. 1 and No. 3, then, seem to me to be cases of hypochlorhydria, with atony of the stomach due to the general debilitated condition of the patients, or possibly the latter affection is due to the former. In case No. 2 the motility of the stomach seemed to be good, but there was hypochlorhydria, owing to the profound anemia.

We shall now see the results of the bacteriological examination of the gastric juice. In case No. 1 there were found an oidium, which appears to be the oidium lactis, and also long ramified mycelia. The oidium which I have generally found in these cases is from 10 to 20 μ long and about 5 μ wide. It has sometimes rounded, sometimes club-shaped extremities; and it sometimes has one or more nuclei, which are more refractive of light than the rest of the body. It is Gram negative, and herewith it can be distinguished from yeast, of which we shall soon speak, and which sometimes resembles it very much. In some cases the nuclei take the Gram stain, while the rest of the body remains unstained. In cultures on agar they form a whitish, thick layer, covering the whole surface. It is necessary to bear this in mind in order to be able to distinguish the oidium from the yeast, which is always found in hyperchlorhydria, and occasionally in hypochlorhydria.

The filaments found are very long and from 4 to 6 μ in width. They have septa and ramifications, which in most cases appear to be false; they appear very much like the cladothrix dichtoma of Cohn.[9] There is a diversity of opinion among authorities concerning the classification of fungi. Thus, according to Hansen, Zopf, De Bary, and others, the same species can assume various shapes,[10] and the oidium lactis can grow sometimes into long filaments. Grawitz[11] thinks that most of the fungi, including favus, tricophyton, and others, are nothing else than varieties of the odium lactis, though this view is generally not shared by authorities. All this will show how difficult it is to say precisely what these filaments are, whether they are only elongated oidii or they are something else.

From a practical standpoint, however, it is immaterial, for it can hardly be supposed that they are of any pathological importance. It is enough to state their presence in connection with the oidium lactis, and to know that they are usually met with in hypochlorhydria.

The oidium and the long filaments I found in three cases of hypochlorhydria out of the four. In case No. 1 I also found a bacillus which by its cultural and morphological peculiarities appears to be the vibrio geniculatus ventriculi.

But in case No. 2, which, it will be remembered, was that of pernicious anemia, I found no fungi, but a microbe very similar to the bacillus coli communis. It is a plump, oval bacillus, Gram negative, and grew at first in an abundant slimy growth on agar slant. It grows along the whole stab in sugared agar, which it cracks and gives rise to the production of an offensive gas, or gases. Furthermore, it coagulates milk. The only difference was that the bacillus in question was entirely non-motile in the first two generations, whereas the coli bacillus is, as is well known, endowed with some motility on account of its possessing a few flagella. But subsequently I made a third culture—that is, a third generation—and examined the bacilli in a hanging drop at the end of 24 hours, and found them quite motile. Furthermore, the third culture was not so slimy, but

assumed the appearance of typical coli bacilli, and the bacilli themselves became less plump and greatly resembled the bacilli of typhoid fever.

A bacillus very similar to it I have found in, and isolated from, the pulp of several samples of bread, both old and fresh; only the bread bacillus did not grow along the whole stab in sugared agar, but it gave rise to a discharge of an offensive gas. I did not carry this bacillus through many generations. In all probability the bacillus in the stomach of case 2 developed from the bread bacillus which the patient ingested. Indeed, Lehman[12] states to have isolated the bacillus coli communis from bread. I think I am justified in saying that this bacillus in passing into the intestines, which it can do, owing to the deficiency in HCl, may undergo some modification and become what is known as the bacillus coli communis. As the latter is such a common host of the intestines it must be introduced in some way, for we cannot reasonably assume that it originates *de novo* in the intestines. It is not, therefore, unlikely that it undergoes some change after it has been introduced into the alimentary canal, the same as it did in the third generation. The excessive fermentation and formation of gases which occur in some persons after the ingestion of an excessive quantity of bread can be easily explained by the presence of this bacillus, which multiplies very rapidly under favorable conditions. I must also add that patient No. 2 at the same time suffered from profuse diarrhœa and an examination of the stools showed them to be teeming with bacteria. But as I have not made cultures of the stools, of course, I cannot say what the bacteria were.

The bacillus in question greatly resembled in the first culture, because of the non-motility, the bacillus lactis ærogenes Escherich. But according to many authors,[13] this bacillus cannot be sharply divided from the coli bacillus. Its motility, however, in the third generation, I think, proves it to be the bacillus coli communis, which probably, owing to certain influences, was non-motile in the first two generations.

Case IV.—While writing these lines I examined another case of hypochlorhydria, which I will designate as case No. 4. It is that of a man about 28, who had been sick with what has been diagnosed by many physicians as asthma. A physical examination of the lungs revealed dry and moist râles scattered over both lungs, and the upper part of the right lung presented an exaggerated expiratory murmur. Patient in question gets frequent spells of asthmatic attacks. He feels heaviness after meals, and suffers from constipation. Physical examination of stomach shows *clapotage* to the umbilicus a few hours after meals. Stomach contents after test meal showed alimentary stasis with food rests of previous days. Patient is lean, and can easily be palpated, but no tumor is felt anywhere. Stomach contents show deficiency of HCl, as seen by the negative reaction on congo paper, and presence of some lactic acid, as seen by the positive reaction with solutions of chloride of iron. Bacteriological examination of stomach contents showed in sugared agar stab yeast and fungi at the top of the stab, and under it, along the stab, a bacillus like the vibrio geniculatus ventriculi, which was Gram positive. Its morphology, however, differed somewhat from the bacillus geniculatus in this that it presented a jointed appearance, as if it were a small chain of streptococci. That it was a vibrio, however, and not a streptococcus, could be easily seen from its cultural characteristics, as well as by observing its oscillatory motions in a hanging drop.

It will thus be seen in this case, as well as in the others of hypochorhydria, that the bacteriological findings of the stomach differed from those of carcinoma ventricula in this that there were only a few colonies of staphylococci in one case, but there were fungi present in all cases.

The interest in case No. 2 is that, though the vibrio geniculatus was absent, yet there was lactic acid in the gastric contents. But as was said above, with lactic acid formation I shall deal another time.

I will now consider the cases of hyperchlorhydria. Under these I include two cases which, as will be seen soon, the HCl can be regarded as normal in proportion, and they are, therefore, cases of chlorhydria, and not hyper, but the bacteriological findings in all cases were very similar.

The two cases of hyperchlorhydria from which the gastric juice was obtained and examined abroad were cases of old ulcer, and more need not be said about them. The three cases whose gastric juice was examined here were briefly as follows:

Case A was that of a woman of 35, with a history of pain in stomach after meals. No vomiting. She was pale, nervous, and more or less constipated. Stomach contents an hour after test meal amounted to a few hundred c.c., showing alimentary stasis. Excess of HCl, as shown by congo paper and by titration.

Case B.—A woman of 40, sick for several years; shifting pain in abdomen; is pale and nervous. Physical examination, slight tenderness in epigastrium on pressure, which, however, is not constant; no constant point of tenderness anywhere. Floating left kidney, some albumin in urine, but no casts. Stomach contents one hour after a test meal about 20 c.c of well divided food. Reaction on congo paper about normal.*

Case C.—Man of twenty, dental student, rather emaciated. Complains of weakness and heaviness after meals, but no pain in abdomen; very slight tenderness on pressure at the epigastrium. Physical examination: slight mitral murmur of heart, lungs about normal. Stomach contents, one hour after test meal, about 400 c.c., containing some alimentary rests from previous days, but food on the whole pretty well digested. Reaction on congo paper moderate. Titration with decinormal solution of sodium hydrate in the presence of phenolphthalein as indicator requires 6 c.c. of soda for 10 c.c. of filtered gastric juice; titration in presence of dimethylamidoazobenzol, known as Töpfer's solution, requires 4 c.c. of soda for 10 c.c. of filtered gastric juice.

Now if we use the German method of calculation, the total acidity would be 60, and the HCl would be 40, which is quite normal.[14] If we use the French method in comparing with HCl, the total acidity would be 0.365 x 6 = 2.190, and the HCl, 0.365 x 4 = 1.460 per thousand,[15] which is evidently about normal. There was thus an excess in the quantity of the gastric juice, but the quality was about normal.

The bacteriological findings in all these cases were similar in two things—they all yielded yeast and fungi, *Schimmelpilze*, in cultures. As to the bacteria of the schisomycetes class, they were as follows. In the cases examined abroad, I found in cultures sarcinæ of the lutea type. I could not see any bacteria in a hanging drop. In the three cases examined here I did notice a few bacteria in a hanging drop, but they were very few in Case A, which, it will be remembered, had an excess of HCl, and were a little more numerous in cases B and C. In

*I tested the congo paper which I have with various solutions of HCl and found that it gives a faint reaction with a solution of 1:1000, and a marked reaction with 2:1000.

cultures the colonies of bacteria of A developed only about five days later; in B and C they developed in about three days. In case C there were also sarcinæ lutea, and in addition there was a small, slightly motile bacillus which grows in Petri dishes on agar in white circular colonies, under the surface at first, then it reaches the surface. It liquefies gelatin, and gives rise to a strong ammoniacal odor. The same bacillus I found in B and C. It gives rise to a strong ammoniacal odor in agar also. It is Gram negative, but is well stained with diluted fuchsin.

This bacillus seems to be endowed with great vitality. I kept an imperfectly filtered sample of gastric juice from C for about three weeks, and then on examination I still found this bacillus in a hanging drop, and in cultures on agar, colonies of them developed in three days. Since I found them also in case C, which did not present any symptoms of pain, nor was it a grave case, for patient has greatly improved under proper diet and other treatment, I do not think the bacteria in question are of any pathological significance. Similar bacilli appear in a test tube of meat with HCl, as mentioned above.

As to fungi and yeast, these were found in all the five cases. As was said above, authorities are not in accord regarding the classification of fungi; and it is said that the penicilium, aspergillus, and mucor, may grow on the same hypha, they being only varieties of the same species.[16] But the fungi in hyperchlorhydria are different from the long filaments met with in hypochlorhydria, described above. In the former the ramifications are real; they are also thinner, and many have spores at the end of the numerous branches. But the spore formation varies in successive cultures and in various media of the same fungus obtained from the same stomach. In one culture there may be a bunch of spores at the end of a branch, in another no spores at all, in another again only a few spores along the branches. Again, I saw, in gelatin, the spore formation was like that of the aspergillus niger, which was formed on barley and water kept in a test-tube. I was at first inclined to the belief that the fungi were rather of the aspergillus type, though sometimes they resemble the penicilium. On further study of the subject, however, I believe that the fungi in the cases in question are nothing else than filamentous outgrowths of yeast cells, and are analogous to the nerve fibers, for instance, which are outgrowths of nerve cells.

I intend to consider the yeast and fungi of chlorhydria in a separate paper, as the subject is too vast and important to be considered here, and almost nothing has been written about it before. I will therefore limit myself here to the following brief remarks: On making cultures from some of the cases above mentioned on gelatin by smear, the gelatin soon covers itself with a white pellicle and soon gets liquefied. Under the microscope, round corpuscles and mycelia are seen. Similar corpuscles can be noticed in test tubes containing meat and gastric juice or meat, a solution of HCl and pepsin, when digestion had set in. I made smear cultures on agar in Petri dishes from a gelatin culture from case C, and obtained superficial, big, waxy colonies, which soon got dry and covered with slight cracks. From the periphery of some of these colonies long filaments grow out. On examining the colonies under the microscope, they appear brown and studded with lacunæ, and on closer examination the cellular arrangement is seen. On examining the filaments at the periphery, it is seen that they emanate directly from the colonies in question, and on close inspection the filaments, which are branched, present a jointed appearance, as if they consisted of a number of cells joined together. I took all that for fungi with their spores, and looked for yeast colonies, but in vain. I stabbed up the middle of a colony under the microscope and made a smear culture on an agar slant test tube, and obtained waxy colonies, which, on confluing, form a waxy, dryish cover on the agar. Under the microscope, they present rather circular corpuscles, about half the size of ordinary red blood corpuscles. On staining them according to the Gram method they take the Gram stain very well.

I stabbed up the periphery, that is, the filaments, of the same colony on the Petri dish from which I obtained the cultures just described, and made another culture on an agar slant test-tube, and got colonies which assume the form of little knots of down, and on confluing they present a feathery appearance. Under the microscope, they consist of cells and long filaments, all of which take the Gram stain.

Now, I have cultures of saccharomyces cervicæ, obtained from the cultures of Prof. Dr. Ficker of Berlin, and in old cultures they also present a network of filaments, which, however, show constrictions right along on both sides, thus demonstrating the cellular origin of the filaments. The cells and fibers are here also Gram positive, only the cells are larger, nearly the size of red blood corpuscles. I am, therefore, rather inclined to think that the filaments, or fungi, in the cases in question are outgrowths of the yeast cells, which are of the saccharomyces variety. As to their more detailed characteristics and their rôle in general, this will be considered separately, at another time, as said above.

From the above it will be seen that the gastric juice in hyperchlorhydria does contain some microorganisms; but that it contains more than in hypochlorhydria, as said by Lesage, who was quoted above, does not seem to be the case. Furthermore, it will be seen that the normal gastric juice is antiseptic with regard to some microorganisms, especially those of putrefaction, but it is not a universal antiseptic. In speaking of the antiseptic properties of gastric juice, we must first determine the proportion of HCl contained therein. How a certain gastric juice will act on a certain microbe, we can tell only by experiment, but not *a priori*.

To sum up, then: Carcinoma ventricula is bacteriologically characterized by the following trio: (1) the presence of the vibrio geniculatus ventriculi; (2) the presence of numerous staphylococci; and (3) the absence of fungi, that is, mycelia. In none of the other cases have I met this combination. In simple hypochlorhydria the vibrio geniculatus ventriculi may be found; but any other microorganism may also be met with, either alone or in combination with it.

In hyperchlorhydria, or chlorhydria, yeast and fungi, or rather mycelia, are met with, and also occasionally sarcinæ, and a small bacillus which is Gram negative, and in cultures discharges an ammoniacal odor. In subacidity of the stomach, when the acidity is only subnormal but not negative, with alimentary stasis, I usually found yeast, mycelia, and the vibrio geniculatus.

For clinical purposes one needs to make cultures only in a test-tube of sugared agar by stab, and on slant agar by smear, leave them at 39° C. for forty-eight hours, or in summer in the room temperature, then examine them as stated above. Ordinary neutral culture media are good enough, no acid media being necessary or advisable, as claimed by some.

Some precaution is necessary, however, in obtaining the gastric juice for bacteriological examination. The stomach tube should previously be thoroughly

rinsed, better still, if possible, sterilized in boiling water, and the receptacle for receiving the stomach contents should also be sterilized. It is preferable to get the sample for examination after some of the stomach contents have already escaped, as one is thus not so liable to get the first part, which may come from the œsophagus. The receptacle containing the sample for examination should be immediately closed, and the examination should be conducted under sterile precautions.

The bacteriological examination of the stomach contents should become as much routine work in clinical medicine as is that of the sputum.

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ARE THERE OTHER CAUSES OF MALARIA THAN MOSQUITOS?*

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During the month of August last, I was called upon by the authorities of the War Department to furnish a report on various sanitary conditions relating to the Post of Fort Hamilton, New York Harbor. Besides the water supply, its nature, source, etc., etc., the excreta, and their method of disposal, information relative to "mosquitos, their presence or absence at the post, source, usual time of arrival, appearance, varieties, hours of the day when most active, connection, if any, with existing diseases, and measures employed for their destruction," constituted an all-important requirement of the order in point.

About the same time I was requested by the courtesy of Dr. P. B. Porter, recording secretary of the "Medical Association of the Greater City of New York," on the suggestion of the President, Dr. T. E. Satterthwaite, to contribute a word in the discussion on the subject of "Tropical Diseases," which would take place at its meeting on October 10. While it has been impracticable, owing to exacting official duties for me to devote as much time to the preparaof a paper on as extended lines, as the members of this society may have been led to anticipate, I shall present to them that part of my report relating to the mosquito problem, as based on my observations and studies, made at the Post of Fort Hamilton. The following is the extract, in part, from the report:

"The mosquitos of this locality have been a subject of interesting study, but in all my investigations I have been able to discover but two varieties, viz.: the common Atlantic coast *Culex sollicitans*, as described and illustrated by L. O. Howard, of the Department of Agriculture at Washington, and the *Culex pungens*. There has been all along absolute uniformity in the physical appearances of these respective varieties. In but one single instance have I been able to find a specimen that accorded in any way with the description given of the different varieties of *Anopheles*. This one I killed about two o'clock P.M. in my own quarters, in the middle of July. It was a small black insect, smaller than the varieties mentioned, with smaller head, and distinctly mottled wings, two spots on the front margin of each wing. I had no opportunity to observe its attitude while in a resting position. Believing that there must be others of the same breed in the neighborhood, I had specimens brought to me from every part of the garrison, but all these turned out to be *Culex sollicitans* or *C. pungens*, and just here I will mention that the latter were the first to appear during the month of May, but the former, while later in their on-coming, have become vastly more numerous, and the greatest period of activity in either case is in the early morning and in the evening. In my hunt for the alleged malaria disseminating variety, I had the enlisted men of the different organizations bring me specimens that had succeeded in getting inside the mosquito nets that hung over their bunks at night. They all proved to be *C. sollicitans* or *C. pugens* without exception. The further expedient was then adopted of collecting samples of standing water from various sources for the purpose of hatching out whatever eggs might be deposited therein. In due course each sample produced its larvæ, pupæ and fully developed insects, by the hundreds, without a single *Anopheles*. In the instances of the larvæ, they answered in their behavior to the description given by Howard and Manson, but while the vast majority that were propagated in the incubation jars, 'came to the surface to breathe, thrusting their (long) breathing tubes through the surface layer and holding their bodies at an angle of about forty-five degrees with the surface of the water,' characteristic of the *Culex*, there were others, though vastly less numerous, that 'habitually remained at the surface, their bodies resting not at an angle, but practically parallel with and immediately below the surface film, so that portions of their bodies as well as their (short) breathing tubes were practically out of the water,' a feature peculiar to the larvæ of the *Anopheles maculipennis*, according to the previously quoted authorities. My investigations and experiments thus far have led me into a fog of perplexities and contradictions, but this fog becomes still more dense when I revert to the fact that from May 28 to the present date, September 1, I have had ten cases of tertian intermittent fever to treat among the enlisted men of this command, *all but three being from the same company organization*. Only two of these cases ever had the disease before. The Eleventh Battery of Field Artillery furnished seven of the cases, and not until July 16 did a case occur in any other organization.

"Last year between May 1 and September 30 there were twenty-nine cases of malarial fever reported on my return, but I have not stopped to sift out those cases that were readmitted to the sick report one or more times, on account of the recurrence of the disease, a circumstance which would make the total number of cases appear larger than it really ought to be, and which, for accuracy, should, as second or third admissions, as the case may be, be eliminated from consideration. The same rule holds, however, with reference to the Eleventh Battery, for from the twenty-nine cases reported from all the organizations, the battery furnished twelve. The barracks for this company are located on the highest elevation in the post, and off to the southern boundary. They overlook the Dyker Meadows, a more or less salt marsh, and are situated but a short distance from the Post dumping grounds. They are also

*Read before the Medical Association of the Greater City of New York, October 10, 1904.

near the battery stables. These latter facts are stated for whatever value they may possess, if any, in elucidating the problem of cause and effect, in connection with the disease under consideration. Eager for an explanation of the situation as I have described it, it was natural I should turn to the locality of the Eleventh Battery in search for the much-dreaded *Anopheles*, but, as already stated, from none of the many samples of water that I collected there or in the immediate vicinity was I able to hatch out a single insect that varied in the slightest particular from the *Culex sollicitans* or *C. pungens*. Thus confronted by an equation, the factors of which I could not make agree, I was somewhat in the attitude of one of our learned Congressmen, of national renown, who once found himself in a situation so embarrassing that he was unable to determine 'where he was at.'"

But what does all that has been recited in this report go to show? Does it mean that there are *other* methods of conveyance of malarial disease to the human organism than through the medium of the mosquito? I own the facts here recited point much that way. For one to rise up in this day and generation and suggest the least scepticism on the subject of the almost universally accepted views concerning the rôle played by the little diptera in the dissemination of disease would sound to many almost like heresy, but until, by further investigation, I can remove the doubts that now hang over my mind, I fear I will have to admit that its present status is that of "unstable equilibrium."

As has already been stated the first appearance of the pests at this post is during the month of May, being determined largely by the character of the season, with reference to temperature, moisture, etc. Towards the end of September they make their exit.

Unhappily there are numerous water holes just outside the reservation that afford ample breeding grounds, wherein the females may deposit their eggs. Inside the Fort, a quantity of filling in has been done at certain points, and all the residents of the reservation have been impressed, as far as possible, with the importance of permitting no vessels containing water to stand about the kitchens or elsewhere, where the mosquitos may find access to them and deposit eggs.

Returning to the old-time underground cisterns that have been referred to, one being located at the rear of every set of officers' quarters and a few elsewhere, I quote a recommendation of mine relative to them, made in my Sanitary Report for September, 1902, as follows: "Attention is invited to the fact that there are numerous underground cisterns about the post, which, aside from the fact that they belong to a past era, fulfil no good or useful purpose, inasmuch as the garrison is provided with an excellent and abundant water supply from the Brooklyn system. Indeed, the presence of these cisterns, under existing conditions, is considered contrary to sound sanitary principles. On account of the lack of the use of the water that is collected in them from the water shed of the post buildings, during periods of rainfall, it stands without removal for indefinite periods, and every inspection that I make of them leads me to believe they are the breeding nests of hordes of mosquitos. It is respectfully recommended that the cisterns referred to be filled up, and their supply pipes, leading from the roofs be diverted into the main drains." So much for the official report.

Pending action on the foregoing recommendation, crude petroleum was, at stated intervals, poured over the surface of the water in each cistern, which in time caused a manifest decrease in the swarms of the insects that had infested the immediate vicinity of the officers' quarters. This diminution was due, of course, to the destruction of the larvæ, from which full grown mosquitos had formerly been developed. Returning now to the suggestion that mosquito inoculation is not the only means by which malarial disease is conveyed to man, it may be interesting to quote from Munson's "Hygiene," published as late as 1901. He says: "It is true that the mosquito is undoubtedly capable of transmitting the malarial plasmodium, but it has not been shown that inoculation by this insect is the only means of producing this affection. Much evidence has been accumulated during the past—if the diagnosis be accepted as accurate—to show that drinking water drawn from certain sources is productive of malaria. In this connection a case recorded by Bourdin is instructive. This writer states that 800 French soldiers, in good health, were embarked on three ships bound from Algiers, to Marseilles; all arriving at the latter port on the same day. On two vessels there were 680 men, presenting not a single case of sickness among them. On the third vessel there embarked 120 men. Of the latter, 13 had died during the short voyage, and of the 107 survivors no less than 98 were affected with malarial fever. Among the crew of the ship not a case of malarial fever had occurred. On investigation it was shown that the water on the two first ships was pure and good, while on the unhealthy ship the water had been taken from a marsh and had an unpleasant taste and odor. *This water, however, had not been used by the crew of the ship.*" This is the old, old story of the *Argo*, familiar no doubt to every member of this association, but it is a noteworthy fact that the author cited thinks proper to introduce it in his valuable volume, even though as high an authority as Ross claims there is but one medium of conveyance for the *materies morbi*. But let us quote further. In *American Medicine* of July 23, 1904, "L. Chenisse combats the idea that mosquitos should be regarded as the only basis for the etiology of malaria and yellow fever. First of all, the geographic distribution of the *Anopheles* does not always correspond with the distribution of malaria. The disease has even completely disappeared in localities where mosquitos still remain numerous. On the other hand, there are regions profoundly infected with malaria, where it is impossible to discover any *Anopheles*. Epidemics of malaria have occurred under the influence of late and abundant rains, without the intervention of mosquitos." Again, Major G. H. Fink, I. M. S., commenting on the experiments at Main Mir, which are discussed in the *Journal of Tropical Medicine* for August, 1904, pertinently affirms that "whence malaria comes remains a mystery," and this, too, while confessedly appreciative of the work and investigations of Major Ronald Ross. But a still more important announcement comes from one who may be considered as the very author and finisher of the mosquito theory, Sir Patrick Manson, who at the eleventh International Congress of Hygiene and Demography at Brussels, September 2-8, 1903, stated that he "did not believe mosquitos to be the sole cause of the disease, but that some other factor, evidently as yet unknown, existed." The preference, so to speak, that the disease has manifested at Fort Hamilton, for one organization, the Eleventh Field Artillery, over all the rest, is a notable fact. The entire population on the reservation drinks the same water, and I am advised by Brooklyn practitioners in the vicinity of the reservation, that malarial fever does not cut a conspicuous figure in the nosological classification amongst their clientele. Finally, in the face of all that has been said, does it not appear that the etiology of malarial disease is as yet far from being definitely and conclusively settled?

THE RATIONAL REDUCTION AND FIXATION OF MAXILLARY FRACTURES.

By WILLIAM J. LEDERER, D.D.S.

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It is surprising how large a percentage of the cases of maxillary fracture, after union has taken place, present asymetry of face and faulty articulation, inasmuch as both these sequelæ can almost invariably be avoided. It is true, to reduce and fixate a broken inferior maxillary bone is rather difficult; also to give it physiological rest, as it gives attachment to a number of powerful muscles and is a much used part of our anatomy; however, by the employment of the double arch interdental splint and proper bandaging, very happy results can be obtained.

Although fractures of the inferior maxillary bone do not occur very frequently, the construction of the bone is such that it presents some points of weakness, which offer little resistance to direct force applied to them. Although it is one of the heaviest bones of the head, having no osseous union with the skull, but really being an appendix to the same, a blow directly applied to the mandible will exert its full force upon the bone without its momentum be-

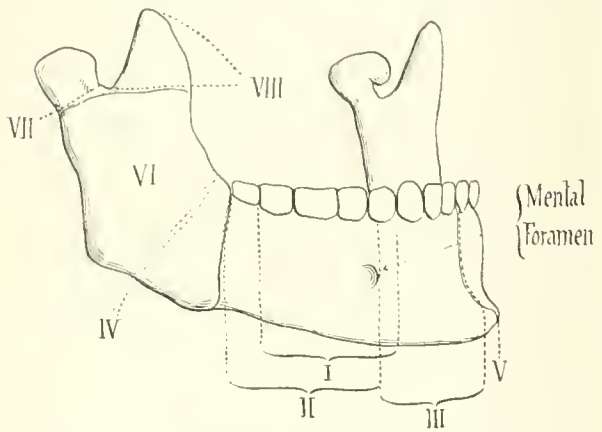

Fig. 1.—The usual seats of fracture.

ing diffused to other parts; especially if the blow comes unexpected and the mouth be open. Evolving from six centers of ossification, also produces many weak areas, and besides being tunneled by a large canal with large entering and exit foranima, also contribute to points of weakness.

According to Dr. F. D. Weisse, professor of Oral Surgery at the New York College of Dentistry, the frequency of fractures of the inferior maxilla, as to location, can be tabulated as follows: (1) Between first bicuspid and second molar teeth, most frequent. (2) Between mental foramen and third molar. (3) Between mental foramen and symphysis. (4) At ramus (angle). (5) At symphysis. (6) Body of ramus. (7) Neck of condyloid process. (8) Coronoid process. (See Figure 1.)

Fractures of the superior maxillary bones are very rare and if they do occur they as a rule are of the comminuted type. The reason for this is obvious. The superior maxillæ are part and parcel of the skull and force applied to them will radiate and become diffused over the whole surface of the skull. If a comminuted fracture obtains it is caused by great crushing force, otherwise, though cerebral concussion may obtain, the superior maxillæ are rarely fractured.

The symptoms of maxillary fractures are: (1) Altered physigonomy. (2) Deformity. (3) False point of motion. (4) Pain. (5) Crepitus. (6) Lack of function, fixedness of jaw. (7) Increased salivation. (8) Pain in swallowing. (9) Faulty articulation of the teeth.

Of course, there are many cases which do not present all these symptoms; thus, a fracture may obtain at the symphysis and not show any deformity, but it will give a false point of motion and crepitus will be felt. At times a patient will present with a much swollen face and the positive diagnosis of maxillary fracture can only be made after a very careful examination, as an impacted third molar will at times produce similar symptoms and the

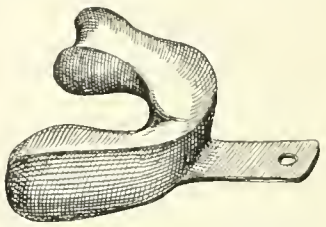

Fig. 2.—Impression-cup for the lower jaw.

tissues being much swollen, neither false point of motion nor crepitus can be felt.

The prognosis is favorable. The treatment consists in the reduction of the fracture and the coaptation and fixation of the parts, affording the jaw perfect rest till union has taken place. The mouth should be carefully washed, spiculæ of bone and dislodged teeth removed, and the buccal cavity be put into as aseptic condition as possible.

The patient is then anæsthetized and an impression of both jaws is taken by means of "modelling compound" (a combination of gum damar, French chalk, stearin, and coloring material, much employed by dentists). This is preferable to plaster, as it hardens faster and gives a fairly clear impression. This compound is placed into a dental impression cup, Fig. 2, and the cup containing the compound, which has been softened in hot water, is placed on the jaw and firmly but evenly pressed down, so as to embed the teeth in the compound. The cup is held in position till the compound is chilled, which can be hastened by irrigating the floor of the mouth with cold water. The cup is now removed without jerking and placed into cold water to thoroughly harden the compound. An impression of the opposite jaw is now obtained in the same

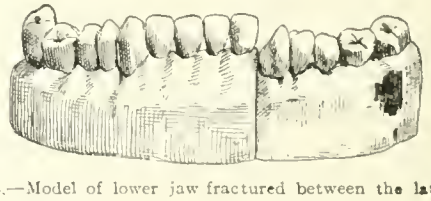

Fig. 3.—Model of lower jaw fractured between the lateral incisor and the cuspid teeth.

fashion. The patient is now dismissed, after a bandage has been applied.* Models of the jaws are now made by pouring softly mixed plaster into the impressions and permitting the plaster to set. After the plaster has thoroughly hardened the cups are immersed in hot water again and the plaster models can easily be separated from the again softened compound impression. Now, two models have been obtained, one of the healthy jaw and one of the fractured bone, in its abnormal, misplaced condition, Fig. 3.

*If the impressions are handed to a dental mechanic he will construct the splint, if necessary, in 5 or 6 hours.

The solution of continuity of the bone is now reproduced by sawing the model in two along the lines of fracture, with a scroll saw, and the fractured model is coapted and then fixated by means of a little soft plaster, so as to articulate with the model of the opposite jaw. Fig. 4.

Thus a model of the fracture is obtained as it should present after union has taken place. According to these models a splint is made in wax, embracing both the upper and lower teeth, high enough so as to separate the jaws about three-

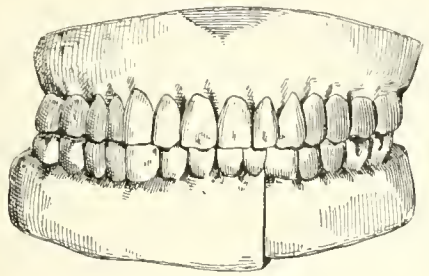

Fig. 4.—Models articulated.

quarters of an inch, with an opening in the center to permit the introduction of fluid food. (Fig. 5.)

This wax splint is now reproduced in rubber or tin; the patient is again anæsthetized, preferably not with nitrous oxide, as this does not permit complete muscular relaxation, and the splint is introduced into the mouth, first embracing the healthy jaw. The fractured maxilla is now forced into the other half of the splint and a double roller bandage applied. The double roller is preferable to any other head bandage, as the patient cannot remove it, a great advantage in children; it positively does not slip, and it can be secured without pins.

The patient is put on fluids and such diet that need no mastication. The mouth is kept as clean as possible by antiseptic washes, and the splint can be removed from time to time to cleanse it. To

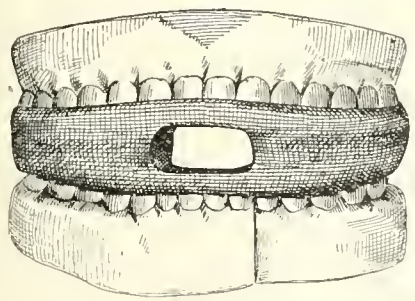

Fig. 5.—Splint in position.

illustrate the efficacy of this splint, the writer quotes one case from actual practice.

Some years ago the writer was asked to see a case of compound multiple maxillary fracture in a patient at Bellevue Hospital, with the following history:

The patient, a boy six years old, had fallen from a third story window to the ground and sustained a fracture of the left leg and forearm, also contusions about the head. He was sent to the hospital, and after the leg and arm were attended to, the maxillary fracture was discovered. The fracture was one of very rare occurrence, it was compound, multiple in character, and the lines of fracture extended through the body of the inferior maxilla between the central and lateral incisor teeth *on both sides* of the median line. The submental tissues exerted tension on the small fragment carrying the central incisor teeth, and drew it downward and backward. (Fig. 6.)

The house surgeon attempted to coapt and fix the parts by wire sutures, but this proved futile. One of the senior class students of the New York College of Dentistry was sent to construct a splint for the case, which was done as described. The splint was put into the mouth and a bandage applied, but the central portion of the bone would not go into place. As soon as the bandage was tightened, the two lateral halves of the body would approximate and push the central portion further down.

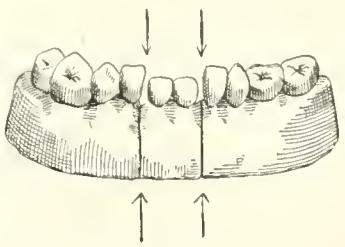

Fig. 6.—The lines of fracture.

The writer was asked to see the case. The difficulty here was to get fixation of the parts. This I attempted by constructing a single arch splint, embracing only the lower jaw, of silver, and by cementing this on all the teeth of the lower jaw, hoping thus to keep the central fragment in position. This, however, proved a failure, for the temporary teeth offered but little surface for attachment, and also was it impossible to get the cement to set properly, as moisture could not be excluded long enough, in spite of damming of the salivary ducts. Also was the boy very violent, and insisted on working the splint loose as soon as his nurse turned her

Fig. 7.—The chin-cap.

back. The problem to be solved here was twofold, first, to construct a splint which the boy could not remove, and, secondly, to get counterpressure from below the chin to keep the central portion in position.

A third splint was constructed, of the double-arch variety, this time of tin, to make it heavy. This was placed into the mouth under anæsthesia, the central portion of the bone was pushed into place, and an impression of the chin was obtained. According to a model of this chin, a chin plate was made, also of tin, extending beyond the lines of fracture laterally, and going above the mental protuberance and behind the genial tubercles. (Fig. 7.) This was padded with a little gauze and applied to the chin.

A tightly fitting skull cap was made of coarse linen, also a cap fitting over the chin. These were

held together by a strap and buckle on each side, which could be drawn tighter at will.

The splint was now forced into the mouth, the central portion forced into position, the padded chin plate placed over the chin, and the whole covered with the linen chin cap, which in turn was padded with cotton to get close adaption. The linen chin cap was strapped to the skull cap, and thus the much desired end was accomplished. There was

Fig. 8.—Apparatus in position—*a*, double-arch splint ; *b*, opening for feeding ; *c*, metal chin-piece ; *d*, gauze padding inside of chin-piece ; *e*, cotton padding outside of chin-piece ; *f*, linen chin-piece attached with straps to the skull-cap.

coaptation, perfect fixation, and perfect rest. (Fig. 8.)

The boy made a splendid recovery. I saw him subsequently, and he had a good serviceable jaw. Had other means been employed, necrosis would have occurred in the central portion of the bone, and he would not only have been deformed for life, but articulation would have been badly interfered with.

This case illustrates the value of the interdental splint in one of the most difficult forms of maxillary fracture imaginable, and I believe this form of splint is better than any other, as it is less encumbersome to the patient, it is more easily kept clean, as it can be removed, and above all, it actually fixes the parts as they should be kept, and gives the jaw perfect rest.

150 East Seventy-fourth Street.

Affections of the Facial Nerve in Diseases of the Ear.—C. Zimmermann finds that a great variety of causes may produce facial nerve lesions in ear maladies. A predisposition thereto may be given by anatomical abnormalities as the dehiscences of the Fallopian canal (especially at the projecting ridge), variations of the lumen, and thickness of its walls. Congenital palsies are the consequence of insufficient development of the petrous bone, and are generally associated with malformations of the external ear and other parts of the skull. The family type of facial paralysis is generally owing to stenosis of the Fallopian canal. Paralysis may follow affections of the auricle and external meatus, or, as a reflex from zoster, external otitis and cerumen middle-ear inflammation may also produce it if they subject the nerve to pressure. It follows both acute and chronic otitis media. Other causes are local tubercle and syphilis, caries and necrosis of the petrous bone, new growths, trauma (accidental or surgical).—*Archives of Otology.*

THE STUDY OF SPRAIN AND ITS TREATMENT BY MASSAGE.

By GUSTAF NORSTROM, M.D., Stockholm, New York.

Does what we know of the pathological action of massage, authorize us to declare that its employment in a sprain is rational? If we were supplied with neither statistics nor facts, could we assume that massage would be serviceable in the treatment of its immediate and consecutive consequences, and that it would facilitate its cure.

Sprain is a popular term denoting a morbid condition of traumatic origin, whose exact nature is not well determined. As a general rule the joint itself is more or less affected in the form of an acute or subacute inflammation (traumatic synovitis). Sometimes sprain is only an acute tenosynovitis, affecting the sheaths of the tendons of the extensors, of the flexors of the foot, the peroneus longus, and other muscles.

Pathological anatomy teaches us but little. We have succeeded by the aid of Bonnet's experimental researches[1] and by analysis of the symptoms in arriving at the conclusion that in slight cases there is a stretching of the ligaments, whereas in the more severe cases there are tears, ruptures of blood vessels, and sanguineous extravasations. The most frequent clinical phenomena are the following: At the beginning ecchymosis, pain and physical weakness; later inflammatory conditions, effusion of serum, periarticular œdema, and stiffness of the joints. Nearly all are caused by the same etiological factor, viz., primary sanguineous effusion. The blood acts as an irritant. It hinders the reunion of tissues, and calls forth unequal reactions. We know, as Mosengeil's experiments have shown, that massage hastens absorption. Frictions properly performed on a joint, promote the passage of the fluids into the absorbing vessels and by the same manipulations diffusion throughout the body is facilitated. It is possible, says Philippeaux,[2] to transform a circumscribed and thick effusion into a general infiltration, or rather, into a large thin sanguineous mass extending from the extremity of the limb towards its base and disseminating throughout the subcutaneous cellular tissue where veinous and lymphathic radicles are found. These, as we know, are the active changes in interstitial absorption. Thus we perceive that massage is absolutely indicated in sprain. It was used long before the mechanism of its action was understood.

Poteau said that sprains could thus be cured almost instantaneously. "We do not know," said he, "what accounts for the failure surgeons generally experience in a trifling undertaking, inasmuch as it is left to inexperienced people who do succeed."[3] This has been pointed out by several writers: "Massage," says M. Duplay, in treating of a chapter on sprains,[4] "has most often been left to bone-setters," and Hüter adds that this has been the foundation of wealth to them, and if they have a greater reputation in treating joint diseases than the physicians, it is because these ignore the rational practices of their treatment. The reproach is to a certain degree merited. The truth is that one has heard massage vaguely spoken of, and therefore distrusts it. The success obtained by empirics, lauded beyond measure, has perhaps been more injurious than useful to the treatment; they have had striking failures because the indications were badly interpreted and because they left luxations without reducing them, or prevented the union of fractures. Boldness and a certain amount of dexterity alone do not suffice to prevent such accidents.

"In performing massage slowly, prudently and gently," says Mullier, "you cure without provoking any pain, contrary to the 'bone-setters.' I was told by an officer in my regiment, who had been massaged by the man of Thelus, that the pain was generally so intense as to be beyond description.[5] Bonnet relates the case of a man treated by a young and 'clever' masseuse for sprain of the knee. He was cured after one séance; but the operation was so merciless that the patient fainted three times during the procedure. If a woman's hand," says Mullier, "can inflict such pain, what term shall we apply to the martyrdom the patient has to suffer when he is massaged by a robust peasant, who is convinced that he cannot use too much force in performing his duties?" Many surgeons hesitate to use massage, which is left to empirics, who cure or harm at random. There is only one way to overcome this indifference, and that is by proving that with the help of massage we can cure much quicker and better than by immobilization or similar procedures. I have often had instances of it. A person, for instance, makes a false step which produces a tibiotarsal sprain. He is carried home, if the accident happens outside of his house, and every attempt to take a step and rest on the foot produces the most excruciating pains, causing the patient to cry out loud. It frequently happens that these pains are so diminished after the first séance, which has already reduced the swelling and other inflammatory symptoms in a marked degree, and the patient experiences such a relief that he feels disposed to walk. This produces the most excellent effect on the patient and gives him a great deal of courage to stand the pain at all subsequent séances. Another has only a slight sprain. He cannot walk and he is obliged to stay in bed. Compresses wrung out of cold or hot water are applied and the leg is immobilized for several weeks by a bandage of gauze, or even plaster-of-Paris. The same person suffers another sprain of the same severity in the same joint, and he is cured within twenty-four hours by massage. Isn't this sufficient proof of its utility? We have stated that as far as our personal experience went, it was in favor of treating sprains by massage. We have also seen that masters who have studied joint diseases think favorably of it. In France, the country in which massage was first applied in the treatment of sprains, physicians hesitated a long time before it was, as is the case nowadays, generally adopted. In other countries, particularly Germany, it has gained much ground in the last few decades, and in none of them does it seem to meet with absolute reprobation.

To what are we to attribute the effects of massage? Those who do not hesitate to admit that they borrowed the procedure from "bone-setters" would never have made this confession had they not been able to support their boldness by statistics. If they had been unable to prove that by means of massage one effects a more rapid and permanent cure than by any other means, then they would have added two or three examples and only commented on them. Opposition would soon have arisen, and one would not have failed to apply to them the saying, *Testis unus, testis nullus.*

The earliest French statistics are all in favor of massage; those of other countries are likewise favorable. They were compiled by specialists, physicians in hospitals, and military surgeons, whose prime motive was to enable their men to perform duty as soon as possible, statistics pure and simple, in which facts are recorded without any comment or definite object in view. One of the best known is the one compiled by Péan, and published in his "Lecons de Clinique Chirurgicale."[6] The observations on sprains by him number 61, and they were located as follows: Wrist, 3; knee, 3; spine, 2; tibiotarsal articulation, 52; metatarso-phalangeal, 1. In all these cases, the treatment was based on the same principle: immobilization. The patient had to stay in bed during the whole time he was in the hospital.

When it seemed necessary, Péan placed the limb in a splint, or gutter, applied compresses wrung out of hot water, and later, if the affection persisted, the plaster-of-Paris cast. Let us omit the two cases of sprained spine reported. The minimum duration of their stay at the hospital was three days (only in one case), and the maximum forty-two days. Altogether, however, 919 days of treatment were necessary for 58 patients. This averages a little more than a fortnight for each. In all these cases we have only had to deal with typical sprains without fractures or concomitant luxations. The patient came into the hospital immediately after the accident had occurred. Only once did it happen that the patient had suffered for four days. In the two most serious cases, which demanded 28 and 42 days respectively, complete cure had even then not been established. After the removal of the dressing one of the patients still had perimalleolar œdema; another one articular stiffness which considerably impeded the movements of the joint.

The treatment by immobilization was vigorously adhered to as long as it seemed necessary; consequently the results were not very satisfactory, inasmuch as it took a fortnight to cure an ordinary uncomplicated sprain, treated immediately after the occurrence of the accident. As an additional factor we may mention that during all time the cast remained, the patient was obliged to walk with crutches.

In order to claim success, a few simple, but indispensable precautions are necessary. We ought never to act blindly, but know what we have in view and what we are doing. The more recent the effusion is, the less time passed after the injury, *i. e.*, the more acute the inflammatory process is, the more easy is the absorption, and the sooner a cure will be effected. Unluckily this fact is not admitted by all physicians.* One allows the exudate to become organized, and as a last resort massage is used to repair the prejudice caused by other curative measures. The patient is suffering, the joint is tumefied; how could mechanical medication possibly be thought of? It is entirely out of consideration to think that massage, if properly performed, is the best anesthesia that we have at command. It is, furthermore, the quickest way of overcoming effusions in the joints or in the teno-synovial sheaths and infiltrations of the cellular tissue.

All patients are not cured in the same length of time. I have obtained excellent results after 24 hours; at other times it took me a fortnight or more. I had to deal with identical affections, and no complications existed. This difference in time to effect a cure always depends upon the length of time intervening between the accident and the séance, as well as upon the seriousness of the case.

Postponement may sometimes become dangerous.

* I may here mention that when I settled in Paris many years ago, it took a very long time before I was able to convince the French medical body that just in the acute arthropathies—traumatic or not—we had the best results with massage, although, strange to say, one felt generally disposed to admit its efficiency in that kind of traumatic synovitis which we call sprain. It was feared that in interfering in these cases by massage, even when applying that relatively mild form of it that we call effleurage, one would increase the inflammatory condition, and instead of benefiting the patient by such treatment, make a bad thing worse. This is further proof how difficult it is to overcome old, deeply rooted prejudices.

We see from the report of Bizet that some amputations performed on officers' legs fifty years ago were due to delayed treatment of sprains. We ought never with scrofulous persons allow an articular affection to become chronic. The initial phenomena disappear, the tumefaction diminishes, motion partly returns; but what is the result of all this? Very often a white swelling. We know that the duration and progress of arthropathies often depends upon the constitution of the individual, and that it is not wise to let an articular effusion under such circumstances go too far and assume a chronic form.

Massage ought, then, to be applied in sprains. In the hands of empirics it has produced unexpected results. A lot of technical maneuvers have arisen. Every healer has his own rules, and only confidence in these. But this confidence is absurd. We are face to face with various predispositions, and complex processes. No two cases are ever alike. How, then, can an unalterable method be employed in all cases? If we have to deal with a recent sprain it is not convenient to imitate the man of Thelus or the strong woman Bonnet has spoken of.

Progressive inflammations and exaggerated sensitiveness demand very slight friction—that is to say, effleurage. A diminution in the inflammatory condition is followed by a disappearance of the hyperæsthesia, as by massage the irritated extremities of the nerve filaments are relieved of the pressure caused by a liquid effusion in the interstices of the tissues.

Massage cures absolutely. Neither blood nor serous fluid remains behind in the tissues, provided that the divided parts are quickly brought together. Experience has shown that the reunion of subcutaneous wounds takes place more rapidly than that of open ones. If immobilization alone is resorted to something will always remain behind, and this would be sufficient to produce an acute attack in cases of even slight future accidents. One might call this a relapse, but it is not. It is a new affection in an organic territory, which has become the seat of less resistance in consequence of anatomical changes which were not anticipated nor prevented.

The indications are quite different in old cases. Here we have to deal with infiltrations, more or less chonic, and indurations. Effleurage or slight frictions would be of no use. Here powerful frictions are indicated. It is only by this means that cicatricial retractions can be cured. Passive movements are likewise indispensable, but it is above all patience, on the part of the patient as well as on the part of the physician, that we need. It is sometimes only after several weeks' treatment that we are enabled to restore all the functions of the joint that was apparently immobile forever. I do not wish any one to have to treat a neglected sprain in a person suffering from rheumatism. Diathesis and local affection are then combined. Sometimes it is claimed that the sprain was improperly treated. At other times that rheumatism accounts for the inflammation of the joint. All this may be true. The result, however, is an infirmity which seems to defy the best of treatment. This malady may nevertheless be overcome if we have full confidence in the efficiency of our method, and if applied most energetically and perseveringly.

Even in Pott's fracture it is most important to massage the always complicating sprain in the tibiotarsal joint. Indeed, this is more important than the massage for the fracture itself. It has been applied with great benefit for the last years, particularly in France. There this method has in these as well as in other cases of fracture gained more and more favor, owing to the many communications presented on this subject by its principal champion, Prof. Lucas Championnière, surgeon of St. Louis Hospital.

Of several cases of this kind I was called upon to treat, I mention here one that I saw in Paris many years ago. I do this in order to show the different results obtained by the modern and ancient method of treatment in this kind of fractures. The patient being a foreign ambassador, and at the same time a man advanced in years, I obtained here a complete cure without any complication, after only three to four weeks of treatment, by merely applying an ordinary bandage and massaging twice a day, particularly the complicating sprain.

In an identical case, which happened some few years later, and in the same city, to a representative of another power, an eminent surgeon of Paris was called. He applied, as had always been customary, a plaster-of-Paris bandage which kept the leg immobilized for five to six weeks. The result in this case was that when the bandage was removed the fracture had healed, but when the patient tried to walk he felt the joint, which was the seat of the sprain, as well as the joints of the toes, quite stiff, and there was, furthermore, what almost always happens with old people under these circumstances, an effusion in all the small tarsal joints. I heard that five months after this accident he was still disabled.

Walking, if possible, after a tibiotarsal sprain in slight cases, right away, and in more complex ones, after very few days, when we suppose that the healing of the ruptured parts has at least begun to set in, does not cause the inconveniences that were formerly ascribed to it. It was feared that by doing so the congestion of the tissues would be increased, the process would spread and be aggravated. This possibility, however, is not so threatening as was entertained. In slight cases we do not run any risk, according to my experience, if we allow the patient to use his foot from the start very moderately when for some reason or other he desires to do so. In regard to more severe cases, although I am not in favor of immobilization, I do not believe in passive and particularly active movements too soon. It is better to advise the patient two or three days' rest if it is possible. At the end of this time the patient will be allowed to take a few steps, but not to take long and fatiguing walks. In sprains, with rupture of the ligaments, the patient may not be permitted to walk, until we may suppose that the first act of the healing process is terminated.

If we have to deal with sprains in the lower extremity, application of a well-fitting roller bandage, after every séance of massage, is necessary, otherwise the œdema will reappear in walking. Judgment must be issued in massaging to prevent violent maneuvers. These are particularly injurious when the articular ligaments are torn or when fractures of the bones or lacerations of the periosteum coexist.

Passive movements should not be neglected. At first slight extension is exercised. Later on, when the inflammation has diminished, this may be increased. It is a wise plan to postpone passive movements if one has reason to suspect that the ligaments are torn to some extent, as was the case with some of my patients.

Case I. *Slight Sprain of the Tibiotarsal Joint.*—Massage. Walking possible after only one séance. Mrs. M., Paris, 46 years. Sprain after a false step. Pain immediate and sufficiently sharp to prevent her from taking any step. I was called some hours after the accident, March, 1889. Tibiotarsal region

slightly tumefied. Slight effusion in the above joint as well as in front of the malleoli (tenosynovitis in the sheaths of the extensors). No ecchymosis thus far. Screams at the slightest examination. No movement, active or passive possible. No malleolar fracture. Effleurage during half an hour. Immediate relief. Foot more supple and less painful. Tumefaction almost gone, and the effusion distinctly decreased. Felt so much better that she got up and tried to walk. She did as well as she could. When in the afternoon the following day I returned to give her another séance of massage I was greatly astonished to see her come downstairs and to tell me that she had been able to sleep during the last night, and that she was just now making her preparations to return to St. Germain, in the neighborhood of Paris, where she was living. She felt almost entirely well, and promised to return if necessary. Examination of the foot showed only a scarcely perceptible amount of effusion in the tibiotarsal joint. No tumefaction. Passive and active movements almost normal and not attended with any pain. The same lady told me that during the last two years she had twice suffered a sprain in the same joint, and presenting exactly the same phenomena. She was treated by absolute rest, medicated compresses, and application of an elastic bandage; but she was not cured in six weeks.

Case II. *Acute Traumatic Arthritis from Sprain in the Right Knee.*—Cure after 12 sittings (6 days). M. G., 35 years old, fell from his horse in October, 1880, and tore his knee (internal lateral ligament stretched, the knee having been turned inwardly). He had to be brought home in a carriage. I saw him the same day with an ice-bag on his knee. Tumefaction and redness; the slightest contact and spontaneous movements provoked extreme pain. Performing massage for three days (effleurage), every sitting lasting twenty minutes. The pain and sensitiveness has entirely disappeared, and the patient was able, without too much difficulty, to support himself on his leg. Complete cure after six more séances (two a day), the last ones in form of real frictions.

Case III. *Acute Traumatic Arthritis from Sprain of the Elbow.*—Massage. Cure. December 30, 1881, M. de Sch——,[2] in jumping over a heap of sand, fell in such a way that his hand struck the ground, the arm, as he believes, in slight flexion in the cubital joint. On my arriving the following morning the tumefaction of the joint was very marked, and he complained of a great deal of pain at the slightest movement. Posteriorly to and on each side of olecranon process there was distinct fluctuation. These regions were extremely sensitive to touch. The patient could not sleep on account of the pain. The forearm was in a position midway between flexion and extension. Passive and particularly active movements quite restrained. The hand in pronation, and movements of supination impossible. After causing the greatest part of the œdema to disappear by means of massage I found that the muscles about the elbow, although swollen and quite painful to the touch, were not the seat of any lesion. Massage, very painful at the beginning, was performed twice a day. The immediate effects were quite satisfactory, and the following night the patient was able to step. January 1 the patient has less violent and the manipulations are more easily tolerated. January 2. Passive movements, at least, to a certain degree possible. Tumefaction has greatly diminished, and there is only a slight fluctuation left. No more sensitiveness of the muscles of the forearm. January 4. Passive and active movements no longer painful, and possible to a normal degree. The hand remains no longer immobilized in pronation. Can put on his coat himself. January 11. I received a letter from the patient, who has left Paris, in which he says he can use his arm and his hand as well as before the accident.

Case IV. *Sprain of the Right Shoulder.*—Massage. Rapid cure. Mr. N., Paris, fell down a flight of stairs. He fell upon his right hand, the corresponding arm extended in order to gain support. Immediately felt a sharp pain in the shoulder region. This increased towards evening. Not able to make the slightest movement with the arm. Ice-bag followed by application of an elastic bandage. As there was no improvement the following day, I was called. Movements of the right scapulohumeral joint were almost suppressed. The patient was able to lift the arm a little, but he could not move it forwards nor backwards. The passive movements were also quite painful and very limited. He was not able to take his food without the aid of another person. No tumefaction, no ecchymosis. Distinct effusion in the shoulder joint. Effleurage—increasing force—for half an hour. The following day already marked improvement. Was able to move the arm without too much pain, the third day the movements more extended and much less painful. Slight passive movements. The fifth day complete cure, only slight impediment remaining in the active movements.

When we have to deal with the sprains of a large joint the tibiotarsal joint for instance, it is wise to apply at the end of treatment a linen bandage in order to give more steadiness to the joint and prevent relapses. It has to be worn for some days.

Sprain is one of those affections which gives the clearest indication for massage. It may be used in all cases, whatever its seat may be, whether immediately after the accident or later on. It is the only means of preventing serious disturbances or hastening the repair of those already existing. The method is essentially curative and wholesome. One might assume that the treatment of sprains occupies a prominent place in the statistics of scientific masseurs. My experience, however, leads me to believe the contrary. In the perusal of the notes I have taken since the commencement of my practice in Paris up to this date, I find 193 cases embracing 67 tibiotarsal, 24 femorotibial, 15 elbow, 52 radioulnar joint,* 24 wrist, 7 phalanges.

This is not much during more than twenty years of experience, and I am inclined to think that most of my colleagues who practice this same specialty might have remarked the same. There exists in large cities like this prejudices as in the country. An accident happens in the foot joint. The person has suffered neither a fracture nor luxation. Everybody congratulates him, and is on the point of telling him to get up and walk on. If he does not do this at once they attribute it to a little indolence or faintheartedness. A friend or a neighbor comforts him, and tells him the name of a practitioner who cures sprains, and he is asked to come. The great majority of simple sprains are treated in this way.

When I ask patients who come to me two or three weeks after the accident, or even still later, why they do not come before, I only obtain an evasive answer, and conclude an empiricist was consulted previously. This one often only eases the pain a little, diminishes the congestion and the swelling, and enables the patient to walk. If the case is an

* All these belong to an affection known as lawn tennis elbow, which is caused by extreme pronation of the forearm, with the arm in flexion.

ordinary one, it is a brilliant success; if it is a more serious one, it is quite another matter.

When patients apply to me on the same day or a day after the accident, I nearly always succeed in curing them after a treatment lasting from two to six days. When they came to me later it took of course a longer time, and they were sometimes only definitely cured after several weeks, when the disease had taken a chronic course. The objection may be raised that the rapidity with which results terminated in using massage are only relative; that, while some sprains were cured in a few séances, others require a treatment extending sometimes over several weeks, and that we meet with the same conditions as when treated by immobilization. No doubt a long time is sometimes necessary to attain a cure, but no mention is made of the fact that these cases were exceptionally severe ones, and that they were exceptions to the general rule. My countryman, Dr. Berghman, one of the most staunch supporters of Metzger's method, records the case of a sprain in which 52 séances were required to obtain a cure. But it must be granted that he had to do with an exceedingly serious and complicated case. When subcutaneous rupture of the ligament takes place in sprain no modification in the treatment is called for, except that the patient's movements be postponed somewhat. This rupture is by no means a contra-indication to massage, as the latter can only exercise a curative influence upon it, as it hastens the healing and restrains the complicating inflammation within due limits. I am glad to see that such an eminent masseur as Dr. Kleen,[7] as well as other specialists of massage, entirely share my opinion in this respect. It is in relation to sprain that massage was first spoken of. The works of the first French observers, Metzger's Thesis, the first memorials on this subject, emanating from the school of Amsterdam, all treat of massage for this affection, and let us not forget that Boudins, Malgaigne, Volkmann, Hüter, Duplay, and so many other physicians of repute, have insisted on the inconveniences which neglected and improperly treated sprains can produce.

In all sprains massage is the surest and simplest remedy, and the only rational treatment to be employed. Even under unfavorable circumstances, when we see the patient a long time after the accident, when more pronounced and anatomical disorders, or functional disturbances, have set in, we may still with perseverance overcome them. In acute or subacute cases I have already mentioned, in the beginning of the sitting, quite gentle strokes in the shape of effleurage ought to be applied, in order to occasion the least possible irritation and not too much pain. If after a few minutes of treatment the tension in the tissues is noticeably decreased, then we may use a little more force. Not until the treatment is further advanced and inflammation has become less intense is it advisable to introduce real frictions into the treatment.

The sittings ought to be the first days protracted —*i. e.*, of at least twenty minutes' duration—as in the acute cases of synovitis—and should, furthermore, when possible, take place several times daily, particularly on the first and second day after the accident. Such a procedure reduces the length of the cure to a considerable degree.

To sum up the treatment:

(1) At the initial stage in the presence of classical phenomena, including a great deal of pain, effleurage. (2) When the pain has decreased a great deal, frictions and passive movements; later, active movements. Walking at the beginning ought not to be permitted. (3) In all sprains of the lower extremities, after every séance, application of a gauze bandage, a precaution all the more indicated when the patients are allowed to use their legs and walk. (4) In order to prevent real relapses as well as to prevent the inflammation taking on a chronic character, the treatment ought to be kept up until complete restitution has taken place.

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EXPERIMENTS TO DETERMINE THE VALUE OF OXYGEN IN COMBINATION WITH THE DIFFERENT GENERAL ANÆSTHETICS.*

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My attention was first drawn to this subject by the remarkable and to me unwarranted difference, that Mr. Hewitt in his most excellent work on anæsthetics makes between nitrous oxide and oxygen and nitrous oxide and air on the one hand, and chloroform and oxygen and chloroform and air on the other. In the first instance, he states: "It is now established beyond all doubt that by employing certain percentages of atmospheric air with nitrous oxide a better form of anæsthesia can be obtained than with the undiluted gas, and that by using oxygen instead of atmospheric air, a still better form of anæsthesia is obtainable."

In referring to chloroform and oxygen he dismisses the subject in a few lines, saying he has had no personal experience with it, as it seems to offer no special advantages. Theoretically, oxygen *is* indicated with every anæsthetic and at all times. Normally for every volume of inspired air 4.8 per cent. of oxygen is abstracted, 4.3 per cent. of carbonic oxide is added. When narcotized the blood becomes more and more venous from two causes: (1) Any obstruction to the entrance of air into the lungs; (2) the blood not taking up from the air its usual supply of oxygen.

We also know that asphyxia is produced more by the diminution of oxygen than by the increased amount of carbon dioxid. According to Patton, Rumph found a decrease of 40 per cent. of carbonic oxide eliminated in the respiratory exchanges, and Richet found a decrease of 50 per cent. in the elimination of carbonic oxide in chloralized dogs. Bert's experiments with chloroform show a progressive diminution in oxygen absorbed and of carbonic oxide given off. Lorrain Smith has shown that dyspnœa from change in the gaseous composition of the blood may be due to a deficiency of oxygen.

Richet states that blood which contains an anæsthetic in solution preserves, when shaken with air, its full ability for fixing oxygen. Irregular forms of breathing may also occur from too little oxygen, as in the close administration of volatile agents; or from carbonic oxide dyspnœa, as in rebreathing during the administration.

It might be as well here to refer briefly to the his-

* Read at a meeting of the Surgical Section of the New York Academy of Medicine, October 7, 1904.

tory of nitrous oxide and oxygen. As this special combination has been so fully experimented with and practically demonstrated by Hewitt and others, it would have been superfluous for me to attempt anything further. In 1868 Dr. E. Andrews, of Chicago, published accounts of several cases in which, by mixing oxygen with nitrous oxide, he had obtained a more satisfactory form of anæsthesia than with nitrous oxide alone; but his observations failed to attract the attention they deserved. Paul Bert in 1878 again drew attention by a series of experiments to this form of anæsthetizing. In his concluding remarks on nitrous oxide and oxygen, Hewitt states that those patients who otherwise might evince symptoms of embarrassed breathing at the acme of ordinary nitrous oxide anæsthesia, are certainly less likely to do so in the presence of oxygen, and that no fatalities have been recorded with this anæsthesia.

The object of giving oxygen instead of air with nitrous oxide, is to be able to replace the high per cent. of useless nitrogen in the air by a corresponding amount of useful nitrous oxide, the percentage of oxygen remaining the same. Cyanosis and other evidences of diminished blood oxygenation will thus be prevented.

Chloroform and oxygen anæsthesia was first introduced by Neudorfer of Vienna in 1886. He excluded all air and used a tightly fitting face-piece. Bertel stated before the St. Petersburg Medical Society that a more rapid and successful anæsthesia follows its use, and that it is practically free from risk.

Kreutzmann used a Junkers chloroform inhaler for this method, allowing oxygen instead of air to pass through the chloroform. The *British Medical Journal* of January 25, 1896, states that the number of cases in which chloroform and oxygen have been employed by either of these plans, has been too few for any definite conclusion to be drawn as to its value. If, as is claimed, it lessens excitement, vomiting, and after headache, and robs chloroform of much of its danger, it does a great deal and deserves further trial and careful study.

Different surgeons and anæsthetists have from time to time recommended the Junker inhaler and the vapor method of giving chloroform. A few of them have further stated that oxygen is preferable to ordinary air on account of its minimizing the after-effects of the narcosis. But no experiments have been made or reasons given up to this time, as to why we should use oxygen instead of atmospheric air with the different anæsthetics. As the main object of this paper is to state (and I hope prove) a new principle, still it might be wise to pause here sufficiently long to note a very glaring defect in the Junker chloroform inhaler as sold and used in Great Britain and elsewhere to-day.

This inhaler has a closed mask, with an expiratory valve. In pumping the vapor to the patient there is no possible method of determining whether or not said patient is getting a sufficient supply of it at each inspiration. If the amount is insufficient, a terrific and needless strain is placed at once upon both heart and lungs, which if repeated, could easily bring on a train of asphyxial symptoms that it might not be possible to check. This has been remedied (in my cat inhalers) by placing a very small, thin, and easily inflatable rubber bag next to the inhaler, and by keeping this two-thirds full, this danger is eliminated. The principle that I have deduced from my experiments in this, *oxygen increases the value of all anæsthetics as regards life, without decreasing their anæsthetic effect.*

The experiments of Priestly and others, with which you are all familiar and as cited in Dr. Wallian's translation of Demarquay's work on Pneumatology, of placing small animals under two different receivers, one filled with oxygen and the other with air, show that those under the oxygen receiver survived twice as long as the others; also, that the death of birds in oxygen was not accompanied by convulsions, as those that died in air; also, that the heart retains its irritability for several hours when death takes place in oxygen.

Demarquay immersed two kittens in water and kept them there until they had lost consciousness and were completely asphyxiated. One had previously been confined for twenty minutes in a glass case containing two parts of oxygen and one of air, the other had breathed only atmospheric air. On removing them from the water there was only a slight movement of the lower jaw. At the end of a minute and a half the superoxygenated kitten arose and totteringly walked around and made an uneventful recovery. The other partially recovered at the end of fifteen minutes, but died the next day. These experiments were repeated a number of times, but always with the same result.

The above experiments, illustrating the value of oxygen as compared to air, have been practically paralleled by me in using them with the various anæsthetics. Regardless of the anæsthetic used, animals have lived twice as long with oxygen as when air was used. They usually die quietly with oxygen, and in convulsions with air. With oxygen their hearts also continued to beat longer after respiration ceased. I may add here that the heart always continued to beat a variable length of time after respiration ceased, whether air or oxygen was used, and with all anæsthetics. I have also been more often successful in reviving them after death when oxygen was used, than with air. I have not allowed them to come to and noted the after effect, but as I constantly use oxygen in my private practice with both chloroform and ether, I can state absolutely that it reduces the after effects to a minimum.

In my experiments I have used a closed mask with an expiratory valve, with the light rubber bag already referred to, just behind the mask. I have used exactly the same amount of anæsthetic (ʒvii) and have also attempted to so regulate the flow of air and oxygen that the technique in each instance would be the same. In order to determine the difference in toxicity of the drugs used, the time was taken from the application of the mask to the stoppage of the heart. As the toxic effects came on so rapidly, observations on the pulse and respiration and blood pressure were of little value. These will be reported in a subsequent paper, when the methods of anæsthetization will be entirely different. To make these experiments valuable and as accurate as possible, I have killed over one hundred cats altogether, and have recorded the average time. In selecting the feline subjects for these experiments I have not deemed it necessary to enter into details of the exact weight, age, size and physical condition of each animal. I have, however, endeavored to select for each comparison animals as nearly alike in all essential respects as possible. The results have, as will be seen from the table, varied in accordance with individual characteristics and conditions; but the result as a whole is seen to uniformly and invariably confirm the claim that the use of oxygen in connection with any form of anæsthetic, practically eliminates the percentage of danger which has hitherto been recognized as inseparable from the practice of anæsthesia.

Twenty-six cats were killed with chloroform and air, the average time being nine minutes, the shortest

time three minutes, the longest seventeen minutes. Thirty-eight cats were killed with chloroform and oxygen, the average time being twenty-one minutes, the shortest time five minutes, and the longest one hour and a half.

With one part chloroform and two parts ether I killed thirteen cats in all, six with air and seven with oxygen; the average time with air was nineteen minutes; with oxygen thirty-five minutes. The shortest time with this mixture and air was fifteen minutes, the longest time thirty minutes. The shortest time with oxygen was sixteen minutes, the longest one hour and ten minutes.

With ether and air twelve were killed, the average time being nineteen minutes, the shortest time fifteen, the longest thirty-three minutes. Seven were killd with the same anæsthetic and oxygen, the average time being thirty-five minutes, the shortest twenty-five and the longest one hour. With anæsthol six were killed altogether, three with air and three with oxygen, the average time with the first combination being nineteen minutes, with oxygen fifty-six. The shortest time with air was ten minutes, the longest twenty-six; the shortest time with oxygen fourteen and a half minutes, the longest one hour and fourteen minutes; but too few experiments have been made with it to admit of a comparison with the other general anæsthetics; however, it is improved more than any of the others by oxygen, its value being nearly three times as great as when administered with air.

From the above it will be seen that chloroform and oxygen is more than twice as safe as chloroform and air, and is also safer than any of the other general anæsthetics with air. This means that instead of a very high mortality, chloroform and oxygen is now as safe as ether. But all of the other general anæsthetics are also increased in value by oxygen.

From the above data it will be seen that the principle stated in the first part of this paper is true, viz., *oxygen increases the value of all anæsthetics as regards life, without decreasing their anæsthetic effect.*

I have to thank the Kny-Scheerer Co. and the Walton Oxygen Co. for efficient assistance.

NOTE.—After the reading of this paper, three cats were anæsthetized, with the following results: Chloroform and air, death in twenty minutes; ether and air, sixteen and a half minutes. At the end of fifty-one minutes, the cat anæsthetized with oxygen and chloroform was breathing regularly, when, at the request of the chairman, the anæsthetic was stopped. Oxygen was administered for a few minutes, and the animal made an uneventful recovery.

124 EAST SIXTEENTH STREET.

EXPERIMENTS UPON CATS WITH THE DIFFERENT ANÆSTHETICS IN ORDER TO DETERMINE THEIR RELATIVE VALUE WHEN USED WITH AIR AND OXYGEN RESPECTIVELY.

The first column indicates the number of the experiment; the second and third columns the number of minutes required to kill.

CHLOROFORM

with Air.	with Oxygen.	with Air.	with Oxygen.
1.— 4½	26	21.—16	28½
2.— 3	5	22.—13	33
3.— 7½	10	23.—16	8
4.— 7	5½	24.—11	10½
5.— 4	30	25.—12	10
6.— 4	40	26.—12	10½
7.— 3½	28	27.—..	18
8.— 7½	13	28.—..	7
9.— 9	5	29.—..	18½
10.— 5½	8	30.—..	41½
11.— 7	15	31.—..	13
12.—10	17	32.—..	26
13.— 6	30	33.—..	7½
14.— 9	30	34.—..	90
15.—10	13	35.—..	14
16.— 7½	18	36.—..	26
17.—10½	14	37.—..	23
18.—10	30	38.—..	33½
19.—10	16½		
20.—17	37	Average 8.92	21.3

ETHER

with Air.	with Oxygen.	with Air.	with Oxygen.
1.—15	25	8.—21	..
2.—18	29½	9.—16	..
3.—27	33½	10.— 9	..
4.—15	34	11.—18½	..
5.—33	27	12.—28½	..
6.—16	40		
7.—18	61½	Average 19	35

MIXED CHLOROFORM AND ETHER.

with Air.	with Oxygen.	with Air.	with Oxygen.
1.—15	40	6.—30	22
2.—30	16	7.—..	28½
3.—10½	70		
4.—15	37	Average 19	36
5.—17	42		

ANÆSTHOL

with Air.	with Oxygen.
1.—21	38
2.—26	14½
3.—10	74
Average 19	Average 42

CONGENITAL ABSENCE OF VAGINA; OPERATION.

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MRS. A. S., age 26, married three years, consulted me April 17, 1904, regarding inability to have coitus, and with the object of having something done to permit of fulfilling that marital function. She never menstruated, never had any vicarious bleeding nor periodic pains. She had married the man of her own choice in preference to the one her parents wanted her to marry. Coitus was impossible, and attempts were painful, though she claimed she had sexual desire and gratification from the attempt. She said that during the contact the vulva became moistened with her own secretion.

Her general appearance and development is that of the normal female except that she has a double thumb on one hand. The breasts are well developed, labia majora and minora, urethral orifice, hair on mons and labia are all normal. The orifice of the vagina is covered in by skin from the inner reflections of the labia minora. Pressure with the finger on this area allows of its deepening about a half inch beyond the labia minora. This she says has not been so originally, but is the result of a stretching done by a midwife and of attempts at coition. The pain she complained of is due to some tenderness at the fourchette. A rectal examination disclosed no evidence of the presence of the uterus and ovaries. The subsequent examination under anæsthesia previous to operation, made by Dr. A. Brothers and myself and members of my house staff, revealed no evidence of the presence of any rudimentary uterus or ovaries. There was found a fibrous band running across the pelvis from side to side between the bladder and rectum, very likely the remains of undeveloped Müller's ducts.

As she was anxious to have something done solely for the sake of permitting coitus, I undertook to do what I could to construct a canal, though I had my misgivings as to results. The generally advised procedure is dissection between the bladder and rectum for two to three inches and utilization of the neighboring skin for flaps to cover in the raw surface, or utilization of redundant vaginal tissue from

another patient, or Thiersch skin grafts for the same purpose. These procedures did not appeal to me as giving hope of satisfactory results, especially as even their advocates were not enthusiastic regarding their success. Plastic work with flaps from the same patient would not supply enough to cover in sufficient surface for an orifice of large enough calibre, even if the flaps would stay where they were put and unite primarily, which in itself could hardly be expected. Vaginal tissue from another patient could not be obtained in sufficient quantity, and even if it could would have little chance of becoming vitalized. The objections to Thiersch skin grafting as a lining for the cavity would be the impracticability of thoroughly covering the vault and sides and keeping the grafts in place during the necessary manipulations.

I thought that if I could preserve a circle of tissue *in situ* to form the vault and push it up to its new position by loosening its adhesions as deeply as necessary, I could then, while holding the vault in its position by pressure inwards with a glass vaginal dilator, apply Thiersch skin grafts to the circumferential gap produced, first on one side, then on the other by tilting the dilator from side to side, and because of the limited movement of the dilator necessary, not disturbing those grafts already put in place.

I proceeded on these lines, making first a circular incision through the mucous membrane, beginning just below the urethra in front, crossing over to and including almost the whole labia minora on either side and from there well outside the vaginal orifice and on to and across the perineum. This gave me quite a large circle of skin that when loosened and pushed up into place sufficed not only for the top of the cavity, but for a small distance down on the sides as well. Its attachments were loosened up freely whenever they were found to interfere with its being pushed up into place, until the whole length of the glass dilator, fully three inches, entered the newly made canal. Now, while holding the dilator in, under tension against the vault, by tilting it to one side and retracting the margin of the orifice in the opposite direction, the gap of raw surface, one part at a time, was approachable for placing the Thiersch grafts. These were taken from the patient's thigh and immediately placed in position.

From the time the grafting was begun until the end of the operation the dilator was held in position under tension against the vault and then strapped in place with long strips of adhesive plaster over the buttock and abdomen to prevent disarrangement of the grafts. This dressing was maintained with the patient perfectly quiet on her back for five days, the bladder being catheterized and the bowels retained. On the sixth day the dilator was removed for cleansing purposes. It was then replaced for three days and subsequently removed daily for a vaginal douche.

The adhesive plaster becoming troublesome, was replaced in the second week with a McIntosh uterine supporter arrangement, the rubber bands of which were adjusted to hold the glass dilator in the vagina under tension. With this she was able to walk around.

The grafts all took nicely except at the upper angles of the incision in the labia minora, but this had cicatrized over by the end of the second week. The dilator was kept in the vagina for eighteen days, and so long as it was retained it necessarily kept the cavity from contracting. It was then removed and no further dressing applied.

At the end of the third week the patient was allowed to leave the hospital with instructions to report in a week, which she did. On this examination I found a vagina freely admitting two fingers for two and a half inches, and with a little pressure almost three inches, without causing any pain. She was instructed that she might now fulfil her marital duties and to report back again.

On August 1, over three months after operation, examination showed a canal of sufficient calibre to admit two fingers for two and a half inches. The patient stated that coitus was natural and conditions satisfactory.

240 East Broadway

Structural Alterations of the Thyroid Produced by Phosphorus and Arsenic in the Treatment of Goiter.—Luigi Macaggi details experiments entered into by him with reference to the effects of phosphorus and arsenic on the thyroid of dogs. In cases of exophthalmic goiter in man it has been found that the amount of iodine in the gland is 90 per cent. less than normal, while the phosphorus is markedly increased. The administration of phosphoric acid causes the iodine to increase, while the phosphorus decreases. The probable effect of the phosphorus is to increase the activity of the gland. At the same time, the size of the tumor decreases, especially in hyperplastic and vascular goiters, and in Graves' disease. In his experiments the drugs were injected into dogs, and after death the bodies were examined. Microscopically, in both cases, the glands were much congested and reddish, and the superficial veins were markedly injected. The lymphatic glands were filled with colloid material. In the thyroid there were some areas of fumefied epithelium, more transparent and stained with difficulty. In more rapid cases there was fatty degeneration of the epithelium. In slower cases, the contents of the glandular utricles were decreased, and there was an increase of colloid material in the lymphatics. In acute cases of poisoning with arsenic or phosphorus there is therefore an increase and a migration of colloid material toward the lymphatics, while in subacute cases there is a lessening of the colloid and an atrophy of the epithelium.—*La Riforma Medica.*

Some Symptoms and the Leucocyte Formula in Acute Poisoning by Mushrooms.—Umberto Gabbi reports three cases of poisoning by mushrooms that he has carefully observed, and in which the examination of the blood was carefully made. Two of the patients recovered, the other died. All commenced with severe and violent vomiting, and the stomach became dilated, the liver and spleen enlarged. The vomiting was bilious in character and was regarded by the author as indicating a true overaction of the liver in the effort to eliminate the poison. The arterial pressure was lowered, while the pulse was somewhat increased in frequency. The fungus eaten was believed to be *Agaricus virosus*, which contains muscarine and amanitine. Muscarine is an arterial depressant. The blood examination showed increase of hæmoglobin, slight leucocytosis, marked polynucleosis, and many large mononucleated cells. The polynucleosis he interprets as due to an organic reaction against the poison, rapid, marked, and lasting.—*La Riforma Medica.*

The Suprapubic Transverse Incision.—Vertes says that the Pfannenstiel incision has been found very satisfactory at Döderlein's clinic in Tübingen. In pelvice operations it possesses many advantages over the vertical incision, particularly in the diminished risk of ventral hernia, and in the greater ease with which the lateral portions of the pelvis can be reached. It is well adapted to replace vaginal operations, since the scar is concealed beneath the pubic hair, and is, therefore, not disfiguring. These facts are illustrated by the statistics of the clinic. In 1903 the median incisions were to the transverse incisions in the ratio of 2.8 to 1, and twice as many laparotomies as vaginal operations were done. In the first half of 1904 the transverse incisions exceeded the vertical incisions in the ratio of 1.4 to 1, and laparotomies were three times as numerous as vaginal operations.—*Zentralblatt für Gynäkologie.*

MEDICAL RECORD.

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THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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THE NATURE OF CARCINOMA.

SURROUNDED by the whitening bones of many shattered theories, the Sphinx of modern medicine still turns an inscrutable countenance upon her questioners, but undaunted by the fate of his predecessors a new Œdipus comes forward with a ready answer to the grim riddle. Kelling (*Münchener medizinische Wochenschrift*, June 14, and October 25, 1904) propounds a theory which not only appears plausible, but surpasses all others in that it is not merely of theoretical interest but promises to be possibly of direct service in the fields of diagnosis, treatment, and prophylaxis. He agrees with the adherents of the parasitic theory in believing that the causative factor enters the body from without, and with the followers of Cohnheim in concluding that the heterotopic cells occurring in malignant tumors are embryonal in nature. The combination of these two views leads to the conclusion that embryonal cells from animals other than man gain access to the human body, and lodging there proliferate to form tumors. The normal cells are kept in physiological restraint by certain properties of the body fluids such as the lymph, but these intruders of foreign nature are subject to no such dominance, and their growth is therefore characterized by the lawlessness typical of malignant neoplasms. Such cells are supposed to enter the blood or to be deposited in the wounds of the skin or mucous membranes, by way of the food or through the medium of carnivorous insects.

The embryonal cells most commonly gaining entry to the body are those found in hens' eggs, and the author began his experiments with these. Triturations of chick embryos, such as are found in eggs that are a few days old, were injected into dogs, with the result that tumors having the gross and microscopic characteristics of malignancy were produced. The similar administration of cells from pigs' embryos gave a like result. Every effort was made to exclude sources of error, but of themselves these results, though noteworthy, would not have the significance they do were it not for the next step. A portion of the tumor in a fatal case of gastric carcinoma was macerated and the extract injected into a rabbit. In due course of time this animal yielded a serum which not only gave, as was to be expected, a precipitin reaction with extract of the tumor and with human albumin, but also one with *chicken* albumin, though not with any other sort of albumin, thereby proving that the tumor contained a recognizable amount of albumin having the characteristics of that obtained from the hen. The author has tested in this way twenty-four cases of malignant disease in man and obtained positive results in eleven. Nine of these were new growths of the intestinal tract and gave the reaction for chicken albumin, while a sarcoma and teratoma of the ovary and testicle, respectively, responded to the test for pig albumin. The author ascribes the negative results in the other cases to possible change in the foreign albumin through degeneration of the cells, to inadequate extraction of the albumin, and to the fact that in the cases in question the albumin may have originated from animals other than the hen or pig.

It is possible to go even further than this, however, and we may expect to find that the circulating blood of carcinoma patients contains substances capable of giving a precipitate with the serum of rabbits adapted for the specific albumin. In fact, out of fifteen cases tested in this way by the author, a positive reaction was obtained in ten, using only chicken and pig sera. The inestimable advantage of being able to make an early diagnosis of such conditions as gastric carcinoma, in which operation loses much of its value when performed after the disease is recognizable by the ordinary methods, needs no comment. In one case described by Kelling he operated solely on the strength of the positive serum reaction and found a new growth of the lesser curvature high up under the ribs where it was not accessible to palpation. In three other cases diagnosed as carcinoma on the clinical evidence, but giving a negative reaction, laparotomy revealed non-malignant conditions. A consideration of the facts involved shows that the production of a serum which shall at least prevent or retard recurrences does not seem unlikely, and the author is making attempts in this direction.

A prophylactic crusade carried out on the lines suggested by this theory does not present the difficulties attending the prevention of microbic disorders, and offers much better chances of success. The author says that it is probable that the various other sources of such embryonal transplantations will be discovered, and these must be excluded from our dietary in the uncooked state. Eggs of all sorts, including fish roe, must be well cooked, and great care be taken to prevent contamination of sausage meat, etc., with embryonal tissues from the uteri of the sows or other food-animals used. Insects of all sorts, and also cats and dogs through their habits are likely to be carriers of infection and must be treated accordingly. So sanguine is the author that he expresses the belief that the younger generation of medical men will live to see the day when cancer will be a rarity among people of the educated classes. Whatever merits this theory will ultimately be found to possess, its publication should at least stimulate investigation in what appears to be a promising field of research.

THE TREATMENT OF POST-PARTUM HEMORRHAGE.

IN *The Practitioner* for October are three articles written severally by an English, a Scotch, and an Irish obstetrician on post-partum hemorrhage. The first article is contributed by Dr. D. Berry Hart of Edinburgh. As to the treatment of hemorrhage during the third stage of labor, the writer describes the procedure as follows:—The uterus is firmly grasped

—thumb in front, fingers behind—and squeezed and shaken as it were; usually it becomes firm at once. A hypodermic injection of ergotin is then given. Should this fail, the fingers of the right hand are passed into the vagina, the cervix is grasped all round by the fingers, and the uterus bimanually compressed and anteflexed. In the meantime the nurse has the hot douche ready (115° to 120° F.), and she is instructed to push the tube into the vagina, the practitioner's fingers guiding it up to the roof of the vagina. The hot flow reflexly stimulates the uterus, bringing on retraction and stopping the undue discharge. If, after the placenta is expelled or removed, bleeding begins again, or commences for the first time, it is strict post-partum hemorrhage, and must be treated as described above.

Dr. Hart sums up the main points in treatment as follows: During the labor one must avoid the extremes of undue delay and undue haste. Forceps and turning, when necessary, should be employed whenever possible with dilated parts. The third stage should not be hurried, as meddlesomeness exhausts the uterine muscle. One should let the uterus in a normal case separate the placenta and membranes, but the expulsion may be aided by suprapubic pressure. When hemorrhage occurs from the passive portion of the genital tract, the treatment consists in pressure or suture; when it is from the active position, all that secures uterine retraction, and failing this pressure by tampon, must be considered.

Dr. John Phillips of London considers post-partum hemorrhage under four heads: (1) Visible hemorrhage. (2) Concealed. (3) Traumatic. (4) Secondary. In the treatment of the first condition, Dr. Phillips resorts to the bimanual method and hot water; but if the hemorrhage still continues, he passes a Sims speculum into the vagina and plugs the uterine cavity with sterilized gauze, or applies a solution of adrenalin to the interior, at the same time observing whether from any laceration of the cervix, vagina, or perineum any large amount of blood is being lost. Concealed hemorrhage into the dilated uterus in so-called hour-glass contraction is treated by removing the causative agent, viz., the clot, from the cavity of the uterus. Traumatic hemorrhage, which arises from laceration of a large vessel in the cervix, vaginal wall, or perineum, with an excessive lochial flow still going on after the uterus is well contracted, should be treated by the patient being placed upon her back, the buttocks being well over the edge of the bed and the knees drawn up, and a large Sims speculum then passed. Should the hemorrhage be coming from the cervix, a deep suture passed with a curved needle beneath the bleeding points would be sufficient to prevent it. If the hemorrhage arises from a vessel in the vagina or perineum, its ligature, and complete control of the circulation, is a very simple procedure. If slight rupture of the uterus in its lower segment has occurred, careful packing with sterile gauze will be, as a rule, sufficient. The treatment of secondary post-partum hemorrhage is obviously that of other hemorrhages.

The third paper is by Dr. Henry Jellett of Dublin, who lays down five principles to be followed in the case of post-partum hemorrhage. These principles may be formulated as follows, assuming that a case of hemorrhage is to be dealt with which commenced during the third stage of labor, *i.e.* prior to the expulsion of the placenta: *First principle:* When hemorrhage occurs after the birth of the infant, we should stimulate uterine contractions, in order that the uterus may empty itself. *Second principle:* If the uterus fails to do so, and if hemorrhage continues, the uterus must be emptied artificially. *Third principle:* If the hemorrhage still continues, further measures to stimulate uterine contraction may be adopted, provided that a dangerous amount of blood has not been already lost. *Fourth principle:* If these measures fail, the final cessation of the hemorrhage must be ensured by plugging the uterovaginal canal. *Fifth principle:* During these procedures, and subsequently, the condition of the patient must be watched and the necessary measures adopted to ward off threatened cardiac failure.

Dr. Jellett then proceeds to describe in detail the methods employed by him in carrying out these principles, which are almost identical with those adopted at the Rotunda Hospital, Dublin. As to the fourth principle—that if the hemorrhage is not checked by other measures its final cessation must be effected by plugging the uterovaginal canal—it is, says the writer, not so universally accepted perhaps as the first three. He, however, is firmly of the opinion, borne upon him by personal experience in hundreds of cases, that plugging with iodoform gauze is an absolutely effective means of stopping hemorrhage. Dr. Jellett points out that the results of the treatment outlined by him may be seen from the statistics of the Rotunda Hospital, Dublin, for the past fourteen years. During this period there were slightly over 20,000 patients confined in the hospital, and of this number two died as a result of post-partum hemorrhage, a mortality of .01 per cent.

From a consideration of the three articles in *The Practitioner*, it may be gathered that in order to arrest post-partum hemorrhage, bimanual pressure upon the uterus, injection of hot water into its cavity, or of ergotin into the circulation to assist in the action of contraction, and plugging of the cavity with some kind of tampon, are the main measures indicated.

It is in cases of atony of the muscular substance of the uterus, preventing its contraction, that treatment is most difficult.

Typhoid Fever in the Tropics.

At one time it was believed that typhoid fever was of very rare occurrence in tropical countries, in fact, as Sir Patrick Manson wrote, "the existence of typhoid fever in the tropics was for long not only ignored, but actually denied even by physicians and pathologists of repute." Dr. Thomas C. Biddle, late captain and assistant surgeon in the Kansas Volunteer Infantry, writes on the subject in the *Journal of the Association of Military Surgeons* for August, and puts forward the view that camp life and its influences, even in our Southern States, so changed the clinical history of typhoid fever that the diagnosis was often confusing to the inexperienced in such service. At any rate, there can be no doubt that in the tropics malarial influence in a large proportion of cases of typhoid fever alters the characteristic symptoms of the disease. Typhoid fever now ranks, not only as a common tropical malady, but to the white man there as one of the most deadly.

Referring to tropical typhoid fever, as observed by him in Porto Rico, Dr. Biddle says: "Of the peculiarities of tropical typhoid fever the one that impressed me most strikingly was the presence of

hemorrhagic complications. Intestinal hemorrhages were frequent and alarmingly excessive, although if the hemorrhage was not fatal, the fever usually subsided, and the cases progressed more favorably after the hemorrhage." The writer concludes that these hemorrhagic symptoms are due to blood changes, and that they are the most distinctive characteristic of tropical typhoid fever. He also draws attention to the fact that the temperature and pulse range were not especially different from those observed in temperate latitudes.

With regard to treatment, Dr. Biddle believes that the most desirable place to treat tropical typhoid is in a well-floored and drained tent, and he thinks that fever patients should be allowed to remain where they are located until convalescence is established. He is of the opinion that the practice of carrying typhoid fever patients home in hospital ships during the course of the disease is not good.

Texas Fever in the Philippine Islands.

Bulletin No. 2 of the Entomological Division of the Biological Laboratory, Manila, has been recently issued. The subject is, "Texas Fever in the Philippine Islands and in the Far East," and the authors are Dr. James W. Jobling and Dr. Paul G. Wooley. In November, 1903, American cattle of medium size and of good antecedents were imported into Manila, in order to attempt to improve the grade of native animals. So as not to introduce Texas fever, the cattle exported from the United States had been purchased at places 100 to 150 miles north of the Texas-fever line, in California, all the animals having been raised in the places where they were bought with the exception of one heifer. At the time of disembarkation the animals appeared to be in good condition and not suffering from any acute or chronic disease. The animals were immediately immunized with immune serum, and as soon as virulent blood could be obtained "simultaneous inoculation" was given to all but one animal. The animal from which the virulent blood was taken was received from Shanghai on November 28, developed rinderpest within a few days after arrival without having been inoculated, and was bled to death on December 3, 1903.

The results of treatment in the cases of the American cattle were disastrous, for in a short time, varying in individual cases from four to eight days, the temperature rose abruptly to between 41° and 42° C., and five of the animals died.

Besides these cases, two others occurred in Australian cattle, which were said to have come from a district where neither the ticks nor the disease itself had ever been seen. The animals were temporarily immunized with serum, but shortly after both died with symptoms of Texas fever, and the organisms were found in stained specimens of the blood.

These facts at once brought up the question as to the origin of the disease, and in order to answer this question it was necessary to discover whether the native or Chinese animals were immune to the disease, and whether or not American cattle presumably not immune could be infected by injecting into them the blood from the healthy native or Chinese cattle. The experiments undertaken to elucidate these points showed, first, that native or Chinese animals could not be infected with Texas fever by subcutaneous inoculation with relatively large quantities of blood containing the living parasites; second, that susceptible, nonimmune American animals would acquire the disease following injections of blood taken from apparently healthy Chinese animals which had been immunized to rinderpest in the Philippine Islands; third, that the disease dealt with was true Texas fever, and not the atypical South African, or Rhodesian fever; and fourth, that a tick (*Boophilus australis*), the intermediate host of the parasite of Australian piroplasmosis, is present in the Philippines. The conclusion reached by the investigators was, therefore, that Texas fever is endemic, not only in India, but also in China, Java, Borneo, Cochin China, Singapore, and the Philippine Islands, and that the majority at least of all native and Chinese animals are immune to the disease.

The Evil of Soft Food for Children.

At the Congress of the British Royal Institute of Public Health, held at Folkestone on July 21, Mr. J. G. Turner called attention to the fact that soft food was a fruitful source of caries in young children, starch and sugar, which undergo acid fermentation, being specially harmful and preparing the way for bacterial attacks on the dentine. He advocated hard food as a preventive of caries, insuring mechanical cleansing of some parts and flushing of others by saliva.

At the same meeting Dr. Harry Campbell read a paper on the same subject. He dwelt upon the great importance of giving children their starchy food in a form compelling adequate mastication. He drew attention to the fact that not only were digestive disturbances occasioned by soft food, but the maxillary apparatus not being exercised adequately did not develop properly, neither did the nasal passages nor the nasopharynx. The teeth were apt to be irregular and to decay early, and the child became the victim of adenoids. That the latter was a dietetic disease the speaker had no doubt. Dr. Campbell advised that hard, solid foods should be given at the age of seven months, when the infant should be allowed to gnaw at chop bones and chicken bones and to eat hard, leathery crusts, biscuits, sugar-cane, and certain fruits. In this way the child learned to masticate by instinct, and not till then should a limited quantity of the softer farinaceous foods be permitted. Throughout childhood, concluded the speaker, the bulk of the starchy foods should be in a form which would compel mastication, since that not only favored the development of passages and nasopharynx, but further insured buccal digestion.

Exanthematic Typhoid Fever.

The qualification exanthematic has been applied to a form of typhoid fever characterized by excessive profuseness of the roseolous eruption. The spots often make their appearance early, are of marked size, present in large number, and distributed over the entire cutaneous surface. They may be ecchymotic or papular. It would appear as if an inverse relation existed between the number of the rose-spots and the intensity and extent of the intestinal lesions, as in the exanthematic type the intestinal symptoms are said to be exceedingly slight, although the severity of the constitutional phenomena may be in no way mitigated. The prognosis likewise appears to be the more favorable the larger the number of spots, as the duration of the disease is shorter, while serious complications are rare.

The German Emperor is again reported to be suffering from a return of his throat trouble, and it is said that another operation will be necessary.

News of the Week.

Professor Theobald Smith of Harvard University will deliver an address upon "The Place of Research in the University Medical School" before the Harvard Medical Society of New York City, in Hosack Hall, New York Academy of Medicine, on Saturday, November 26, at 8.30 P. M. Members of the medical profession are cordially invited to attend.

The Fourth Pan-American Medical Congress.—Dr. Rudolph Matas, Secretary of the Section of General Surgery for the United States, asks those who wish to contribute papers in this section to send titles to him at No. 2255 St. Charles avenue, New Orleans. He also announces that the United Fruit Company's agents are offering as a special inducement to American "Congresistas" a reduction of the regular fare for the round trip from New Orleans to the Isthmus to $50—that is, $25 each way. The steamers leave New Orleans every Friday: the last steamer to leave New Orleans in time for the opening of the Congress will sail on December 30, 1904, at eleven A. M. The voyage to Colon takes four and a half days, but the return trip consumes seven days on account of a stop-over at Port Limon, where ample opportunity is given to tourists to visit San José.

University of Pennsylvania Medical Alumni Association.—The following have been elected officers of the Philadelphia Alumni Society of the Medical Department of the University of Pennsylvania for the ensuing year: *President,* Dr. J. F. Schamberg; *Honorary Vice-President,* Provost Harrison; *Vice-Presidents,* Drs. De Forest Willard, Edmund W. Holmes, John Marshall, A. H. Davisson, Joseph Gibb; *Treasurer,* Dr. Herbert B. Carpenter; *Secretary,* Dr. B. F. Stahl.

National Association for the Study of Epilepsy.—The fourth annual meeting of the National Association for the Study of Epilepsy, etc., will be held in the Medical Library, "The Fenway," Boston, on November 22. The Association invites all persons interested in the welfare of epileptics, and in charity work generally, to attend this meeting. A number of papers on the etiology, progress, and treatment of epilepsy will be read. The objects of the Association are: (1) To promote the general welfare of sufferers from epilepsy; (2) To stimulate the study of the causes and the methods of cure of this disease; (3) To advocate the care of epileptics in institutions where they may (*a*) receive a common school education, (*b*) acquire trades, (*c*) be treated by the best medical skill for their malady; (4) To assist the various States in America in making proper provisions for epileptics. The officers of the accociation are: *President,* Dr. William N. Bullard, Boston; *Vice-Presidents,* William P. Letchworth, LL.D., Portage, N. Y.; Dr. William Osler, Baltimore; *Secretary and Treasurer,* Dr. William P. Spratling, Sonyea, N. Y.

An International Congress of Surgery.—Announcement is made that the first congress of the International Surgical Society will be held at Brussels in September, 1905, under the presidency of Prof. Th. Kocher of Berne. The congress, which will be participated in by members only, will be devoted wholly to a discussion of the following six subjects: 1. "Value of Blood Examinations in Surgery," discussion to be opened by Drs. W. W. Keen of Philadelphia, Sonnenburg of Berlin, Oritz de la Torre of Madrid, and Depage of Brussels. 2. "Treatment of Hypertrophy of the Prostate," by Drs. Reginald Harrison of London, Rovsing of Copenhagen, and Von Rydygier of Lemberg. 3. "Surgical Intervention in Non-cancerous Affections of the Stomach," by Drs. Mayo Robson of London; Von Eiselsberg of Vienna, Mattoli of Ascoli Piceno, Monprofit of Angers, Rotgans of Amsterdam, and Jonnesco of Bucharest. 4. "Treatment of Tuberculosis of the Joints," by Drs. Bier of Bonn, Broca of Paris, Bradford of Boston, Codivilla of Bologna, and Willems of Gand. 5. "Treatment of Peritonitis," by Drs. Lennander of Upsala, Friedrich of Leipzig, Lejars of Paris, McCosh of New York, Krogius of Helsingfors, and De Isla of Madrid. 6. "Diagnosis of Surgical Diseases of the Kidney," by Drs. Albarran of Paris, Kümmell of Hamburg, Giordano of Venice, and Lambotte of Brussels. All communications relative to the congress should be addressed to M. le Dr. Ch. Willems, 6 Place St.-Michel, Gand, Belgium.

The Englewood (Ill.) Union Hospital.—This institution is projecting a new building. The institution was established in January, 1893, and was first located on Sixty-ninth street, near Stewart avenue, in a two-flat building. The next fall it was moved into a twelve-room house on Wentworth avenue and remained there until the spring of 1894, when it was moved to 840 West Sixty-fourth street, into a six-flat building containing fifty-four rooms, where the institution now is. The cause of moving each time was the need of more room, and another move must be made because of insufficient room to take care of the patients.

Legacies to Cincinnati Hospitals.—The various charitable institutions remembered in the will of the late Mrs. T. C. Bradford of Cincinnati, who died last September, that have since been led to believe that they would receive nothing because the will was not made prior to the time required by the statute of limitations, are to get their legacies. The decision was rendered November 10 that, inasmuch as Mrs. Bradford left no direct heirs, the statute is not applicable in her case. Mrs. Bradford left $5,000 to the Presbyterian Hospital, $1,000 to the Ohio Hospital for Women and Children, and $1,000 to the Children's Home.

Fire in Children's Hospital.—The two-story frame building of the Staten Island branch, at Castleton Corners, of the Nursery and Child's Hospital on Lexington avenue, was destroyed by fire on November 7. The two hundred children in the hospital escaped uninjured, but the loss to property is estimated at $10,000. The fire started in a defective flue.

New Manhattan Eye and Ear Hospital.—The plans for the new building of the Manhattan Eye and Ear Hospital to be erected in Sixty-fourth street, on a plot of nine lots just east of Third avenue, provide for what will undoubtedly be one of the largest and most complete special hospitals in existence. The five-story building, which is to have a frontage of 118 feet and a depth of 125 feet, will cost between $350,000 and $400,000, and is expected to be ready for occupation in about fourteen months. The first two floors will be devoted to the out-door department, the third floor is for private patients, and the other stories will contain the public wards. Accommodations are planned for 122 indoor patients, and provision is made for ample operating room and laboratory facilities.

French Hospital Opened.—With appropriate formalities the new French Hospital at Nos. 450-458 West Thirty-fourth street was opened last week by the president of the French Benevolent Society, Henri Maillard and M. Jusserand, French ambassador to the United States. The hospital, which has been two years in course of construction, has

cost $400,000, and is designed to accommodate 150 patients. The building is of seven stories. Two floors are occupied by private rooms and small wards. Two other floors are occupied by large medical and surgical wards. The operating rooms, their dependencies, the pathological laboratory, and the quarters of the house doctors are on another floor. The top floor extends over part of the building only, and is absolutely isolated. It contains the wards for consumptives and the solaria.

Women's Hospital Festival.—A fair for the benefit of the New York Medical College and Hospital for Women is to be held at the Waldorf-Astoria, on Friday afternoon and evening, December 2, under the auspices of the Hospital Guild.

Sanitary Reforms in Chicago Schools.—Dr. W. A. Kuflewski, of the Chicago School Board, has presented resolutions to that Board prescribing new methods for sweeping and cleaning public schoolrooms, claiming that the health of every pupil was daily placed in jeopardy by the system now in use. He suggests the following recommendations: That the floors of all public schoolrooms be covered with sawdust wet with a solution of bichloride in the proportion of 1-4,000, and then thoroughly swept. That all windows shall be wide open during the sweeping and cleaning of schoolrooms, provided the weather will permit. That all blackboards be wiped off with wet sponges to prevent the spreading of the chalk dust, which is exceedingly injurious to the lung tissues. That all furniture and woodwork be wiped off at least once a month with a solution of bichloride. That all windows and doors be left open during intermission, except in inclement weather. It is thought that these recommendations will be adopted by the Committee on Buildings and Grounds.

The Bactericidal Activity of Copper Foil.—Dr. Henry Kraemer professor of biology in the Philadelphia College of Pharmacy and editor of the *American Journal of Pharmacy,* has for some time been engaged in conducting experiments for the purpose of determining the usefulness of copper sulphate and metallic copper as bactericidal agents against typhoid bacilli and cholera bacilli in drinking water. He employed copper foil cleansed with pumice-stone, using a strip 3½ inches square to every quart of water, the temperature of the water being raised to between 80° and 100°. The reduction in pathogenic germs was found to be from 75 to 90 per cent. after an exposure of six or seven hours.

Dr. Henry L. Woodward of Cincinnati has been appointed physician to the Widows' and Old Men's Home, in that city, to fill the vacancy left by the death of Dr. John E. Jones.

Dr. Otis L. Cameron was elected Coroner for Hamilton County, Ohio, in the election of November 8. He fills the place of Dr. Weaver, under whom he served as Deputy Coroner.

Chicago Surgical Society.—At the annual meeting of this society, recently held, the following officers were elected for the ensuing year: *President,* Dr. L. L. McArthur; *Secretary,* Dr. William Hessert; *Treasurer,* Dr. F. A. Besley; *Members of the Council,* Drs. Arthur Dean Bevan, A. J. Ochsner, E. Wyllys Andrews, and Jacob Frank.

Mills Training School Registry.—Owing to internal dissensions the associated alumni of the Mills Training School for Male Nurses have decided to remove their registry from the school headquarters on East Twenty-sixth street, and to open a clubhouse, with a registration bureau.

Rumford Medal Awarded.—It is announced that the Royal Society of Great Britain has awarded the Rumford medal to Dr. Rutherford, professor of physics at McGill University, Montreal, in recognition of his researches on radioactivity. The Rumford medal was instituted by Count Rumford in 1796 and is awarded every second year to the author of the most important discovery or useful improvement during the preceding two years on heat or on light, the preference being given to such discoveries as tend most to promote the good of mankind.

Cholera in Russia.—It is reported that this disease is sufficiently prevalent in Russia to cause apprehensions of an epidemic. During the week ending October 24 there were sixty-five cases, with fourteen deaths.

The Pyrheliophor.—At the World's Fair in St. Louis Professor Himalya recently gave the first demonstration of the pyrheliophor, an apparatus for concentration of the sun's rays. Iron melted in less than a minute; fireclay fused in about three minutes, and magnesia, one of the most infusible substances, requiring about 6,400° F. to melt it, was reduced to a molten state in about twenty minutes. In this apparatus the rays of the sun are reflected from more than 6,000 small mirrors arranged in concave form, covering an area of 30 x 42 feet, into a retort 18 inches in diameter and 2 feet deep. The focus of the rays is about 7 inches in diameter and the heat generated is about 7,000° F. The regulation of the mirrors is now done by hand, but a clock for this purpose is being constructed.

The Southern Illinois Medical Association at its recent annual meeting elected the following officers for the ensuing year: *President,* Dr. J. W. Armstrong, Centralia; *Vice-President,* Dr. J. L. Wiggins, East St. Louis; *Secretary,* Dr. E. E. Fyke, Centralia; *Assistant Secretary,* Dr. C. W. Lillie, East St. Louis; *Treasurer,* Dr. A. T. Telford, Olney. The next meeting will be held at Mount Vernon the first Thursday in November, 1905.

The Sanitary Condition of the Subway will be officially investigated under the direction of the Board of Health by Prof. Charles F. Chandler of Columbia.

Vital Statistics of Philadelphia.—For the week ended November 12 there were reported to the Philadelphia Bureau of Health 422 deaths from all causes, as compared with 386 for the preceding week and 376 for the corresponding week of the previous year. Fifty-one deaths were due to pulmonary tuberculosis, 35 to heart-disease (not including 6 due to endocarditis and 2 to angina pectoris), 35 to Bright's disease (not including 3 due to acute nephritis), 34 to pneumonia (not including 12 attributed to congestion of the lungs and 8 to bronchopneumonia), 17 each to apoplexy and to diarrhœa and enteritis in children under the age of two years, 13 to congenital debility, 12 to old age and 11 to premature birth.

St. John's Guild.—The annual report of this society states that during the past summer the floating hospital carried 4,916 babies, 15,443 children, and 7,467 mothers, a total for the season of 27,826. The seaside hospital, at New Dorp, S. I., accommodated 668 infants, 900 children and 688 mothers, a total of 2,256. At the annual meeting the president, Mr. William Sherer, said that the disaster to the steamboat *General Slocum* was the cause of somewhat decreasing the number of persons carried on the daily trips of the floating hospital. The trustees made every effort to overcome the fear of

the public which had arisen through the disaster, but the mothers and their sick babies did not seem to enjoy the sail down the bay as in previous years.

Testing Cold Storage Meats.—The nutritive value of food preserved for a considerable time in cold storage will be made the subject of experiment by Dr. Wiley, chief chemist of the Department of Agriculture, this winter. Among the samples of food to be investigated are partridges, quail, and beef which have been lying in the cold storage warehouse at West Point for two years. This meat appears to be in perfect condition, but the "poison squad," as the food testers are called, will make a practical test of its digestibility and nutritive value. This year's experiments will also include tests of foods preserved with formaldehyde and water disinfected with sulphate of copper. Of the twelve young men who compose this year's squad five are medical students at Georgetown University.

A New Hospital for Newark.—The Essex Private Hospital Association is soon to open its building at the corner of South Eighth street and Thirteenth avenue. It contains eighteen rooms and is to be run by the fifteen physicians comprising the association as a private hospital, to which physicians may send their patients and still continue the treatment themseves.

Montefiore Home.—The annual report of the Montefiore Home shows that 889 patients have been cared for during the past year. The death rate was 11.59 per cent., as compared to 14.34 per cent. for the year previous. The annex to the institution now being built is to be named after the late Louis Gans, in recognition of his services to the home.

An Epidemic of Pink Eye.—Fifteen students of a preparatory school in Trenton are suffering from infectious conjunctivitis.

Obituary Notes.—Dr. John Ely Jones, one of Cincinnati's oldest physicians, died during the first week of November at his home in Walnut Hills. He was born at Newtown, O., in 1834. In early life he taught school at Salem, O., later graduating from Ohio Wesleyan University. He took his degree in medicine in 1861, at the Ohio Medical College. He served in the Civil War as surgeon in the 79th O. V. I. After the war he began practice in Cincinnati.

Dr. George Walton died at his home in St. Louis, on October 8, from an attack of meningitis. He was graduated from the New York University Medical School in 1873. He was 55 years of age and leaves a widow and two children.

Dr. Henry E. Allison, medical superintendent of Matteawan State Hospital since its erection thirteen years ago, died on November 12 of Bright's disease. He was born in Concord, N. H., December 1, 1851. He was a graduate of Dartmouth, where he also received the degree of M.D. in 1878. He served as assistant physician at Willard State Hospital until 1889. He then became medical superintendent of the State Asylum for Insane Criminals at Auburn. He was appointed a member of the commission to found a new asylum for insane criminals at Matteawan, and on its completion in 1892 the inmates of the old Auburn asylum were transferred there. Dr. Allison became medical superintendent and treasurer, and held the place until his death.

Dr. Charles H. Mosely, a dentist practising for half a century in Brooklyn, died on November 7 at the age of seventy-six years. He was said to have been the first dentist to make extensive use of nitrous oxide gas.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

DEFECTS IN SURGICAL EDUCATION—CLINICAL SOCIETY—INFANTILE PARALYSIS OF SHOULDER—INFLAMMATION OF LIVER—PROFESSOR WINDLE—ROYAL SANITARY INSTITUTE—THE LATE ANGEL MONEY.

London, October 28, 1904.

Mr. Edmund Owen, consulting surgeon to St. Mary's Hospital, is a man of definite views and is not afraid to express them in very decided terms, though in language always appropriate as well as clear. An address by him is well worth hearing. He went to Leeds and delivered one to the medical students on the 18th, on the lack of practical methods in modern surgical education, and it would be well if students, teachers, and all educational authorities would all take to heart his statements. He began with a reference to Wm. Hey, founder of the Leeds Infirmary, and said if he had been brought under the present system, English surgery would have been robbed of one of its brightest luminaries. Hey could devote his first winter to practical anatomy, spending twelve hours a day at this foundation study of surgery. Nowadays students are brought up to believe that a knowledge of anatomy is best acquired by being taught it. Had Hey been living now, the Dean of his school would be told he was not working at chemistry or histology because he omitted some lectures which failed to interest him, or from which he could learn nothing. If he were now a student he would be strangled with red-tape.

Some months ago, Mr. Tweedy, Pres. R.C.S., called attention to the fact that students were not acquitting themselves as satisfactorily as formerly at their surgical examinations. Now Mr. Owen says they fall lamentably short in clinical work, and like the practical man he is, gives illustrations of the deficiencies in their training, which is not intended to turn out chemists, biologists, or even anatomists, but practical surgeons. To-day, he says, they depend too much on coaching. They listen to demonstrations of clinical lectures, but actual work with patients is every year diminishing, so they fail at the clinical tests. They do not know how to set about investigating a case with a view to diagnosis, *e.g.* to handle a case of hip-disease, to examine one of infantile paralysis, or test for hydrocele. They could see these daily in the out-patient room or the wards where the seniors ought to be, but they trust to a clinical veneer at the college class, and fail. It is disheartening for an examiner to be told by a candidate that he has never seen a common case.

Mr. Owen instanced one result at a little later period, when the student has qualified, but is, perhaps, useless as an assistant. He can prescribe drugs of doubtful value but undoubted expense, but cannot be trusted with the care of a simple case. Then he addressed a word to coaches on a subject that will enlist your sympathy. He said that unless they can write decent English they cannot impart the art to students. Some of their pupils write papers that would not do credit to a Board school boy. If the coaches asked him to what source he referred them for style he would say the "Gospels," the "Pilgrim's Progress," and the "Sentimental Journey." Commending the students to make some attempt at style, even in ward notes, he said the current style of medical literature is tedious to the last degree, and "now that dear old Mitchell Banks' pen is dry forever, there are few to brighten the pages of our journals and to charm the reader."

The student now gets too much teaching. He is lectured to, catechised, and crammed, until a sort of intellectual dyspepsia is produced and he loses all desire to learn. His mental food is given him hot, finely divided, peptonized. His wisdom teeth are of no further use.

Mr. Owen drew from his experience as an examiner at the College of Surgeons some samples of the imperfect way in which many candidates express themselves. Asked what they would do in certain cases, they will reply, you might do this, or you can do that, and then you may, etc. He protested against this use of the second personal pronoun. Once he was asking about the stages of a certain disease, and the candidate said: "When your inguinal glands become enlarged and you break out in secondaries." He requested him to be more impersonal, but without effect, "for he quickly went back to the second person and did not leave me until I was a hopeless physical wreck."

At the opening of the session of the Clinical Society, Dr. Frederick Taylor took the chair as the incoming president, and began his address with an expression of his appreciation of the honor conferred upon him, and passed on to review the progress of the society. The members now number 599, showing growth—nearly 60 per cent. increase in twenty years. The attendance has not been affected by the increase of societies of late years. The most popular

evenings are those on which clinical cases are exhibited, when there are, including visitors, often 100 present. Dr. Taylor said he had been looking into the record of the papers read during the last ten years to see how far treatment, apart from surgery, had occupied attention. While three-fourths of surgical papers dealt with treatment, only one-fourth of the medical papers dealt primarily with therapeutics. Notwithstanding the great advances in the treatment of medical cases by various methods, he thought there was much to be desired by direct therapeutics, apart from surgical or preventive measures. Frequently only indirect treatment is possible. Prevention is all important in relation to degenerative processes and to new growths. The president suggested that papers on direct therapeutics would be valuable material for discussion by the society.

After the address two papers were read, both of them curiously enough surgical. The first was on the treatment of infantile paralysis of the shoulder by nerve grafting. It was by Drs. Wilfred Harris and Warren Low, who have previously contributed on the subject (*Journal of Anatomy and Physiology*). In the case now exhibited progress was slow at first, but lately rapid. It is now fifteen months since the operation, and it is thought the child will completely recover. Mr. Bowlby remarked that the case showed how rapidly motor nerves may recover in early life. Mr. Fugge said the child's arm seemed functionally almost perfect. Would such have been the case if no operation had been done?

Dr. F. Buzzard congratulated the authors on their success, but seemed doubtful how far the return of movement was due to the operation. Certain cases had recovered without any such measures.

The second paper was by Mr. W. G. Spencer, who related four cases of inflammation in and around the liver. In all he thought they could exclude the influence of syphilis or alcohol, and none had suffered from biliary disease, malaria, dysentery, typhoid fever or pyæmia. The first case began with a chill, and rapid enlargement followed. The second was believed to be due to septic absorption from gastric ulceration; the third, to some infection, probably influenzal or at any rate pneumococcal; the fourth followed slight puerperal fever. It was suggested that such cases should not be labeled "cirrhosis or ascites," but the cause sought for. Surgical exploration should be resorted to and venous anastomosis has added to the interest attached to such cases.

Professor Windle, Dean of the Medical Faculty of the University of Birmingham, and its representative on the General Medical Council, has been appointed President of Queen's College, Cork. He has written on antiquarian and literary subjects, as well as on professional matters, *e.g.* "Shakespeare's Country," the "Wessex of Thomas Hardy," "Remains of the Prehistoric Age in England," with illustrations by Mrs. Windle. He will find food for his archæological taste in the collection made by Dr. John Windele (almost a namesake), of the characters of ancient Celtic writing, preserved in Queen's College. The collector was also historian of Cork. He died in 1865.

The King has conferred the title of "Royal" on the Sanitary Institute, so henceforth it will be the Royal Sanitary Institute.

Dr. Angel Money, whose sudden death from heart disease is announced as having occurred at Sydney, N. S. W., on September 2, was settled some time in London, before he emigrated. He was a London University graduate, M.B. and B.S., 1880; M.D., 1881. He joined the R. Coll. of Physicians in 1883, and was advanced to the Fellowship in 1889. He was only forty-eight at his death. A brilliant student and earnest worker, he had been elected on the staff of the Children's Hospital by 1885. Two years later he was on that of University College Hospital and assistant professor of clinical medicine. But health failed, and in 1892 he had to give up his splendid prospects. He went to Sydney, and there was successful.

Cremation in England.—It will be surprising if the remarkable weight and number of names practically subscribed to the cause of cremation within the past few months—names like those of Spencer, Edwin Arnold, Leslie Stephen, Watts, Henley, and Antoinette Sterling—are not some day noted as almost marking an epoch by the historian of what promises to be the method of the future. The Roman Catholic Church, as is well known, still refuses its last rites to those who thus defy one of the dogmas of the Nicene and Athanasian Creeds, and students will be interested to learn the fate of the petition just sent by the Berlin Cremation Society to the Pope, wherein not far short of 10,000 persons pray for the abolition of the Church's official disapproval thus expressed.—*London Chronicle.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, Nov. 10, 1904.

A Case of Intraperitoneal Rupture of the Bladder.—Daniel Fiske Jones reports the case of a patient who was brought into the hospital four days after the delivery of a healthy child. The morning after the child was born, the attending physician, on making his visit, was shocked to find, as he said, the uterus up to the umbilicus, and the patient very anæmic. He piled some books on to the bed and threw the patient over on to them on her abdomen, and held her down. The uterus was curetted, and contracted well and remained of moderate size. From this time until the patient entered the hospital she had constant pain across the lower abdomen. There was some shifting dullness in the flanks. The urine contained albumin and casts. The patient urinated without difficulty, and blood was never present, except an occasional blood globule microscopically. The patient's general condition became such that a rapid laparotomy was decided upon four days after her entrance to the hospital. The bladder was found to have a vertical gaping wound in the middle of the posterior wall. The patient stood the operation very badly and died in about four hours. On the day before the operation the patient had complained of being unable to sleep on either side without abdominal pain. This symptom is very suggestive of ruptured bladder, but it is also a symptom of any irritating fluid in the peritoneal cavity, and is not pathognomonic of ruptured bladder. The incident of holding the woman down on the books the day after her confinement was not known till after the death of the patient, and the writer believes that it was a dilated bladder that was felt, and not the uterus, and that the bladder was ruptured when the patient was thrown on to the books.

New York Medical Journal, November 12, 1904.

A Case of Hodgkin's Disease.—J. V. Shoemaker reports the case of a physician, aged fifty-two years, who lived but sixteen days after coming under observation. During the last two years of his life he had vaccinated himself, but apparently with a negative result, but six weeks later a rash appeared on his body, causing intense itching, and following this there was a progressive enlargement of lymphatic glands in various parts of the body. Examination of the blood led to the diagnosis of Hodgkin's disease. The author passes to a general description of this malady. Its pathogenesis he believes to be obscure, stating that if we do not accept the theory of a tuberculous origin, we have nothing to fall back on. It is interesting to note that, in spite of the fatal result, the *x*-ray seemed to cause some diminution in the size of the glands, especially in the axillary, inguinal, and retro-peritoneal regions. Shoemaker notes that in the treatment of a case of advanced Hodgkins' disease, or of cancer, for that matter, we are confronted with three distinct dangers: (1) There may not be time enough for the procedure to produce any benefit. (2) The danger of an *x*-ray burn. (3) The danger of a rapid disintegration of the new growths with the production of toxæmia. The patient did, in fact, become toxic during the progress of the treatment, although this may have been but the ordinary termination of the disease.

Observations on a Series of Ten Cases of Disability of the Shoulder Joint.—The series is reported by H. W. Jones and N. Allison, who divide their cases into acute, subacute, and chronic. In acute cases, at the onset the patients suffered with extreme pain, referred almost invariably to the point of the shoulder, and radiating down the arm or across the scapula. Tenderness was very marked at the point of the shoulder and along the bicipital groove. The arm was held close to the trunk and motion was much restricted. There was marked muscular spasm of the shoulder girdle, and any attempts at motion caused exquisite suffering. The pain was apt to be worse at night, and the patient obtained very little rest. The temperature was usually not elevated. In the subacute stage the pain was much less, and was produced only by attempts at motion. Motion was still restricted, and the disability is practically complete. In the chronic stage acute pain disappeared, and the prominent features were atrophy and stiffness, motion in abduction being usually but a fraction of the normal. The patient used the arm chiefly through increased rotation of the scapula, which moved with the humerus as one bone. In conclusion, after giving detailed histories of these cases, the authors conclude: (1) That the affection resulted from traumatism; (2) that the lesion was circum—rather than intra—articular; (3) that permanent disability must be expected if the condition is not treated; (4) that fixation afforded relief from the pain of the acute stage, and generally from subsequent disability, and (5) that in the chronic stage, manipulation under anæsthesia would relieve the disability due to the fibrous ankylosis.

Medical News, November 12, 1904.

Hepatoptosis Complicated by Gastroptosis; a Suggestion as to Treatment.—Ellsworth Eliot states that the object of this paper is to call attention to a new method of operation in those cases in which, with gastroptosis, there is a descent of the liver as well. He describes his method as follows: The operation consists in the exposure of the liver and stomach through a median incision above the umbilicus. The obliterated umbilical vein, forming a thick cord in the free edge of the falciform ligament, is then identified and drawn forward until it comes in contact with the parietal peritoneum. The hepatic extremity of the ligament then rests against the under surface of the right lobe of the liver in front of the transverse fissure. The lower or umbilical extremity is in close contact with the anterior parietal peritoneum, the two parts of the ligament now forming a right angle. In this position the round ligament is sutured to the anterior parietal peritoneum with chromic gut, and the redundant falciform peritoneal reflection is spread out laterally and sutured to the contiguous part of the parietal peritoneum with the same material, in this way forming a species of shelf for the under surface of the liver. The abdominal wound is then closed in layers. The writer does not belittle the importance of medical measures in these cases, but when these fail, it seems wise to resort to surgical treatment. Very marked improvement has been secured in the two cases in which he has used this method suggested, and it seems worthy of early publication.

The Consumption and Elimination of Water in Dry and Moist Climates, with Special Reference to the Cause of Bright's Disease.—William S. Carter has made careful investigations along these lines, and in this paper presents several tables giving the results of his work in various localities. The conclusion seems to be justified that one takes more fluid as drink in a moist climate and passes less urine than in a dry climate. The writer thinks that probably the amount of moisture given off by the skin and the lungs in dry climates is not so great as is often thought. The sensible perspiration resulting from the effort at heat regulation on the part of the animal economy in a hot, moist climate, probably accounts for this difference. Statistics show that there is no relation between the degree of humidity or length of the warm summer season and the mortality from Bright's disease. The writer has made extensive observations in Galveston, Texas, and while there seems to be no doubt that Bright's disease is more prevalent in this city than in most other cities of this country, it seems highly improbable that the climatic conditions have anything to do with this. To the writer there are two causes that seem more plausible than the usual explanations: The excessive use of meats in a climate in which proteids cannot be so readily metabolized as in a colder climate; and the failure to recognize and properly manage acute infections. He emphasizes the fact that too much care cannot be exercised in attending to the after-effects of light attacks of acute infections.

Cicatrization Blood-Vessels in Ulcers of the Bladder.—Gustav Kolischer has noted that in some cases of ulcer of the bladder, disagreeable symptoms, such as irritation in the bladder region, frequency of urination and occasional tenesmus persisted, although the urine was perfectly cleared up and the ulcers had entirely healed. In searching for the cause of this condition, he noticed in most of his cases of traumatic ulcers that when the ulcer began to heal there were quite large blood-vessels in its neighborhood, leading to the circumference of the ulcer. In approaching the circumference of the ulcer these vessels show a meandering course. The loops lie very close to each other. These blood-vessels seemed somewhat similar to the cicatrization loops which appear running to the ulcers in the cornea of the eye. The writer thought that the persistence of these blood-vessels might have something to do with the sensation of irritation of which the patients complained, even after the ulcers had healed. Hebra explained the itching of varicose veins of the legs as due to the sensation produced by the very slow and torpid flow of the blood in dilated and meandering blood-vessels. There is a similar sensation of itching, heaviness, and so on, in cases of so-called bladder hemorrhoids. The writer obliterated these blood-vessels with the pointed galvanocautery of the operative cystoscope, and after the eschar was thrown off, which usually took about a week, the symptoms had entirely disappeared and the patients remained well.

American Medicine, November 12, 1904.

Transudates and Exudates.—Joseph L. Miller gives the results of his careful and detailed study of this subject: The color of the fluid, its reaction, and size of the erythrocytes are of little diagnostic value. Nucleoalbumin is usually much more abundant in exudates than in transudates, although many exudates fail to show more than a faint trace. On account of the constancy of the salts present, the specific gravity and amount of albumin bear an intimate relation. Fluids from different body cavities of the same individual, or fluids of the same origin in different individuals, or successive tappings of the same cavity, may show marked variation in the amount of albumin, probably explained by the permeability of the capillaries, the degree of irritation of the serous surface, the condition of the patient's blood, the tension of the fluid, the amount of absorption taking place, and, possibly, the blood-pressure. Methods of measuring the bulk albumin, as Esbach's or Purdy's, are not applicable to serous fluids. Reuss' formula is the most accurate, simple method for determining the amount of albumin in serous fluids. The diagnostic value of the specific gravity, or amount of albumin, is greatly lessened by the frequent presence, simultaneously, of several processes. A hydræmia, as a result of anæmia or transudation from pressure, may lower the specific gravity of an inflammatory fluid. Secondary inflammation, high tension of the fluid, or resorption taken place, may increase the specific gravity of a transudate. At present there is no absolutely reliable method for determining the tuberculous character of a serous fluid. The specific gravity of a fluid, when taken for successive tappings, may be of prognostic value. Epithelial cells in sheets are not infrequently present in fluids of inflammatory origin. The predominance of lymphocytes may be associated with a long-standing, simple pleuritis, a hydrothorax or a tuberculous pleuritis. The presence of relatively large numbers of neutrophiles in pleuritic fluids may be associated with an acute, simple, or a secondary tuberculous pleurisy. The presence of numerous cells, chiefly neutrophiles, suggests an acute, simple pleuritis. The presence of numerous lymphocytes, with few, if any, neutrophiles, indicates that the process is probably a tuberculous one. In ascitic fluids there is little that is characteristic. Neutrophiles are usually more abundant in fluids, due to portal stasis from cirrhosis than in tuberculous peritonitis. An eosinophilia in one body cavity may occur along with a neutrophilia in another. A study of the cellular elements in fluids, from the pleural or abdominal cavities, is of comparatively little diagnostic value, either in differentiating transudates from exudates, or in determining the character of the latter.

Chronic Prostatitis.—E. G. Ballenger declares that the literature on this subject, except within the last few years, has been both inadequate and misleading, because the pathology of the affection was unknown. The symptoms, until recent years, have been placed under the headings, spermatorrhœa, azoospermatorrhœa, prostatorrhœa, etc., and were claimed to be of neurotic origin. Chronic prostatitis may be the cause of many serious consequences, as sexual neurasthenia, sterility, impotence, and reinfections, it being a favorable nidus for lingering gonorrhœa. Before giving consent for a patient with an apparently cured gonorrhœa to marry, the secretions of the prostate and appendages should be examined. There is no disease in which more information can be obtained from a careful examination of the prostate and secretions. A discharge after urination, defecation, or physical exertions, sexual disorders, no matter how mild, urine passed often with slight pain at the end of the act, should always lead to an examination of the prostate. Treatment must be directed to complications as well as to the establishment of proper hygiene for the patient; the prostate should be treated by massage, and heat or cold variously applied. The brilliant results of prostatic surgery should stimulate increased interest in the rational medical treatment of chronic prostatitis.

The Results of Treatment of Carcinoma by the Röntgen Ray.—J. N. Scott believes that all tumors operated on and found to be malignant, except small epitheliomas of the face, should have a course of Röntgen ray treatment. The cases which best respond to this treatment are those of slow growth, whether the growth is primary or secondary to an operation. The writer's best results in carcinoma have been in recurrent growths involving the breast, next are primary growths of the breast, then the uterus, stomach, and intestines. He has several patients alive to-day who have had no treatment for two years, in whom all the symptoms pointed to carcinoma of the stomach or intestines. Three cases of carcinoma of the rectum have been failures so far as permanent relief was concerned. In fourteen cases of uterine cancer, two patients have been apparently well for two years, one had been operated on with recurrence, the other had not. In eight of the other cases there was a considerable relief from pain, lessened hemorrhage, and, for a time, improvement in the general condition. The other four patients either discontinued treatment or there was no apparent improvement. In eleven cases of primary carcinoma of the breast, diag-

nosed by clinical appearances, four patients are well at the end of two years or longer. In fifteen patients treated immediately following operation, there has been no recurrence after two years in ten. Of thirty-eight patients in whom there was recurrence after operation, eight are well at the end of two years. In about half of the cases in which there was operation, a microscopic examination was made, and in most of the others there was no doubt as to the diagnosis. Life has been prolonged and pain lessened in many cases by this treatment. The treatment of epithelioma of the face, in which the trouble was local and the growth not more than 1½ inches in diameter, with the exception of those cases involving the lip, has been almost uniformly successful, and the cosmetic results excellent. Cases in which the lip is involved seem to be more persistent than others. The writer concludes that he does not believe that this treatment will ever be as efficient in the case of sarcoma as in carcinoma, because the secondary growths are so much more liable to involve distant and internal organs. But the ray often helps those cases in which there are secondary deposits near the surface, where they can be found by palpation when small.

Journal of the American Medical Association, November 12, 1904.

Erythema Nodosum.—A general description of the disease is given by I. A. Abt, who adds the detailed history of three personal cases. He believes that the disease should be classified as one of the exanthematous fevers on account of its clinical course, prodromes, and complications. It may follow one of the infectious diseases, malaria, or rheumatism. Among complications may be named conjunctivitis, pharyngitis, joint lesions, and, more rarely, endocarditis and pericarditis. It commonly occurs between the second and fourteenth year. In some cases it is followed by symptoms of tuberculous infection. The disease usually begins with vague pains, gastrointestinal disturbances, and fever. The fever in some cases is remittent, usually falls by lysis, and lasts, as a rule, from two to seven days. After several days of vague pains about the joints, especially of the lower extremity, and some pain and tenderness over the tibia, the eruption makes its appearance in the form of node-like swellings on the shinbones, and sometimes on the dorsal surfaces of the feet, on the forearms, or on the thighs; it rarely occurs on the tongue or on the face. The lesions are usually distributed symmetrically, and come out in crops of two or three at a time, or a large number may appear at once; they are round or somewhat oval, vary in size from a walnut to a hen's egg, and are not distinctly circumscribed; that is, they have no well-defined border; they are of a bright red color; the skin over the surrounding area is swollen and tense. The nodes disappear in from eight to fourteen days, though the duration of the disease varies according to the intensity of the eruption.

Prophylaxis of Tuberculosis in Children.—L. Fischer discusses this question on the basis of statistics gathered from various sources. In countries in which bovine tuberculosis is common tuberculous disease is very common among children. Autoinfection by the sputa is common. The author analyzes the records of 5,000 children who were examined at random for the presence of tuberculous lesions; of the whole number, 59 showed distinct evidence of pulmonary lesions. Of the 59, no less than 43 had bone and joint lesions in addition. Fischer lays emphasis on the following directions: (1) Insist on each infant being breast-fed; in other words, start the baby right. (2) If the mother cannot nurse her child, secure a wet-nurse. Let the wet-nurse nurse her own child in addition to her foster child, and give both infants alternate bottle-feeding. This mixed form of infant feeding is very successful. (3) In foundling asylums and day nurseries a wet-nurse can be procured who will nurse two infants. In this way we lessen the danger of tuberculosis. He adds that the secret of health and the vitality and endurance of the enormous tenement house population is that they are or have been breast-fed.

The Hot-Water Douche in Treatment of Chronic Catarrhal Deafness.—G. P. Head states with reference to this therapeutic procedure that cases in which the source of deafness lies in the internal ear are not very likely to be benefited. It is particularly adapted to those cases in which there is evident congestion and inflammation of the drum membrane. A drum membrane displaying considerable patches of sclerosis is very likely to show improvement. Tinnitus, when due to introtympanic causes, has been readily relieved by the hot-water douche. When due to conditions in the internal ear, it is not to be expected that treatment directed to the middle ear will relieve it, though it is quite possible that the internal ear may be affected to some degree by application of heat in such close proximity to it. In nearly all cases there is tubal occlusion of greater or less degree; this, of course, will be affected only indirectly by treatment through the external canal. That improvement of the health of the tympanic lining and contents will necessarily cause some response in the Eustachian tube is obvious, although the response may be but slight.

The Lancet, November 5, 1904.

The Red Light Treatment of Smallpox.—The late Niels R. Finsen calls attention in this paper to the article published in the *Lancet* in July by Ricketts and Byles, in which they report thirteen cases treated in red light without favorable results. But these patients were not subjected to this treatment at a sufficiently early period, only one being subjected to it as early as the fourth day. Finsen explains that two conditions are indispensable in order to obtain good results from this treatment: an early treatment of the patient; and an entire exclusion of hurtful rays of light. Smallpox infection puts the skin in a state of great sensitiveness to light, which even under normal circumstances may act on the skin as an irritant. If the patient during the period of the appearance and the growth of the exanthem is protected against daylight, especially against the chemical rays, by means of the red light treatment, the exanthem will be less strong than otherwise, and, as a rule, no suppuration will occur. The exclusion of light will act differently in different cases, according to the extension and force of the exanthem. The writer protests against the statement that this method is ineffective, for to be of any use the treatment must be carried out before the period of suppuration.

A Remarkable Sequel to a Case of Gastroenterostomy.—Arthur E. Baker reports this case. The patient, a woman of twenty-eight years, had been operated on two years ago for severe recurrent hemorrhage from the stomach. A posterior retrocolic gastroenterostomy had been performed in the usual way, followed by perfect recovery. The patient married in March, 1904, and pregnancy soon followed. In July, the patient began to have attacks of pain, most frequent after food, and referred to the region underlying the scar just above the umbilicus. The bowels ceased to act normally, vomiting began, and she was admitted to the hospital. The patient lay on her back with the legs drawn up. The pulse was 99, and of good quality. The respiration was normal. The abdominal muscles were not very rigid. No movement of the intestinal coils could be seen, and there was no evidence of peritonitis. When the writer saw the patient, she was writhing with pain. The case was regarded as probably intestinal obstruction, due to an adhesion about the scar. But at operation not a trace of such adhesion could be found. The whole of the small intestine, with the exception of the last seven inches or so, had passed between the junction of the stomach and jejunum and the root of the mesocolon made two years ago, and over the first part of the jejunum (afferent), and then down into the general cavity of the peritoneum. The whole small intestine formed a huge volvulus, turning on its mesentery in a direction contrary to the movements of a clock. The coils as a whole were lifted up and untwisted one complete turn in the direction of the movements of the hands of a clock. Not until then could the last part of the ileum be withdrawn from under the constriction. But when the volvulus was untwisted all of the small intestine could be easily and rapidly drawn out. The junction with the stomach was placed in the normal position, the coils washed with normal saline solution, and the abdomen closed. Convalescence was uninterrupted, and primary union took place. Just after the operation there was considerable stercoraceous vomiting. The stomach was washed out with the tube. At last report, October 29, the patient looked and felt perfectly well. The pregnancy is now nearing its termination satisfactorily.

Suture of Wound of the Heart.—Edgar Somerville was called to attend a man who had pushed a penknife into his chest in two places. The upper wound was in the fourth intercostal space, and the lower one in a vertical line below it in the fifth intercostal space, both wounds being between the left parasternal and mammary lines. The upper wound was enlarged and the pericardium exposed. This was also wounded. The pericardial sac was full of blood, and on its removal a wound was found in the left ventricle, three-eighths of an inch in length, with its long axis in the long axis of the ventricle. The visceral layer of the pericardium had retracted, making the wound spindle-shaped, and the aperture was plugged with some lacerated myocardium. Blood was oozing from the wound. The lacerated cardiac muscle which was protruding was removed by scissors, and the hemorrhage then became more profuse, but was arrested by the introduction of the little finger tip into the wound. A curved intestinal needle was passed deep into the myocardium. Three interrupted silk sutures were placed. The patient's condition gave rise to considerable anxiety, but after the sutures were tied and a hypodermic injection of strychnine given, the heart's action considerably improved. The pericardial sac was cleansed, a gauze drain introduced,

and the wound in the sac and intercostal muscles was closed. When the lower wound was investigated, it was found that both the pleura and pericardium had been opened, producing pneumohæmothorax and pneumohæmopericardium, but the heart had not been injured here. The wounds were cleansed, a drain introduced and sutures inserted. The patient's condition was very bad at the close of the operation, but as time went on he continued to improve, and now his heart's action is perfectly regular.

Treatment of Hæmophilia.—Lachlan Grant speaks of the well-known fact that females generally escape hæmophilia, and questions whether this female immunity may not be due to some constitutional influence emanating from the reproductive center—probably through an internal secretion of some kind, possibly ovarian—and further, whether the internal administration of extract of ovaries, or other peculiarly female tissues, would have any influence in lessening the tendency to dangerous hemorrhage in cases of hæmophilia. The writer then cites the case of a boy who was a "bleeder," and who was brought to him with a bad hemorrhage from his foot, which he had cut by stepping on a piece of glass. The remedies applied were of no avail, and the boy was growing very anæmic and the prognosis was grave. The writer began to give the patient some extract of ovarian substance procured from a sheep. Local treatment of the wound was continued. On the sixth day, the hemorrhage gradually lessened, the temperature dropped to 99°, and the pain ceased. On the eighth day the wound became healthy looking, and from that time on improvement was steady. Although it cannot be positively asserted that the boy's own system did not of itself naturally overcome the morbid condition, still there is a possibility that the ovarian extract had some effect in bringing about his recovery.

British Medical Journal, November 5, 1904.

A Practical Suggestion for the Prevention of Ankylostomiasis.—P. Manson refers to a plan followed in tropical countries for the prevention of the "coolie itch," so-called, which is a dermatitis of the feet and legs caused by the peneration of the skin by the embryos of ankylostoma contained in contaminated soil. The coolies dip their feet and legs in green Barbadoes tar (a very cheap mineral oil, rich in paraffin) and then walk across and through some fine sand. In this way an impervious sandal and stocking is formed over the ankles and feet, and the men can work in contaminated fields with impunity. Sawdust may be substituted for the sand.

On the Mode of Origin of Nasal Polyps.—E. S. Yonge offers the following provisional conclusions: (1) Mucous polypi of the nose, in the majority of instances, are probably consequent upon, and certainly coincident with, inflammation of the mucous membrane of the nasal cavity. (2) The primary mechanical process is a localized œdema of the inflamed mucous membrane, which œdema, on account of certain structural peculiarities of the lining membrane, does not, in the great majority of cases, develop in any intranasal area but that of a portion of the middle turbinal and of the middle meatal regions. Analogous structural peculiarities are present in the mucous membrane of some of the accessory sinuses. (3) The determining cause of the occurrence of the œdema, in the regions specified, is the degeneration and cystic dilatation of the mucous glands. (4) The particular shape which polypi usually assume, their number, probably the appearance, in some instances, of recurrence, and other special peculiarities of these growths, are due to the œdematous mucous membrane being thrown into folds, and to the normal folds becoming œdematous. Certain of the folds quickly increase in size by the absorption of serous fluid and favored by gravity, and finally present the appearance of ordinary mucous polypi. (5) The "polypoid" outgrowths, which take origin on the interior turbinal, and more rarely on the septum, generally differed markedly in microscopic structure from mucous polypi, and although they claim a common inflammatory origin, these conditions are distinct, principally on account of the dissimilar structure of the nasal regions from which they respectively take origin.

Menière's Disease; A Clinical and Experimental Inquiry.—In a paper with this title, W. Milligan reports the results in three cases of removal of the semicircular canals. All three patients had suffered for years from repeated attacks of vertigo, incessant tinnitus, and progressive loss of hearing power. In all three the usual means of treatment had been tried, but without avail. In two of the cases a satisfactory result was obtained so far as relates to the relief of vertigó and sickness. The persistence of tinnitus in one of the cases suggests, according to the author, either that the terminal filaments of the vestibular nerve were imperfectly destroyed, or that some lesion of the root of the auditory nerve coexisted.

Deutsche medizinische Wochenschrift, October 27, 1904.

Artificial Suppuration in Pyæmia.—Bröse describes a case of puerperal pyæmia in which he made use of Fochier's plan of inducing artificial suppuration. This writer was led to the procedure by observing that in severe cases of pyæmia the general condition improved if local suppuration occurred, *e.g.* pelvic abscess, subcutaneous phlegmon, etc. In cases of systemic infection in which no spontaneous abscess formation took place he therefore induced artificial suppuration by harmless means. For this purpose he injected turpentine subcutaneously and reported on favorable results in six cases. Some other observers have expressed equally favorable opinions, others have found the plan without effect. Bröse's case was one of puerperal septicæmia of four weeks' duration, with septic temperature, a pulse of 140, and great general prostration. Promptly after the injection of 5 c.c. of rectified turpentine into the calf of the leg the temperature began to fall, and the condition to improve, so that on the tenth day there was no fever, the pulse was down to 100, and the appetite had returned. On the fifth day after the injection the leg was incised and a quantity of sterile pus evacuated. The suppuration continued actively, and a second incision was necessary later, and the course of healing was protracted. The author considers that the dose of turpentine used was too large, and produced more of a local reaction than was necessary, but that those who saw the case received the impression that the improvement was due to this measure.

The Treatment of Fractures.—Liermann says that, as a rule the treatment of fractures by practitioners is still far behind the times. The more general employment of the *x*-rays has been of great advantage in many directions, but it has also led to an excess of conservatism in treatment, and of dread lest the photographic plate should reveal some evidence of faulty union. The old-fashioned permanent plaster dressing should be replaced by a more rational combination of immobilization, with massage and active and passive motion. During the first period of treatment immobilization is essential, but even at this time the absorption of the exudate may be hastened and repair accelerated by massage, and even careful passive motion of the neighboring joints. The ambulatory treatment of fractures of the lower extremity requires ingenuity in applying a suitable dressing, but properly used effects a great saving of time. Great stress is to be laid on the conscientious performance of gymnastic exercises intended to exercise the soft parts temporarily incapacitated by the injury. In fractures of the lower extremity, the mistake must not be made of attempting ambulatory treatment too soon, for a period of rest in bed, to be determined for each case, must precede the active motion.

The Quantitative Estimation of Sugar in the Urine by Iodometry.—Citron discusses the advantages and disadvantages of the various procedures for quantitative sugar determination, and comes to the conclusion that the most convenient for clinical purposes is Lehman's iodometric method. In this a measured amount of Fehling's solution is reduced with a measured amount of urine, and the residue of unreduced copper is estimated by adding a known amount of potassium iodide and titrating with sodium bisulphate, using starch paste as indicator. The amount of iodine combining with the unreduced copper is thus readily obtained, and reference to a table gives the amount of sugar present in the urine. The author has devised a specially graduated burette, and various minor improvements in technique, by which the process is greatly simplified and made available for office use.

Berliner klinische Wochenschrift, October 24, 1904.

Attempts to Immunize Against Tuberculosis.—Baumgarten says that all his efforts made during a period of years to immunize rabbits against perlsucht by inoculation with human tubercle bacilli, to which these animals are much less susceptible, have been unsuccessful. Stimulated, however, by v. Behring's positive results in similar experiments on cattle, he has made observations of the same sort, and agrees with this author that through the introduction of human tubercle bacilli cattle may be rendered immune to doses of bovine tubercle bacilli fatal to control animals. This immunity results from a single subcutaneous innoculation, and has so far persisted for two and a half years. It is not necessary to make repeated intravenous injections of the bacilli, as v. Behring and Koch have stated, for simple subcutaneous innoculation is equally effectual. The local lesion produced is not tuberculous in nature, and the immunity caused is probably the result of a stimulation of the antibody forming organs, so that when a fresh dose of poison is introduced, antibodies are at once manufactured in sufficient quantity promptly to overwhelm it. Attempts to obtain in this way a serum protective for rabbits or guinea-pigs have, however, been unsuccessful; experiments on calves are now being carried on. Even in case it should not be feasible to obtain a curative serum, there is still a chance that it may prove possible to immunize man by innoculation with perlsucht bacilli, but the nonidentity of

human and bovine tuberculosis must first be more clearly established.

The Value of the X-rays for the Medical Expert.—Immelmann describes various ways in which the *x*-rays may be advantageously employed by the medicolegal expert, and points out the serviceability of this method for determining the age of premature fœtuses. The epiphyses of the long bones remain permeable for the *x*-rays until after birth, with the exception of that of the distal end of the femur, which is rendered visible at the thirtieth week of fetal life. As this is the period when the fœtus becomes viable in the eyes of the law, the ready means of demonstrating the presence or absence of this epiphyseal center by means of the *x*-ray may be of the greatest service to the medicolegal expert. It may also readily be determined in this way whether the child has breathed or not, for unexpanded lungs give a deep shadow, similar to that of muscle, while lungs that have been filled with air do not. Both of these determinations ordinarily require dissections and microscopical preparations, or the hydrostatic test, whereas the *x*-ray procedure effects a great saving of time.

Münchener medizinische Wochenschrift, October 25, 1904.

Protozoön-like Structures Found in a Syphilitic Fœtus.—Jesionek and Kiolemenoglou describe curious unicellular bodies discovered by chance in both kidneys, the liver and both lungs of a fœtus infected with paternal syphilis. The structures were very numerous in the kidneys, where they frequently occurred in groups of from twenty to forty individuals, while in the other organs they were scattered singly. The bodies have a size of from 20 to 30 microns, and are oval in shape. Their enclosing membrane appears to be double, and the protoplasm consists of granules held in a spongy ground substance. The granules are more tightly packed at the end of the cell opposite to the nucleus. The staining reactions of the structures are given at length, but present no especially striking features. The authors believe that they are justified in excluding either transplanted embryonal cells or degenerative structures. The impression derived from the preparations is that they are parasites of some sort, probably belonging to the gregarines, but whether the case is simply one of gregarine infection of a luetic fœtus, or whether these structures stand in some intimate relationship to the syphilitic process is undetermined. Fixation of the tissues by corrosive sublimate gives much more distinct pictures than does the use of formalin. The authors have examined the organs of a second syphilitic fœtus and also condylomata, but without finding in these anything more definite than a few suspicious looking structures.

A Contribution to the Bacteriology of Noma.—Hofmann and Küster studied the organisms present in the tissues in a case of noma, and were able to isolate what they consider the cause of the infection. Cultures made directly from the diseased surfaces showed a multiplicity of organisms, but pure cultures were obtained by immersing in gelatin small bits of tissue taken from the areas where the infection was just invading healthy parts. In this way an organism could be isolated which corresponded morphologically with the bacteria seen in microscopic sections made through the corresponding areas, and which could not be identified with any previously described germ. The organism is 4-5 μ. long and 0.8 μ. thick, and in fluid media forms chains up to 40 μ. in length. Spores are abundantly found in cultures forty-eight hours old. It grows well on all the ordinary media, is aërobic, and does not form gas. These points serve to differentiate it from *B. hastilis* occurring in Vincent's angina and frequently associated with noma. The authors consider that the causative nature of their organism is attested by the morphological similarity between the bacteria found in the tissues and those obtained by culture, the fact that the technique employed excludes contamination, and the fact that spore formation could be obtained in the original tissues in gelatine just as in the free cultures.

French and Italian Journals.

Treatment of Mucomembranous Colitis.—Mathieu names constipation as the most important symptom of mucomembranous colitis. Constipation in the majority of these cases is due to a spasm of the colon. This spasm occurs most commonly in patients of nervous temperament. The origin of this condition may be a lesion of the appendix, a lesion of the uterus, a lesion of the bile passages, and so on. The coincidence of abdominal ptoses, especially of nephroptosis with mucomembranous colitis is undoubted. The indications for treatment of this form of colitis are to remove the cause of the condition. In order to overcome the constipation, injections of oil are recommended. Electricity applied to the intestines is especially successful. All lesions which may be the origin of the intestinal trouble should be treated. Nervous irritability, both abdominal and general, should be overcome as far as possible. For this purpose hot applications, hot baths, dorsal decubitus in case of visceral ptosis, static electricity, and nervines are all useful. The diet should be carefully looked after, especially with a view to the nervous condition present. Nothing stimulating should be given. Indications for the direct treatment of the intestinal mucosa in acute or subacute attacks of dysenteric colitis, are best met by injections of a weak solution of silver nitrate.—*Le Bulletin Médical.* October 15, 1904.

Repose in Relation to Premature Rupture of the Membranes.—Richard, in order to prove what influence repose exerts on the premature rupture of membranes, has compared two series of cases: The first series shows 1,000 women who rested quietly during the last weeks of pregnancy; the second series includes 1,000 women who worked up to the last minute before confinement. Premature rupture occurred in 13.2 per cent. of the first class, and in 28.1 per cent. of the second class. To draw a distinction between primiparæ and multiparæ, the writer determined that rupture took place in 12.7 per cent. of primiparæ who were quiet, and in 31.5 per cent. of those who worked. Of the multiparæ, rupture occurred in 11.9 per cent. of those who rested, and in 26.1 per cent. of those who worked. It appears from these statistics that primiparæ are more susceptible to premature rupture than multiparæ. As to faulty insertion of the placenta, the proportion was almost the same in both of the series. These observations show that more than one-third of the domestics, and one-third of the laundresses suffered from premature rupture. But the women who worked sitting down did not suffer to nearly this degree—only one-seventh being thus affected. This work will be of great interest to those who are interested in this subject.—*La Tribune Médicale,* August 13, 1904.

Urinary Complications of Appendicitis.—Oddo and Silhol declare that in the course of appendicitis, if hæmaturia appears, one should think of toxæmia, of nephritis, and finally of a vesical or perivesical lesion. The possible diversity of origin explains the difference in prognosis, which may be excellent in some cases, but alarming in others. In view of urinary disturbances appearing in the course of appendicitis, it is most important to make a daily examination of the urine in all cases of appendicitis. The writers cite various cases in point. One child of six years, suffering from attacks of appendicitis, had hæmaturia in the intervals, every time that it partook of bouillon or of potato purée. The slightest intestinal infection showed itself in renal congestion with hæmaturia. A boy of fifteen years, who had an attack of appendicitis, rapidly improved under medical treatment. On the fifth day, when the appendicular symptoms had disappeared, the amount of urine diminished, and albumin, casts, both granular and epithelial, and blood appeared in the urine. This attack of nephritis was undoubtedly associated with the appendicitis. More attention than has heretofore been given should be paid to this phase of appendicular disease.—*Revue Française de Médecine et de Chirurgie,* September 5, 1904.

A New Variety of Nocturnal Incontinence of Urine.—Bazy calls attention to the nocturnal incontinence of urine that often accompanies pyelitis and pyelonephritis. It is distinguished from other varieties of nocturnal incontinence, especially by the nocturnal pollakiuria, which precedes or accompanies it, by its intermittence—for it does not occur every night, but only during very deep sleep—by the fact that it is noted in adolescent or adult patients at the age when incontinence naturally disappears, and finally by the abnormal urine, which varies according to the degree of pyelitis or pyelonephritis present. The diagnosis will be finally clinched by the search for the other signs of pyelitis. Under the influence of renal excitation, the bladder tends to empty itself, and during deep sleep the subject is not conscious of this act.—*La Presse Médicale,* October 8, 1904.

A Clinical and Experimental Contribution to the Study of Actinomycosis in Man.—Salvatore Salinari reports a very interesting case of actinomycosis in a young soldier, who applied for treatment at first for what appeared to be a decayed tooth. The tooth was removed, but the gum did not become normal, and after twenty days he began to complain of pain in the jaw, a small swelling remaining where the tooth had been extracted. This opened and discharged a thin pus, refusing to heal. The submaxillary lymphatics became enlarged, and fever set in. The jaw beneath the swelling became carious and a sequestruum separated and was removed. Yellowish-gray granules now appeared in the discharge. The inflamed cervical lymphatics broke down and were opened, when it was found that the process had burrowed throughout the side of the neck, and the tissues were riddled with tunnels, discharging thin pus and actinomycotic granules. No surgical treatment availed, and the use of iodide of potassium in very large doses alone benefited the patient, finally bringing about a cure. The author believes that actinomycosis is not

so rare as has been thought, and that a careful diagnosis would reveal the process in come cases of chronic inflammation that now go uncured. The appearance of the lesion, in the nature of a new formation rather than inflammatory, the chronicity, the diffuse involvement of the tissues, should suggest actinomycosis before the granules were found. The presence of streptococci caused the liquefaction in this case, which was more rapid in consequence of the mixed infection. The diagnosis from syphilis and tuberculosis is not always easy, except by the microscope. No pure culture could be obtained on account of the presence of the numerous streptococci, but three animals injected with the material died with typical abdominal infection. The patient in question had his trouble shortly after returning from a visit to his mother on a small farm.—*Giornale Medico del Regio Esercito,* September 30, 1904.

The Cure of Cutaneous Tuberculosis by New Methods of Treatment.—Roberto Campana cites ten cases of lupus of the skin cured by curetting and cauterization, without any recurrence. One case, after an apparent cure, recurred following an attack of erysipelas. In three cases there were severe septic complications, followed by recurrence of the original trouble. The author used tuberculin at long intervals and in small doses. The recurrence he believes due, not to the virulence of the tuberculosis, but to the aggravation of the septic complications. The best results from cauterization have been reached when septic complications have been avoided by local protection and asepsis. The use of tuberculin has aided in the resolution of the inflammation, has lessened the tendency to diffusion of the tuberculous process, and has produced a slight grade of immunity in the adjacent parts.—*La Riforma Medica,* October 4, 1904.

A Case of Chorioangioma of the Placenta.—Cesare Finzi has had the opportunity to study a case of chorioangioma of the placenta. Tumors of the placenta are of extreme rarity, only fifty-two cases having been reported up to the present time. The patient was forty-three years of age, in her sixth pregnancy. There was hydramnios, but the delivery was spontaneous after the artificial rupture of the membranes, and the draining away of some of the excess of amniotic fluid. The child was well developed and living, and the placenta came away naturally. On examination of the placenta it was found that nothing abnormal appeared on the maternal surface. On the fetal surface, in the center and 2 cm. from the insertion of the umbilical cord, was a hemispherical mass, elevated above the general surface. It was shining, 10 cm. in diameter, and extended out to the margin of the placenta. It was soft and elastic. Examination showed that its tissues were not continuous with those of the placenta. Large veins and arteries ramified over it, and one of these penetrated its mass. Microscopical examination showed it to be a solitary chorioangioma of the placenta, originating by an extraordinary proliferation of the fundamental tissues of the chorion, developed in a limited space, such as might be occupied by a few choroidal villi, and growing as a parasite in the placenta. The author believes that such tumors arise from a multiplicity of etiological factors, resulting in an atypical proliferation of the elements of the chorion. These causes may be extrinsic to the choroidal villi, referable to genital stasis as the expression of circulatory alterations, to lesions of the endometrium changing the implantation of the villi on the decidua, and other maternal abnormalities; or intrinsic and due to a morbid exaltation of the proliferative powers of the elements of the chorion and alantois. It is noticeable that hydramnios is a frequent complication, occurring in 23 per cent. of cases; albuminuria and eclampsia have occurred in eight cases; in 38 per cent. the pregnancy was interrupted prematurely; and 37 per cent. of the children have died at birth.—*Archivio di Ostetricia e Ginecologia,* September, 1904.

Tuberculous Infection by Way of the Vagina.—Calogero Galbe tells us that tuberculosis of the female genital organs, either primary or secondary, is exceedingly rare. Out of from sixty to eighty phthisical women observed, only two or three had tuberculosis of the genital organs. When there are any lesions, they are of the internal organs, and it is doubtful if infection ever occurs from without. The author's experiments had for their object to show the importance of solutions of continuity in the vagina, and the way in which the genitals act toward injections of tuberculous material, as well as whether pregnancy can occur when there is a tuberculous lesion of the genitals, and how it is affected by it. For this purpose he injected tuberculous material into the vagina of guinea pigs, being careful to produce no solution of continuity; one group was inoculated unimpregnated, one was afterwards impregnated, and a third was inoculated while pregnant. He concludes as follows: 1. Solutions of continuity are of the greatest importance in determining a deposit of tuberculous tissue in the external genitals. 2. The resistant power of the organs probably depends on the epithelium by which they are covered, not on the secretions of the mucous membrane. 3. The organism resists any penetration of the virus, and if it occurs, it is through the interstices between the cells, and spreads by the lymphatics. 4. Conception may take place coincident with a tuberculous lesion; abortion is frequent, and tubercle bacilli may be found in the placenta and organs of the fœtus. 5. The differences of material injected, sputum or culture, make no difference in the effect.—*La Riforma Medica,* September 13 and 20, 1904.

Periphlebitis and Endophlebitis of the Lateral Sinus and Thrombosis of the Superior Longitudinal Sinus.—D. De Carli describes a case of periphlebitis and endophlebitis of the lateral sinus and thrombosis of the superior longitudinal sinus that was apparently either not connected with ear disease, or was occasioned by an ear affection that had given no signs since childhood. At five years of age the patient had acute otitis media, the smyptoms of which cleared up and did not show themselves until the occurrence of the present trouble, a period of eighteen years. At this time he was attacked by fever and chills, ending at night with sweating and reduction of the fever. The attacks were daily, and accompanied by severe pain in the right side of the head at the top, irradiating to the neck. On entering the hospital it was found that the drum membrane was destroyed on the right side, the handle of the malleus hung down behind the opening, the mucosa of the chamber was very hyperæmic, but no pus was to be seen. The mastoid region was not swollen or tender, but percussion over it gave pain. There were no cerebral symptoms, but movements of the neck were limited by pain. Operation at the apophysis set free a large quantity of pus, thin and fetid. The lateral sinus was found thrombosed and the internal jugular was found open. Relief from the operation was only temporary, and the patient died two weeks afterward. At the autopsy the dura was tense, the arachnoid opaque, and the thrombosis of the sinus extended to the torculor and into the longitudinal sinus. There was no caries of the temporal bone.—*Archivio Italiano di Otologia,* September, 1904.

Treatment of Tracheobronchial Adenopathy.—R. Oppenheim and Ch. Laubry, after speaking in some detail of the treatment of this affection in the case of children, discuss it in relation to the adult. Excluding the cases of cancer and of leukæmia, tracheobronchial adenopathy occurs almost always as a complication in the course of confirmed pulmonary tuberculosis. In the cases in which it appears primary, it is exceptional that careful auscultation of the apices does not reveal clear signs of induration. The treatment of this condition is much like that of pulmonary tuberculosis. Besides the hygienic and dietic measures which are commonly instituted, just as in the case of children, preference is given to the arsenical preparations, in the form of Fowler's solution, solution of arseniate of soda, or subcutaneous injections of cacodylate of soda. Care must be taken in the employment of iodine and its derivatives, which may cause congestion or even provoke hemorrhage. Cod-liver oil, the phosphathes, hypophosphites, and glycerophosphates are useful. In the treatment of cough and dyspnœa, the opium preparations will be found most valuable, and their employment for these complications is often necessary.—*La Tribune Médicale,* October 1, 1904.

Contribution to the Morphology of Oxalate of Calcium.—M. Barberio finds that there has been a great deal that is inaccurate written about the shape of the crystals of oxalate of calcium that are found in the urine. He has made careful observations on this subject and publishes the results. The most frequent and best known form is that of octahedral crystals, formed of two pyramids with their bases together. The larger crystals are the most perfect. If two or four crystals are grouped together we get the form of a four-pointed or eight-pointed star. The next in frequency is a quadratic prism terminated at its two extremities by pyramids. They vary much in size, but are smaller than the octahedra. A form so rare that the author has seen it only once consists of quadratic tablets. Aside from the crystalline form is the dumbbell shape, which is not crystalline, and conists of two more or less spherical forms united so as to look like a dumb-bell. These forms may be produced artificially.—*Giornale della Associazione Napolitana di Medici e Naturolisti,* March-April, 1904.

Collodion Dressing for Intranasal Surgery.—C. W. Richardson recommends for a dressing after intranasal operations leaving a raw surface the use of ordinary collodion. The area to be heated is first blanched with adrenalin, then dried, and finally coated with collodion, quickly applied by means of a cotton carrier. Several applications are made, evaporation of the ether and the setting of the collodion being favored by several blasts of air through the meatus.—*The Laryngoscope.*

Book Reviews.

Radiotherapy and Phototherapy, Including Radium and High-Frequency Currents, Their Medical and Surgical Applications in Diagnosis and Treatment. For Students and Practitioners. By Charles Warrenne Allen, M.D., Professor of Dermatology in the New York Post-Graduate Medical School; Consulting Dermatologist to the Randall's Island Hospitals; Consulting Genito-Urinary Surgeon to the City Hospital; Member of the American Medical Association, the American Dermatological Association, the New York Dermatological Society, etc. With the Coöperation of Milton Franklin, M.D., Lecturer on Electroradiotherapy, New York Polyclinic Medical School, and Samuel Stern, M.D., Radiotherapist to Mount Sinai Hospital; Clinical Assistant to the Skin Department of the New York Post-Graduate Medical School. New York and Philadelphia: Lea Brothers & Co., 1904.

A book on x-rays without shadow pictures is a decided novelty—we were going to say a commendable one, and on consideration we will let the qualification stand. Radiographs of bones—normal and broken—are good enough as aids to diagnosis, and shadow pictures of dilated hearts and pulmonary lesions may be studied profitably by those who have had enough experience to interpret them, in the negative, but when reproduced in half-tones they lose all their value, except as subjects for the exercise of the imagination. Dr. Allen has wisely put aside the temptation of ornamenting his book with showy, but worthless, pictures of this sort, and has contented himself with before and after pictures of skin lesions treated by radiotherapy and with drawings of apparatus.

A feature of the book, and one that appeals at once to the reader, is that it is manifestly written from the author's own experience, and is not a mosaic of bits from previous publications, skilfully cemented together by a very thin glue of personal experience. The work is eminently practical in its design and execution, and is one in which the tyro can find all, except the all-essential personal practice, to make him an accomplished radiodiagnostician and radiotherapist.

Examination of the Urine. A Manual for Students and Practitioners. By G. A. de Santos Saxe, M.D., Pathologist to the Columbus Hospital, New York City. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

This is a most complete and satisfactory guide to uranalysis, written by one thoroughly conversant with his subject and practically expert in the methods he describes. The work is divided into three main parts, following the introduction, viz., chemical examination of the urine, microscopical examination of the urine, and the diagnosis of urinary diseases. Special attention is given to the diagnostic significance of the various chemical elements and microscopical structures found in the urine. In addition to a full description of the usual technical methods, Dr. Saxe gives some new procedures which he has evolved in his own laboratory work. Cryoscopy and other means of functional diagnosis have been given their proper places. The text is fully illustrated, including eight colored plates of the various urinary crystals, and the book is provided with an excellent index. At the end of each chapter are questions regarding its contents, by means of which the student may prove the thoroughness of his mastery of the subject.

Beauty Through Hygiene. Common Sense Ways to Health for Girls. By Emma E. Walker, M.D., Member of the New York Academy of Medicine, etc. Illustrated. New York: A. S. Barnes & Company, 1904.

Popular books on medical subjects, sufficiently detailed to be of real value, and yet not so sophisticated as to lead to harmful attempts at lay prescribing, are unfortunately rare. It is therefore a pleasure to encounter so useful and well-balanced a work as is this little volume, and the author is to be congratulated on having successfully accomplished a difficult task. Binding and presswork are dainty enough to appeal to any feminine reader, and the style is equally charming, while there is not a statement or piece of advice in the book that would not be heartily endorsed by any experienced physician. There is hardly a medical man, no matter what his specialty, who has not often wished for some such book to put into the hands of his women patients for the purpose of giving them the necessary information on the hundred and one details of hygienic living that are so often neglected through ignorance, and every page of the present volume is replete with wholesome, common-sense advice. Massage and corrective exercises, the care of the skin, hair, mouth, eyes, nose, and ears, etc., diet in health, and for the purpose of gaining or diminishing weight, bathing, clothing and many others equally practical, are some of the topics discussed. Attractiveness of form and feature is to be attained only through a healthy mind in a normal body, and the author tells young women how to achieve and retain beauty through observance of the principles of healthful living and rational enjoyment.

Text-Book of Human Physiology, including Histology and Microscopic Anatomy, with especial reference to the Practice of Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute in the University of Griefswald. Tenth revised and enlarged edition. Translated by Dr. Augustus A. Eshner, and edited by Dr. Albert P. Brubaker. Philadelphia: P. Blakiston's Sons & Company, 1904.

The fourth edition of Stirling's translation, having been out of print for some years, and three large German editions having meanwhile appeared, the publishers have been led to place a new translation before the profession. In this, as in former editions, the plan has been adhered to of exhibiting the close interdependence of abnormal and normal processes, a brief outline of the pathological variations being appended to each section, heart murmurs, for example, being noticed in connection with the normal sounds, abnormal with the normal respiratory murmurs, etc. To each section is also appended a brief review of the comparative and historical aspects. The student is also introduced to the principal methods of investigation which he will need in his future work. Thus the technique of the blood examination, uranalysis for the principal pathological constituents in connection with that of normal urine, laryngoscopy and rhinoscopy along with the pathology of phonation and articulation, and, in connection with the optics of vision, the subject of astigmatism are discussed. While in general the work appears to be thoroughly up to date and its value is unquestionable, here and there one notes a lack, as the absence of any mention of the islands of Langerhans now emerging into such prominence in connection with pancreatic diabetes. The discussion on the "ductless glands" is a little disappointing, they being relegated as an appendix to the circulation and no mention being made of acromegaly in connection with the pituitary body. Also occasional uncouth teutonisms ("forelying work," for example), are seen. But, after all, these criticisms relate to only minor blemishes in an excellent work.

Les Rayons N et Les Rayons N$_1$. Par le Dr. H. Bordier, Professeur agrégé, à la Faculté de Médecine de Lyon. Paris: J. B. Baillière et fils, 1905.

Though the imprint is that of 1905, the subject matter cannot be so regarded, so rapidly are these subjects added to and apt to change. Indeed, the entire subject of *n*-rays seems but a thing of yesterday, and their very existence has already been denied. The author believes there is no doubt of their existence, and has here collected and condensed for digestion about all that has appeared of importance upon the subject.

In doing this M. Bordier has conferred a benefit upon seekers after truth in these directions. There are less than 100 pages, with 16 figures.

V. Internationaler Dermatologen-Kongress. Verhandlungen und Berichte herausgegeben von Sanitätsrat Dr. O. Rosenthal, General-Secretär. Erster Band. Berlin, 1904.

With commendable promptness the first volume of the transactions and reports of the fifth international congress for skin diseases just held in Berlin, has been given out. Indeed, it was published before the physicians convened, so that they might have before the eye the collected statistical reports upon leprosy from the entire world. Of especial interest to the American reader will be the report of Dr. Dyer, of New Orleans, though it does not reflect an interested activity upon the part of officials or doctors in this country. While it shows that many States are seemingly free, there is enough leprosy to make the present indifference of authorities dangerous. The general secretary is to be congratulated upon getting out this portion of the transactions so early and so well.

Anatomie und physikalische Untersuchungsmethoden (Perkussion, Auskultation, etc.). Anatomisch-klinische Studie von Dr. R. Oestreich, Privatdozent an der Universität, und Dr. O. de la Camp, Privatdozent an der Universität, in Berlin. Berlin: S. Karger, 1905.

This is a treatise of two hundred and sixty-six pages devoted to a consideration of the underlying principles of physical diagnosis. It is divided into a general part in which the laws governing the transmission of sound, the movements of fluids through tubes, the *x*-ray, and the agonal changes produced by death are discussed, and a special part in which the physical signs to be elicited from the thoracic and abdominal viscera are subjected to exhaustive analysis. The book is written with great attention to detail and should prove of service to those interested, but its value would be much enhanced by the addition of suitable diagrammatic or other illustrations.

A System of Practical Surgery. By Profs. E. v. Bergmann, P. v. Bruns, and J. v Mikulicz. Translated and Edited by Dr. Wm. 1. Bull. Vol. V. Philadelphia and New York: Lea Brothers & Company, 1904.

The appearance of the present volume marks the completion of one of the most elaborate treatises on surgery which has been presented to the profession in recent years. The original German edition met with a favorable reception, and the second followed within a brief period. The American edition has been translated from the latter and its character will undoubtedly be a guarantee of an equally favorable attention. The attempt to make the work practical has been sustained through all the volumes, but the more purely theoretical side has not been neglected, as is evidenced by pathological data, details of original research, and statistical facts. The volume under discussion deals with the surgery of the pelvis and genito-urinary organs, and has been translated with the collaboration of Dr. E. M. Foote. Malformation, diseases, and injuries of the pelvis are treated by Steinthal; abnormalities, injuries, and diseases of the kidney and ureter, by Schede; the bladder and prostate, by Nitze and Sonnenburg; the urethra, by Körte and Rammstedt; the scrotum, testicle, etc., by v. Bramman; the anus, rectum, and penis, authors not stated. These topics are quite elaborately discussed and, in most instances, well illustrated, many additions having been made by the American publishers, which add to the attractiveness and value of the work. Being encyclopedic in character, prominence is not given to the views of the individual authors, but each presents the most modern status of the subject. The volume comprises 789 pages, 354 engravings, and 16 plates, mostly colored, is well printed and bound.

Enlargement of the Prostate. Its Treatment and Radical Cure. By C. Mansell Moullin, M.D., Oxon. F.R.C.S. Philadelphia: P. Blakiston's Son & Company, 1904.

The present is the third edition of this book and includes all the recent progress with reference to the condition. The author was among the first to point out the dangers of catheter life and the advances made in treatment have removed most of the doubt that an enlarged prostate is no longer incurable. In addition to prostatectomy, the author also recommends orchidectomy and division of structures contained in the spermatic cord for diminishing the size of the prostate. This often meets with success in cases which are not adapted to the more radical operations, for, as the writer contends, the chronic congestion and inflammation are of as much moment as the overgrowth of the glands itself. There is no doubt that the testes possess a marked influence over the circulatory conditions in the prostate, and orchidectomy is usually followed by a rapid diminution in the size of the organ. The book is well written and forms an exceedingly useful manual on the subject in question.

Regional Minor Surgery. By George Gray Van Schaick, Consulting Surgeon to the French Hospital, N. Y. Second Edition. New York: International Journal of Surgery Company, 1904.

The second edition of this practical little book has been revised and additional chapters added. The author's object has been to furnish the general practitioner with such information as will be of service in daily practice. Subjects of a technical character have been avoided and only the most applicable methods have been presented. The entire body is taken up regionally, and many novel features which have been devised or successfully used by the author are described. The book is illustrated with simple, but clear, sketches, and within its 228 pages contains a large amount of valuable information.

A Text-Book of Histology. By Frederick R. Bailey, A.M., M.D. Adjunct Professor of Normal Histology, College of Physicians and Surgeons, Medical Department, Columbia University, New York City. New York: William Wood & Company, 1904.

Both the teacher and the student of human histology should view the appearance of this volume with gratification, for it will do much to lighten the labor of each. Written by an experienced instructor of this fundamental study, it combines the simplicity and directness of statement desirable for the learner, while at the same time the subject is covered with a thoroughness that leaves nothing to be desired from the standpoint of the teacher.

The selection and most advantageous plan of preparation of the large amount of material necessary for the demonstration of the minute structure of all the tissues of the human body is a most difficult problem, so that the fullness of detail to be found in this volume should make it a very welcome aid to all engaged in teaching the subject. This matter of technique has been made a special feature of the book, for, in addition to three introductory chapters respectively giving all the ordinary methods of fixation, staining, and sectioning; special staining methods, and the technique of neurological methods; there is appended to the description of the histology of each organ a paragraph devoted to the explanation of the exact method of preparation required to yield specimens illustrative of the text. In the choice of the source of material to be utilized great discrimination is shown, and wherever study of organs from one of the lower animals facilitates comprehension of human structures, these are made use of.

The entire text is characterized by clearness and a consistent plan of arrangement, qualities which are particularly noteworthy in the chapter on the nervous system. This is the longest in the book, comprising eighty pages, and is illustrated by an unusually fine series of drawings which should greatly facilitate the comprehension of the intricate structure of this set of tissues. Indeed, the illustrations throughout are admirably chosen and the many original drawings most beautifully executed.

It would be difficult to suggest any improvements in what is undoubtedly the most useful and practical textbook of human histology we have, and the volume needs only to be known to be appreciated.

The Pathology of the Eye. By J. Herbert Parsons, B.S., D.Sc., Lond., F.R.C.S., Eng., Assistant Ophthalmic Surgeon, University College Hospital; Curator and Pathologist, Royal London (Moorfields) Ophthalmic Hospital; Lecturer on Physiological Optics, University College, London. Volume I, Histology, Part 1. New York: G. P. Putnam's Sons; London: Hodder & Stoughton, 1904.

The design of the author of this volume is to produce a complete treatise on the pathology of the eye in four volumes. Volumes I and II will be devoted to the histology of morbid conditions of the eye. Volumes III and IV to a consideration of diseases that affect the eye as a whole, such as glaucoma, sympathetic ophthalmia, congenital malformations, etc.

Volume I is the only volume issued thus far. It includes the pathological histology of the lids, conjunctiva, cornea, sclera, iris, anterior chamber, and ciliary body, together with the bacteriology of the conjunctiva.

The work in its conception is one that has long been wanted by ophthalmologists. If the design is carried to completion, and the volumes to follow are equal in excellence to the present one, the result will be a monument to the writer such as few men in any country have erected to themselves.

The first volume is a book of 388 pages. It contains 267 illustrations. All the new illustrations, of which there are many, are from photographs not retouched. The illustrations are from half-tone plates. All illustrations are in black and white.

The work discloses a thorough knowledge of the subject on the part of the author, familiarity with the literature, and a broad comprehension of the various processes concerned in the production of the tissue-changes. The most advanced views are presented in language that is as brief and concise as possible in conformity with a complete description and discussion of the conditions under consideration. The volume is stored with facts which should be readily accessible to every oculist and pathologist. No medical library can afford to be without it.

Saunders' Question-Compends. Essentials of Chemistry, Organic and Inorganic. Containing also questions on Medical Physics, Chemical Philosophy, Analytical Processes, Toxicology, etc. By Lawrence Wolff, M.D., formerly Demonstrator of Chemistry at the Jefferson Medical College, Philadelphia. Sixth edition, thoroughly revised. By A. Ferree Witmer, Ph.G., formerly Assistant Demonstrator in Physiology at the University of Pennsylvania. Philadelphia, New York, London; W. B. Saunders & Company, 1904.

The new edition of this compend differs but little from its predecessors, by far the greater part of the fifth edition having been reprinted. We still note "formitates" (page 102), atomic weight of silver, 10 (page 134); "proprionic" acid (page 103); the table of elements on page 213 wants bringing up to date; as it stands at present there are several omissions. All of the above, with other small blemishes, have been reproduced in the new edition. The new matter includes three lines on cryoscopy, a couple of pages at the end of the section on electricity, and paragraphs on radium and organotherapy.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. September 1: 1904. Philadelphia and New York: Lea Brothers & Company.

Ewart, Gottheil, Norris, and Spiller are those who present the three months' progress. Each puts considerable of his personality into the work, and Gottheil, as usual, puts in several of his personal good pictures of skin diseases, one striking depiction of a self-produced eruption. The standard of work is being well maintained. In Norris's section on obstetrics there are interesting articles on early signs of pregnancy, diagnosis of conception, twin pregnancy, and procreation of sexes according to will.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Anniversary Meeting, November 3, 1904.

Dr. Andrew H. Smith in the Chair.

The evening was devoted to the Anniversary Discourse by Dr. William H. Thomson.

The Present Statns in the Investigations of the Subject of Internal Secretions.—Dr. Thomson said that there were certain physiological and pathological facts that had been fairly well established, but reports from the laboratories showed how ignorant we have been and how much there was to unlearn. He, therefore, thought that the occasion of an anniversary address should be improved by reviewing some of the new findings. The term itself was an unintelligible one, and meant almost nothing until a short time ago. Little was thought about the important class of glands whose secretions could not be collected or examined, and whose specific properties could only be inferred, until it was discovered that when some of these glands became diseased, often fatal derangements followed. Then followed some animal experiments, the effects of removing the glands being carefully watched. Many facts had been reported from the laboratories which must be taken into account. Instead of the discoveries coming as complete statements, they were more like puzzles, and it was very trying, after receiving what was supposed to be real information, to be told that only partial facts had been presented. True progress in medicine resembled the process of growth, and growth could not be hurried. The mechanism of secretion had always been more or less obscure. For instance, there was no common agreement regarding the urinary secretion, nor one regarding even a single element in the urine. The primary question was, what had the kidney to do with urea? It was a fact that when three-quarters of the kidney had been removed from healthy dogs, the remaining one-quarter would secrete more urea than a sound and whole kidney, until the animal died from a general break-down of the proteid tissues into urea. He asked, what was uræmia? It was not due to the suppression of the functions of the kidneys, because one could have an impacted calculus with complete suppression of urine without uræmia developing . He asked why some forms of kidney disease ran on to death without dropsy appearing, while others developed a general anasarca. No explanation had been given. The function of the thyroid gland had only been guessed when myxœdema developed. In other words, the secretions, no matter in what amounts or how easily procured, had but little to tell of the vital processes to which they owe their origin. If this was so in regard to such secretions as bile and urine, he asked what could be expected from secretions which could not be obtained. There were certain limitations to the study of this subject by the imperfections of our knowledge of the problems in this new department of medicine. He believed the proper course to pursue would be to find out facts so far as had been demonstrated about each of these organs which charge the blood with some internal secretion, and then draw what conclusions he could from the facts presented.

The Spleen.—This was a ductless gland, of large size, with an abundant vascular supply, and always present in vertebrates, which implied that it was an important organ. It had been proven that all animals could get along without the spleen, and extracts of this organ showed no special properties. It was thought that the chief function of the spleen was to fill up a hole under the arch of the diaphragm; this was the old idea.

The Thymus.—The thymus gland was a so-called temporary gland. Physiologically this gland seemed to be associated in some way with the origin of the white corpuscles of the blood. As the lymphatic tissues increased in the body, it appeared that the thymus became superfluous, yet the investigations seemed to show that the true period of functional activity of this body was an important one. He referred to eighteen cases of marasmus that had been reported, in which autopsies had been obtained, in which the only lesion found was an atrophy of the thymus, and in which the average weight of the thymus was 2.2 grammes. This writer had concluded that an atrophy of the thymus was always found in cases of infantile atrophy; that the condition of the thymus was an index to the general nutrition of the infant; and that the state of nutrition in an infant might be determined by an examination of the thymus at autopsy by the microscope. Unexpected death might occur in children as well as adults when there was a persistent thymus; this, in some cases, might be due to pressure upon important structures in its neighborhood; in others from interference with the action of the heart, the heart stopping before respiration. The general increase of lymphatic tissue throughout the body, the so-called *status lymphaticus*, accompanied by enlargement of the thymus, was best treated by cod-liver oil, the children taking it with relish.

Thyroid Gland.—The diseased condition, myxœdema, had been artificially induced in man, and was an unmistakable result of atrophy of the thyroid gland. The administration of the thyroid extract held myxœdema in abeyance. Whatever the gland added to the blood in the way of secretion was very important. One writer had shown that myxœdema never occurred in old people; other writers had shown that as age advanced the thyroid elements lessened, and in old people the gland structures could not be recognized. In time the function of the thyroid ceased to be associated with life. No organ of the body had been the subject of so much investigation as the thyroid gland. In carnivora its removal seemed to be fatal, but in omnivora less so. The question whether this gland was necessary to life had been considered by many, and with different answers, but more recently it had been held that there were certain small bodies, called parathyroids, which were found closely associated with the thyroid; in some animals they were found to be imbedded in the thyroid gland itself, and in others they were found to be quite separable. Parathyroid bodies could not be converted into thyroid tissue, the organs being of a different nature; the parathyroid bodies could not compensate for the thyroid if the later was removed. It had been demonstrated that if the parathyroids were dissected out from the thyroid in carnivora, the animals would appear with tremors, convulsions, etc.; but if the thyroid was removed and the parathyroids left, no such conditions resulted. The speaker believed that some internal secretions might have an antitoxic function, by which poisons in the body were neutralized. There were poisons which acted upon the nervous system, and whose accumulation in the blood did not act in health because of the presence of certain antidotes. Much confusion existed at present regarding the functions of the thyroid gland. In Graves' disease it had been claimed that this was accompanied by hypertrophy of the thyroid, and this charged the blood with its own secretion in excess. He referred to one case of Graves' disease in which no parathyroid bodies could be found. In all cases of Graves' disease it had been found that the parathyroids were smaller than normal. The thyroid was susceptible to certain toxic agents which circulated in the blood in somewhat the same way that exophthalmic goitre seemed to have some connection with drinking water, and which was found to be epidemic as well as endemic. This was proven by certain people who, in order to avoid going to war, partook of a certain drinking water, thus inducing exophthalmic goitre. Dr. Thomson here referred to an article published some time ago on forty-eight cases of Graves' disease. Here it was concluded that the thyroid was not primarily the seat of the malady, but was only a secondary involvement, in much the same way that the spleen was involved in ague. There seemed to be produced a certain toxin which caused the symptoms of Graves' disease, and these toxins were, in all probability, gastrointestinal in origin. He maintained that the treat-

ment of this disease by diet and gastrointestinal attention was speedier in results and far better than any symptomatic or surgical procedures. What were the derangements that could be charged to the thyroid and parathyroids? When the parathyroids were excised and the thyroid left, very severe symptoms developed; but this was not true if the thyroid was removed and the parathyroids left. Dr. Thomson was inclined to the belief that the internal secretion of the thyroid was intimately related to the nutrition of connective tissue. The mucoid infiltration occurring in myxœdema was due, in his opinion, to some degenerative change in connective tissue fibers. In gliomata the question arose whether an extract of the thyroid gland could not be made use of in treatment; given a history of intracranial growth, the administration of thyroid extract, after other measures had been tried without success, might result favorably. He was aware of such a case in which relief was obtained in a very short time by the giving of thyroid extract. This agent had been prescribed in almost everything from skin diseases to insanity, but the final verdict must be waited for.

Pituitary Gland.—This was a small, reddish-gray vascular body, weighing from five to ten grains, with only one lobe of really glandular character, and which was situated in the sella turcica. The fact that massive nutritive changes, as in acromegaly, should occur when the function of so small a gland was interfered with, was very strange. In three out of seven cases of acromegaly reported, the pituitary body was diseased, and one could not but concur with the opinion that disease of this body was a common accompaniment of acromegaly, possibly secondary to the bony changes. In acromegaly there was disordered body growth. When the testicle of a young animal was removed the subsequent development of that animal was modified. Various theories had been propounded to explain these facts. He believed that the normal growth of the body generally represented the sum of the interaction of the growth of different organs of the body. In acromegaly one might find a general derangement of the processes of nutrition, and this might include the functions of one or more of the ductless glands.

The Panereas.—Attempts at study of the pathology of diabetes were most tantalizing. The pancreas, no doubt, had much to do with the origin of the disease; if the whole gland was excised, diabetes would develop in its most severe form. The islands of Langerhans exerted some influence upon the development of diabetes, but the extent of this influence was not clearly known. It was a remarkable fact that diabetes was not dependent upon the quantity of secretion, for if one-quarter or one-fifth of the pancreas were left in the body no diabetes would occur. Even if only a small piece was grafted in the skin it would suffice to prevent diabetes occurring. Glycogen was really the fuel for combustion, and Dr. Thomson referred to the action of the adrenals and their influence upon the excretion of sugar in the urine, showing that it was very unlikely that certain physiological functions depended upon one organ or single process. There had been instances of total destruction of the pancreas by cancerous disease, and yet no diabetes developed.

Suprarenal Glands.—Addison's disease was caused by disease of the adrenals. The active principle could be obtained, whose properties could be demonstrated as definitely as those of quinine. The chief property of adrenalin seemed to be in its ability to cause arterial contraction. As small a dose as 1-800 of a grain of suprarenal extract in an adult man would do this. The active principle acted upon the vessels through an influence upon the muscular coats directly, and not through the nervous influence. Even the skeletal muscles did not escape its action. Its action upon the heart was very marked. This agent should be used with great caution in cases of obstruction in arteries. It might be of value in hæmatemesis, but its value in hæmoptysis was doubtful. An effect of adrenalin described by Oliver and confirmed by others was upon the volume of the kidney, a shrinkage occurring of one-half its bulk when this agent was administered. It had been stated that the high-tension pulse of kidney disease was the result of the kidney changes themselves; but high pressure could be assigned as the leading factor in producing changes in the arterial walls, and this factor, he said, was present in the beginning of the kidney disorder, and was not a late consequence. The high tension caused an endarteritis; an endarteritis did not cause the high tension. The primary cause of high-tension pulse must be found in the fact that the blood was charged with some agent which had the property of producing universal arterial contraction. The arteries of the kidney were those first affected. A not improbable surmise was that the high tension of the pulse in many forms of kidney disease was due to the action and excess of adrenal secretion in the blood. If this was true, its importance in this pathological condition was very great. The inference was that a high tension pulse went with contracted kidney; if the kidney was functionally contracted, wholly or only partially, by the action upon it of some agent in the blood, then the administration of some vasodilator should be followed by an increased urinary excretion. Dr. Thomson here referred to a paper published by him in which were recorded the effects upon the excretion of urea of full doses of aconite in patients with chronic kidney disease with marked high arterial tension. In such conditions he thought that aconite was indicated. The relation of adrenalin to high-tension pulse was demonstrated experimentally by administering this agent to rabbits; there followed atheromatous changes and an arteriosclerosis. He thought it was greatly to be desired that the condition of the adrenals should be examined carefully in all cases of kidney disease.

NEW YORK ACADEMY OF MEDICINE.

Section on Surgery.

Stated Meeting, Held October 7, 1904.

Dr. Robert T. Morris in the Chair.

Resection of Greater Part of Stomach and Transverse Colon for Carcinoma.—Dr. A. A. Berg presented a patient who had been admitted to Dr. Gerster's service at the Mt. Sinai Hospital during the middle of last June. He came from Texas, where a diagnosis had been made of malignant growth of the stomach. This diagnosis was easily confirmed. There was a freely movable mass, about the size of the closed fist, in the epigastric region, which was connected with the stomach. An examination of the gastric contents revealed an absence of free hydrochloric acid. The patient had lost a great deal of weight and was very cachectic. A median incision was made after the customary preliminary treatment, and revealed a cancerous mass of the stomach, about one and a half inches from the pylorus. It was an annular malignant growth with considerable glandular involvement, especially in the gastrocolic omentum, and some in the transverse meso-colon. Bleeding was very free, and numerous little vessels, branches of the cœliac axis, were separately ligated. The preliminary removal of the glands occupied at least one-half an hour. He ligated the pyloric branch, and then a large branch of the gastro-hepatic artery. The stomach was removed, with the exception of about one and a half to two inches at its cardiac end, just enough being left to make an anastomosis with the Murphy button. A gastro-jejunostomy posterior was then performed. When he ligated the colica media artery and removed what fat was necessary, he thought it best to make a resection of the transverse colon. A gauze strip was then introduced down to the stump of the duodenum, and the wound was closed throughout its greater part. Twenty-four hours after the operation the patient was fed by mouth, and he never vomited during the entire course of his convalescence. He made a steady recovery, although there was some leakage from the duodenal end, and caused probably by the irrita-

tion of the gauze drainage. The patient was out of bed on the fourth week and had gained steadily in weight. There were no evidences of any recurrence of the growth. This patient represented the most complete extirpation of the stomach, there being left only one and a half inches of its cardiac end. The patient gained over 30 pounds in a little more than three months. The peculiar part of his present condition was that the patient was able to eat one meal and take considerable more than the average man would. The test meal, taken one hour after ingestion of his food, showed 30 c.c. to be contained therein. Dr. Berg expected to distend the stomach in the near future, after administering bismuth and taking an *x*-ray photograph, which he will present the Section.

Dr. Charles H. Peck referred to his experience with a case of intestinal resection, where the gauze drainage was carried out, leakage occurring on the seventh day; this leakage lasted three days, and then the opening closed spontaneously. The future course of the case was uneventful.

Dr. Robert T. Morris asked Dr. Wiggin if, in cases of sepsis, he favored the use of salt solution in the peritoneal cavity, and if he did not think that it interfered with the coagulation of the lymph?

Dr. F. H. Wiggin replied that he had not found it so.

Dr. Morris asked Dr. Berg if he had known how extensively the glands were involved would he have operated?

Dr. Berg replied that in malignant disease of this type that there was nothing else to do.

Dr. Morris said that the three months of comfort afforded the patient was worthy of mention. He had never removed the stomach but once, and thought it was easy of accomplishment. The results in Dr. Berg's case were certainly satisfactory.

Dr. Berg stated that in intestinal anastomosis, unless there was some soiling, he had never been prompted to drain. Where drainage was indicated, he introduced it down to the line of sutures.

Experiments Demonstrating the Value of Oxygen in Connection with All Anæsthetization.—Dr. James T. Gwathmey read this paper. (See page 816.)

A New Surgical Chisel.—Dr. Frederick Griffith showed some chisels. (See page 839.)

Granulation Wound Adhesions with a Prelimimary Report on a New Application in Preventive Treatment.—Dr. Frederic Griffith said that in an article two years ago he brought forward the theory that the healing of granulation wounds was dependent upon mechanical principle of friction, and his present contribution had in view the presentation of an application for preventive treatment, and some thoughts upon another method of treating these wounds. After considering the pathology of granulating wounds, he stated that the value of a given application to a granulating wound depended upon the amount of fluid it caused to be produced, and, according to this principle, dusting powders were without exception irritating. Watery solutions failed of their purpose by the amount of relaxation and maceration which they produced. If an outer covering of sheet rubber tissue, or oiled silk, protective be applied, the condition was made worse by the direct bid for pus development being made. An approach to an ideal application to an external granulating wound was the membranous quality of rubber tissue when applied shingle fashion. This, however, was not an animal membrane, and, therefore, could not react to the progressive changes of regeneration in the wounded tissues. The employment of the peritoneum of an ox, known by the name of Cargyle membrane, marked an epoch in the treatment of granulating wounds. The specimen of tissue which he wished to present consisted of the gastrointestinal mesenteric attachment of the gray or sand shark (*Carcharias littoralis*), so common to the American coasts. Two or three square feet of this gossamer, but tough, membrane were obtainable from an ordinary sized fish. The material was readily secured and cheap.

Dr. Robert T. Morris said that it was often difficult to separate the peritoneum from the abdominal walls, especially in some sharks, mackerel and dog-fish. If the material mentioned could be cleaned without much difficulty, he thought it would prove to be an admirable preparation. Cargyle membrane absorbed too rapidly unless it was chromicized. There was more fat in the peritoneum of the ox than in that of fish. Cold-blooded vertebrates, like the seal, had no fat in the peritoneum. He believed this preparation might be more easily prepared than the peritoneum of the ox.

Southern California Dental Society.

Several papers of more than ordinary interest to the medical profession were presented at the annual meeting of this society, which took place at San Diego on October 24-26. These were read at the evening sessions and many of the local physicians attended by invitation; several of them participated in the discussions. The papers were illustrated with numerous stereopticon pictures, some of them projected directly from the microscope. E. S. Leonard, M.D., of Los Angeles, read a paper on "Tumors of the Mouth and Face, with Especial Reference to Early Diagnosis;" William Bebb, D.D.S., one upon "Comparative Odontology," and Ray D. Robinson, D.D.S., one on "Mouth-Breathing in Its Relation to Orthodontia." The paper of Dr. Robinson was of especial value to physicians. The essayist was emphatic in his statements that the elevation and narrowing of the palatine arch with deviation of the nasal septum and faulty occlusion of the teeth are invariably due to mouth-breathing, and that all efforts of the orthodontist to rectify the deformity must prove unsuccessful until this habit has been overcome. He insisted, therefore, that it is the duty of dentists to urge upon parents the importance of having the adenoids or enlarged tonsils removed without unnecessary delay, both as a preparatory measure to other treatment and as a means of preventing an increase of the existing disturbances. Both dentists and physicians, he said, should exercise greater vigilance toward the early recognition of mouth-breathing, since the removal of adenoids in early childhood would prevent the formation of the habit of breathing through the mouth, and thus render subsequent treatment unnecessary. By one of his illustrations he demonstrated the ultimate failure of orthodontal treatment, with return of the deformity, in a case in which the habit had not been overcome prior to the operation. The most phenomenal results in other cases were clearly shown; cases in which the palatine arch had been widened from a half to seven-eighths of an inch, with corresponding lowering of the apex and straightening of the nasal septum; other cases in which the molar teeth had been moved bodily a distance nearly equal to their width; others again in which the entire row of teeth on one side had been carried backward without disturbing the position of those in the opposite side. Equally striking results had been obtained in the straightening of distorted and protruding incisors. Several of the photographs beautifully illustrated the improvement of facial expression, every evidence of the dullness so characteristic of the mouth-breather having been removed. In speaking of the methods employed the essayist expressed decided preference for the Angle arch and the Baker anchorage. Another interesting feature of the meeting was the exhibition by Dr. William Bebb, of a large collection of skulls illustrative of comparative odontology. These were the property of the museum of the Dental Department of the University of Southern California, at Los Angeles.

Philadelphia Neurological Society.

At a stated meeting held October 25, Dr. L. C. Peter exhibited "A Case of Hysteria." The patient was a woman, about twenty-seven years old, employed as a shipping clerk, who several years previously had been seized with difficulty in walking, to which subsequently motor incoordination and difficulty in speech became added. The gait presented the features of ataxia, spasticity, and asthenia.

The knee-jerks were exaggerated, ankle-clonus could be elicited, and the Babinski phenomenon was present. There had at one time been difficulty in the expulsion of urine, and in parts of the body, especially below the thorax, there was impairment of painful and tactile sensibility. The pupils were of normal size and they reacted properly. The fundus of each eye was normal. There was no nystagmus. The power of accommodation was almost entirely lost. The visual color fields were greatly reduced in size and reversed. Coordination in the upper extremities was at times more marked with the eyes open than when they were closed. There was no wasting. There was some difference of opinion as to whether the case was one of hysteria pure and simple, or a combination of hysteria and organic disease, most likely multiple sclerosis. Dr. J. H. W. Rhein presented "A Case of Trauma of the Cervical Spine Exhibiting Syringomyelic Symptoms." The patient was a middle-aged man, who had been struck by a heavy roll of carpet, falling from a considerable height. He was at once rendered unconscious, and subsequently presented the features of a left hemiplegia, with impairment, especially of thermal sensibility on the right side of the body. Skiagraphic examination failed to disclose evidence of fracture or dislocation of the cervical spine. Dr. Charles K. Mills presented a communication entitled, "A Case of Myokimia, with Remarks Upon the Different Forms of Tonic and Clonic Myospasm." He exhibited a man, twenty years old, with neurasthenic symptoms, who had grown rapidly and was more than six feet in height, and in whom there appeared from time to time twitchings in small portions of muscles in different parts of the body. Dr. Alfred Gordon demonstrated "A New Reflex, Paradoxical Flexor Reflex." He had observed in cases presenting spastic phenomena that with the observer standing on the outer side of the patient and the ulnar margins of the hands resting on the internal border of the tibia, extension of the great toe, and sometimes also of the other toes, and sometimes also flexion of the foot, took place when the deep flexors of the leg were firmly grasped between the fingers. The phenomenon was often observed in association with exaggeration of the knee-jerks, ankle-clonus and the Babinski reflex, but at times independently, and it is believed to be of considerable importance in the differentiation of cases of organic from those of functional disturbance. Dr. S. D. Ludlum made "A Preliminary Report on Neurofibrillar Changes," reporting the results of observations on rats subjected to inanition and physical exhaustion, and in one case of insanity of manic-depressive type. In each instance degenerative changes were found in neurofibrils related to cells of the cerebral cortex. Dr. Charles K. Mills and Dr. T. H. Weisenburg reported "A Case of Mixed Aphasia, with Hypesthesia and Partial Hemianopsia in a Left Hemiplegic." The patient was a man, fifty-nine years old, who during childhood had suffered a fracture of the right radius, and in consequence had learned to use the left hand for many purposes, though not for writing. He was seized with left hemiplegia, associated with aphasia, being word-blind and letter-blind, and unable to write spontaneously, on dictation, or by transcript.

Philadelphia County Medical Society.

At a stated meeting held October 27, Dr. Moses Behrend reported a case of typhoid fever with many complications. A man, 33 years old, presented at first in the course of an attack of typhoid fever severe muscular twitching, with general agitation and insomnia, followed later by profound sopor. During the fourth week symptoms suggestive of perforation of the bowels developed, namely, collapse, chill, abdominal distention, tenderness, and rigidity, with slight effacement of the liver-dullness. Immediate operation was advised, but was declined, on account of the debilitated state of the patient. Later, however, operation was assented to. No perforation of the bowel was found, but the appendix was inflamed and adherent, and it was removed. The mental condition improved in a short while, but signs of effusion into the left pleural cavity developed and a pint of serous fluid was removed by aspiration. Subsequently, symptoms of pneumothorax appeared. Considerable relief was afforded by aspiration of some of the gas. Polyuria was a feature of the attack, being especially marked when the temperature was highest. Recovery eventually ensued, in the course of ten weeks.

Dr. M. C. Thrush read a paper entitled "The Trend of Modern Prescription-Writing," based upon a careful examination of five hundred prescriptions received and filed in each of two of Philadelphia's best prescription-stores, so located as to receive prescriptions from the leading physicians of the city, including teachers in the medical schools and members of hospital staffs, as well as a number of physicians in general practice. Of the entire one thousand, 13 contained chemical incompatibilities, the same number pharmaceutical incompatibilities, one a therapeutic incompatibility, 50, six or more ingredients; 718, from two to five ingredients; 232, one drug or preparation; 484, only official preparations; 359, proprietary preparations in whole or in part; 2, patient medicines, and 155 non-official preparations. In 5 the metric system was employed in whole or in part, and 621 were written correctly.

Dr. S. W. Newmayer read a paper entitled "The Relation of the Physician to the Bureau of Health." He maintained that the treatment of disease is secondary to its prevention. The diseases that affect the masses are principally the infectious. Authoritative guidance in sanitation and forensic legislation is vested in specialists in public health, constituting bureaus of health, but the practical application of the principles of sanitation by these lacks completeness without the constant co-operation of the entire medical profession. It is necessary for practitioners to report cases of contagious disease, and the diagnosis has been simplified by the maintenance of public, modern, efficiently equipped laboratories for bacteriological and chemical investigation examination.

Medical Jurisprudence Society of Philadelphia.

At a stated meeting, held October 17, Dr. T. Luther Coley read a paper entitled, "The Influence of Certain Food-Preservatives on Digestion; Based on Experiments." He had found that the presence of benzoic acid in food had an accelerating effect on digestion when present in a proportion of 1-10 per cent., and even up to 10 per cent. it has no retarding effect. It exerts no deleterious influence on the organs of animals, as experimental observations have demonstrated. It is a normal constituent of some foods, and it is eliminated from the body without irritation. It has been used as a preservative of food in a proportion of 1 to 1,000. Dr. Henry Leffmann presented a communication entitled, "Suggestions for Food-Laws." He pointed out that the adoption of a food-law is the beginning of the work of suppressing adulteration. It is necessary to institute investigations, obtain and analyze specimens, make results public, and bring prosecutions. The usual method is that inspectors make purchases, mark packages so as to identify them, and deliver these to the chemist, who makes a return of the result of his tests. In most cases the seller is not warned at the time of the purchase that the article is to be analyzed, and may never know the result if the article is found to be satisfactory. If it be unsatisfactory, the first knowledge the seller may have is when a warrant is served on him. The course followed in England is to be commended. The sample purchased by the inspector should be divided into three parts—one given to the seller, one to the chemist for examination, and one kept by some central body for reference in case of a dispute. The portions should be sealed and marked. The results of the analysis should be transmitted to the seller in any event, that is, whether adulteration is found or not. Analytical results should be obtained and reported quickly. With proper arrangements not more than a week need elapse from the time of the purchase of a

sample and the receipt of a report on it. All prosecutions should be brought not more than a month after the purchase of the sample, and the formal trial of the case should not be more than six months after. In the bringing of a series of suits on a long line of samples from one dealer, there is an opportunity for oppression and extortion. The principle of "warranty" might also be given some play in the matter of food control. This is substantially that a guarantee of purity transfers any responsibility from the dealer in whose hands the goods may be to the manufacturer or intermediate dealer. There should also be a system of warning. The first offense should be met by a written notice to the offender that a second offense will be prosecuted. Many instances of food adulteration are due to inadvertence.

Chicago Medical Society.

At a meeting held October 5, Dr. Hugh T. Patrick presented several cases, and Dr. Charles L. Mix reported a case of "Traumatic Neurosis Associated with Tubes."

Dr. Norman Bridge read a paper entitled, "Some Common Errors in the Treatment of Pulmonary Tuberculosis." He said the mortality of tuberculosis had been reduced in less than three decades by probably 29 per cent. of the former figures, or from 14.25 to 10 per cent. of all deaths. These results were not accidental, but were clearly due more to the better management of the pulmonary form than to any other influence. The great first purpose of all treatment was to increase the physiological power of the patient to resist the disease and destroy or circumscribe its course within his own body. To give creosote to the extent of lowering the digestive power, or to give serum injections to the production of phlegmons and higher temperature, or to give coal-tar drugs for fever, while the patient was allowed to go on in his usually unhygienic course of life without advice or correction, was an error so awful in its results that not even confession and penance were sufficient atonement. And all practitioners had sinned in some of these directions, and some of them grievously. Every patient should be constantly supplied with outdoor atmosphere in such abundance that every successive inspiration brought a fresh dose of air to the lungs, and none from previous expirations. Every one should have long hours of rest; if feverish, the rest recumbent should be almost or quite constant, for exercise increased the fever. The digestive powers should be made to do their best under the most careful supervision and direction toward improving the nutrition and possibly also the resisting power of the patient. A tuberculous patient was never helped to resist the disease by muscular development above his normal standard. A consumptive's body should always be well and equably clothed, and never be hampered or restricted by garments. Snug corsets and conventional gowns were an abomination for the tuberculous woman. Worn as they were by most such women, they frequently tipped the scales in favor of death rather than recovery. Climatic treatment of tuberculosis had rightly become popular the world over; yet he was compelled to the belief from abundant observation that of all the remedies prescribed for the tuberculosis, one of the most unfortunate and unsatisfactory was climate as it was usually employed. Going away for climate was one of the most abused and misused of all the great measures for the sick; and so what ought to be a blessing unspeakable often became a pitiful deception and a vision of death. This misfortune was largely an error of the people, but the profession was greatly at fault about it also. In more than half of the instances in which it was advised it was for the wrong kind of cases, or at the wrong time, or for the wrong people; that is, with poor regard for all the circumstances of the situation.

At a meeting, held October 22, Dr. E. Fletcher Ingals read a paper entitled "Bronchoscopy for Foreign Bodies in the Bronchial Tubes." The author reported two cases in addition to those reported by him to the American Laryngological Association, in June, 1904. Case I. Lower bronchoscopy. Infant, fourteen months old; two days previously had inhaled a coffee bean. Usual symptoms of cough, and labored respiration followed. At the time of examination, pulse was 126, temperature 102.2°, and respiration 62. As to physical signs, respiratory murmur was much diminished over the right lung; vesicular sounds were hardly audible. There was no dullness on percussion. Owing to the small size of the child, and the consequent difficulty of pasing a tube through the glottis, lower bronchoscopy was decided upon. Dr. Arthur Dean Bevan did the tracheotomy; the coffee bean was found at the lower end of the right bronchus, and removed without difficulty. The child did not rally satisfactorily, and in spite of reopening of the wound, stimulation and administration of oxygen, died about sixteen hours after. Case II. Upper bronchoscopy. Patient was a boy, two years of age; aspirated a large kernel of corn. Upper bronchoscopy was done under chloroform, and the kernel was found in the right bronchus and removed. Recovery prompt and uneventful. The cases were presented on account of their similarity. Question of cause of death of Case I. not certain. Post-mortem could not be obtained. Death may have been due to bronchopneumonia or to the shock following the operation. The latter theory seemed to be borne out by the fact that very young children do not stand tracheotomy well. Dr. Norval H. Pierce had seen Killian use his method in the case of a South American girl, six years of age, who had the whistle of a toy in her right bronchial tube, low down, for two months. Two attempts were made to remove it. The first attempt lasted an hour and ten minutes, the second three-quarters of an hour, and, although Killian could see the foreign body distinctly, he was unable to extract it on account of the swelling that occurred in the bronchial mucous membrane above the foreign body. As he pushed his bronchoscope downward, the mucous membrane, which was very edematous, welled up in front of it, so that when he reached for it with the forceps the mucous membrane got directly in the way of vision. The third attempt was made through an opening in the trachea, and this was successful. The patient later succumbed to bronchopneumonia, which, the speaker believed, was the usual cause of death in these cases.

At a meeting held November 2, 1904, Dr. B. W. Sippy showed a man who had "Stenosis of the Lower Portion of the Œsophagus." Great discomfort was experienced in swallowing, the discomfort being located by the patient below the lower portion of the sternum. An œsophageal bougie of large size was introduced, and the obstruction located at forty centimeters from the incisor teeth, near the cardia. Dr. Sippy introduced the œsophagoscope, after having preceded it with thorough cocainization of the œsophagus, so that any member could see the point of constriction. In treating this patient a bougie would be passed day by day; the patient would be given food that was non-irritating; also between thirty and forty grains of bromide of sodium every four hours. Furthermore, the patient's body would be given as much rest as possible. With this treatment the speaker hoped to succeed finally in overcoming the spasm, as in this case there was no ulceration, no erosion, and no sacculation. Dr. Norman Bridge urged great caution in passing œsophageal bougies, as he had known of some instances in which injury was done by exerting too much force in introducing these instruments into and against the spasm of the cardiac end of the œsophagus. A case was narrated by him of a woman who had a spasm of the œsophagus, which was extremely unyielding at times, rendering swallowing of food difficult, yet at other times the spasm would relax so that she could swallow without much difficulty. Dr. Norval H. Pierce had used the œsophagoscope in the diagnosis of tumors and in extracting foreign bodies. In diagnosis it was

an extremely important instrument, and for the purpose of removing foreign bodies it was a valuable instrument. Dr. Sippy said that probably not more than seventy-five or eighty cases of spasm of the œsophagus, producing dilatation of this viscus, had been reported in the literature up to this time. The condition was relatively common, but was simply overlooked. Within the last eight months he had seen several cases of idiopathic dilatation of the œsophagus and cardiospasm. Dr. Mortimer Frank read a paper on "Myasthenia Gravis," in which he reported the case of a female child, ten years of age. In this case ptosis was first ovserved in November, 1902. The present condition was one of bilateral ptosis and external ophthalmoplegia. The prognosis as regards recovery was practically hopeless.

New Instruments.

A NEW SURGICAL CHISEL.*

By FREDERIC GRIFFITH, M.D.,
NEW YORK.
SURGEON, FELLOW OF THE ACADEMY OF MEDICINE.

The illustrious French surgeon Faure, who has lately visited our country, in commenting upon American surgery in an article published in the *Presse Médicale,* observed that American surgical instruments were upon the whole clumsily made and fell far behind the graceful and artistic products of the artist instrument makers of France. Having visited M. Faure in his own surgical clinic at the Hospital Laennec in Paris, I can say of a truth that some of the Frenchmen's instruments at least partake of the sprightly cavorting characteristics of the French people themselves, and my own observation regarding them was that ingenuity was oftentimes wasted upon complicated mechanism.

Simplicity in construction must ever be the standard of a surgical instrument, and while there are no joints to a chisel, there is a vast difference between a stone-cutter's pitching tool and the surgeon's delicate osteotome.

The chisels presented are intended to preserve the grace of the dainty little instrument commonly called a chisel by the surgeons. The simple and evident fault of this instrument as it exists lies in the shortness of the handle. It is only necessary to observe an operator using one of these miniature chisels to be made aware of its disadvantages, for he either completely covers his field of labor with his grasping fist, or when by endeavoring to hold the implement between two or three fingers to allow himself a view of the bone he is cutting thereby loses a proper control. Instrument makers in seeking to remedy these difficulties, lengthen the chisel, it is true, but they seem to have the idea that the instrument is to be most often used as the shoemaker employs his awl. The handles are therefore made too bulky, with the result of an illy-balanced implement. The claims made for the models shown are: a free view of the cutting edge is obtainable to the extent allowed by retraction of the soft tissues and a proper balancing between the handle, shaft, and cutting edge.

40 East Sixty-Fourth Street.

*Presented at a meeting of the Surgical Section of the New York Academy of Medicine, October 7, 1904.

Books Received.

Beiträge zur Klinik der Tuberkulose. Herausgegeben von Dr. Ludolph Brauer. Band 3. Heft 1. 8vo, 81 pages, paper. A. Stuber's Verlag, Wurzburg, Germany.

Blakiston's Quiz-Compends? A Compend of Medical Latin. By W. T. St. Clair, A.M. Second Edition. 12mo, 131 pages, muslin. P. Blakiston's Son & Co., Philadelphia. Price $1.00 net.

Beiträge zur wissenschaftlichen Medicin und Chemie. Festschrift zu Ehren des sechszigsten Geburtstages von Ernst Salkowski. 8vo, 480 pages, illustrated, paper. August Hirschwald, Berlin, Germany.

Hand-Book of the Anatomy and Diseases of the Eye and Ear. By D. B. St. John Roosa, M.D., LL.D., and A. Edward Davis, A.M., M.D. 12mo, 297 pages, muslin. F. A. Davis Company, Philadelphia. Price $1.00 net.

Diseases of the Nose, Throat and Ear and Their Accessory Cavities. By Seth Scott Bishop, M.D., D.C.L., LL.D. Third Edition. 8vo, 564 pages, muslin. Illustrated. F. A. Davis Company, Philadelphia. Price $4.00 net.

The Art of Compounding. A Text-Book for Students and a Reference Book for Pharmacists at the Prescription Counter. By Wilbur L. Scoville, Ph.G. Third Edition. 8vo, 337 pages, muslin. P. Blakiston's Son & Co., Philadelphia. Price $2.50 net.

A Text-Book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and Their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., B.Sc. Tenth Edition. 8vo, 908 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price $4.00 net.

Surgical Emergencies. The Surgery of the Abdomen. Part I. Appendicitis and Other Diseases About the Appendix. By Bayard Holmes, B.S., M.D. 12mo, 350 pages, illustrated, paper. D. Appleton & Company, New York.

Outlines of Physiological Chemistry. By S. P. Beebe, Ph.D., and B. H. Buxton, M.D. 12mo, 195 pages, illustrated, muslin. The Macmillan Company, New York. Price $1.50.

Multiple Personality. An Experimental Investigation Into the Nature of Human Individuality. By Boris Sidis, M.A., Ph.D., and Simon P. Goodhart, Ph.B., M.D. 8vo, 462 pages, muslin. D. Appleton & Company, New York. Price $2.50 net.

Syphilis and Gonorrhœa. By C. F. Marshall, M.D., Ch.B., B.Sc.Vict., F.R.C.S. 8vo, 267 pages, muslin. Rebman Company, New York.

La Chirurgie du Médiastin Anterieur (Cœur et Péricarde Exceptés). Par Le Dr. Maurice Auvray. 8vo. 224 pages, illustrated, paper. J. B. Ballière et Fils, Paris.

The Principles of Relief. By Edward T. Devine, Ph. D., LL.D. 8vo, 495 pages, muslin. The Macmillan Co., New York. Price $2.00 net.

Qualitative Analysis Brief. By Allard Memminger, M.D. Second Edition. 12mo, 118 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price $1.00 net.

Clinical Diagnostic Bacteriology, Including Serum Diagnosis and Cytodiagnosis. By Alfred C. Coles, M.D., D.Sc., F.R.S. 8vo, 237 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

Antagonism of Certain Infusoria and Pathogenic Bacteria.—Guiseppe Pacinotti reports the results of some experiments made to determine the action of an infusorian called paramœcium upon virulent bacteria, such as those of tuberculosis, anthrax, and typhoid fever, streptococcus pyogenes, etc. He placed the infusoria and the bacteria in the same solutions and observed the results. The infusoria eat blood corpuscles, decaying animal matter, etc., and these materials can be seen in the vacuoles of the cell bodies of the infusoria. In the same manner, he found that the paramœcia not only were not hurt by the virulent bacteria, but that they even devoured the latter, which could be seen in the process of digestion in the bodies of the infusoria, just as the blood corpuscles had been seen. The author also found that substances like chloroform stopped the action of the infusoria. The cultures of bacteria lost materially their virulence by contact with the infusoria.—*Rivista Critica di Clinica Medica.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 12, 1904:

	Cases.	Deaths
Measles	59	3
Diphtheria and Croup	362	27
Scarlet Fever	201	8
Small Pox	1	.....
Chicken Pox	77	.....
Tuberculosis	299	154
Typhoid Fever	100	21
Cerebro-Spinal Meningitis	.....	11
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,099	224

Mental Phenomena and Visceral Disease.—Cary B. Gamble declares that the mental changes that at times take place in different pathological conditions may be due: 1. To changes in the blood in cardiac disease, or to vascular degeneration. 2. To poisoning, resulting from disease of certain organs, as for example, the kidney or liver. 3. To the effects of alcohol and like poisons, either in acute or chronic form, by themselves, or in conjunction with diseases of the viscera. 4. To a change in some gland whose secretion is necessary to the normal metabolism of the body, for example, to atrophy of the thyroid with its resultant hebetude as seen in myxœdema. The writer believes that if we could get away from the names that are appended to different mental conditions and remember that many cases of mental illness start with different conditions of physical disease, it would be a long step toward solving the condition of mental abnormality. The writer presents two series of cases, in the first of which are the following: Mitral stenosis, hallucination of sight. Asthma, and hallucination of smell. Adherent pericardium, hallucination of hearing, alternating depression and exaltation. Mitral stenosis, adherent pericardium, alternating depression and physical exaltation. Mitral stenosis, failing compensation, suspicion. Asthma, emphysema, loss of attention and memory, and unreasoning fear. In this class the patients can be easily persuaded that their moods have simply a physical basis. The writer briefly refers to Head's explanation of these phenomena, some of which are as follows: Liability to hallucinations is increased by the presence of pain over the trunk of the body. The only necessary concomitant of an hallucination is headache of the reflected type. Depression is characterized by its lack of projection. It is not an intellectual condition at all. It is an alternation of feeling tone in the direction of ill-being. To produce this condition, the pain must be of considerable intensity, or last for a long time, and at the same time a considerable area must be involved. The higher the area of pain the less liable is the patient to attacks of depression. Exaltation may be due to organic heart disease. Reflected pain is not always necessary to loss of attention and memory. The individual is unconsciously engrossed by his visceral existence, and his entire attention is not given to any one object, consequently there is afterwards no memory of what he has done. In the second class of cases, the patients cannot be persuaded that they are subject to hallucinations. This is easily explained by the well-known fact that an idea by continually being present can become fixed in an individual's mind. The writer states that the existence of the symptoms can be easily learned by questioning. But this should be done tactfully, and the confidence of the patient should be secured. It must be remembered, also, that these individuals come first into the hands of the general medical man, and not under the alienist's care. By the study of causes of disease the proper solution of many causes of insanity may be achieved. Many symptoms which do not belong to hysteria have been wrongly placed under that head. The writer finally emphasizes that mental illness and physical illness are closely allied to each other.—*Bulletin of the Johns Hopkins Hospital.*

Disadvantages of Peroxide Solutions in Otological Practice.—Bruder calls attention to unpleasant results which have followed the careless use of peroxide solutions in otological practice, such as diffuse external otitis, cerebral symptoms, suppurative phlebitis in the lateral sinus (fatal result from cerebellar meningitis), etc. He insists on care in the choice of a solution. Solutions made for industrial purposes are too irritant for medical or surgical practice. The meatus should be smeared with vaselin before the peroxide is introduced, in order to avoid maceration of epithelia. If unpleasant results follow the use of the remedy, it must be at once discontinued and sterilized vaselin substituted. In cases of cholesteatoma, and especially in operations on the mastoid, with sinus phlebitis and extradural abscess, the remedy should be used with great caution. Under the above restrictions the remedy can be profitably employed.—*Revue Hebdomadaire de Laryngologie.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended November 11, 1904.

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Illinois, Chicago	Oct. 30–Nov. 5		28	2
East St. Louis	Aug. 15–Oct. 20		200	25
Louisiana, New Orleans	Oct. 30–Nov. 5		1	..
Michigan, at 50 Places	Oct. 30–Nov. 5		(Present.)	
Detroit	Oct. 30–Nov. 5		1	..
Minnesota, Hennepin County	Oct. 25–31		8	..
Todd County	Oct. 25–31		1	..
Missouri, Saint Louis	Nov. 1–7		7	1
New York, New York	Oct. 30–Nov. 5		2	..
Ohio, Canton	Oct. 16–22		3	..
Toledo	Oct. 23–29		1	..
Pennsylvania, Philadelphia	Oct. 30–Nov. 5		2	..
Wisconsin, Milwaukee	Oct. 30–Nov. 5		22	..

CHOLERA.

India, Bombay	Oct 5–11		..	7
Madras	Oct. 2–8		..	6
Russian Empire:				
Saratov Province, Saratov	Sept. 27–Oct. 7		18	9
Trans Caspian District	Sept. 25–Oct. 2		11	5
Trans Caucasia, Baku	Sept. 28–Oct. 11		191	114
Turkey	Sept. 27–Oct. 3		233	160

YELLOW FEVER.

Brazil, Rio de Janeiro	Oct. 3–9		1	..
Cuba, Habana	Oct. 26		One case from Am. S. S. *Havana* from Mexico.	
Mexico, Texistepec	Oct. 23–29		47	12
Merida	Oct. 23–29		1	..

PLAGUE.

Africa, Port Elizabeth	Oct. 2–8		1	
Australia, Brisbane	Sept. 10–24		1	1
Perth	Sept. 5–24		4	1
Sydney	Sept. 12–26		2	2
Brazil, Rio de Janeiro	Oct. 3–9		43	15
Egypt, Alexandria	Oct. 1–7		4	2
Port Said	Oct. 1–7			1
Formosa	Sept. 1–30		4	3
India, Bombay	Oct. 5–11			71
Karachi	Oct. 3–9		12	13
Madras	Oct. 1–7		1	
Peru, Arica	Oct. 1		(Present.)	
Callao	Sept. 25–Oct. 1		1	..
Eten	Oct. 1		(Present.)	
Lima	Sept. 25–Oct. 1		11	..
Pacasmayo	Oct. 1		(Present.)	
Straits Settlements, Singapore	Sept. 22–28		..	2

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Oct. 16–22		4	..
Brazil, Pernambuco	Sept. 30–Oct. 13			43
Rio de Janeiro	Oct. 3–9		236	115
France, Paris	Oct. 16–22		7	1
Great Britain, Bradford	Oct. 9–22		4	
Manchester	Oct. 16–22		3	
New-Castle-on-Tyne	Oct. 16–22		17	2
Nottingham	Oct. 16–22		6	1
India, Madras	Oct. 2–8			1
Italy, Catania	Oct. 21–27			1
Palermo	Oct. 16–22		1	5
Russia, Moscow	Oct. 23–29		4	..
St. Petersburg	Oct. 10–25		5	1
Warsaw	Oct. 20–26			19
Turkey, Constantinople	Oct 17–23			10
West Indies, Barbados	Oct. 25		2 cases on Br. bkt. *Ensenada*, from Rosario.	

Medical Record

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Original Articles.

DISEASES OF THE SKIN CONNECTED WITH ERRORS OF METABOLISM.*

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THAT normal and abnormal metabolic processes play an important part in health and disease cannot be denied, but we are yet far from an accurate knowledge of the exact manner in which their effect is produced, or indeed of the definite changes in the tissues produced thereby. While experimental physiology and laboratory studies have done much to demonstrate some of the facts of assimilation and disassimilation, it is to clinical observations that we must mainly turn for our knowledge of the effects of metabolism on the skin or other organs.

It must be premised that thus far there have been relatively few recorded observations showing these effects with anything like the positiveness which is often demanded in modern medicine. It can further be stated that many of the facts which must be accepted clinically, as to the relationship under consideration, can probably never be demonstrated experimentally or by laboratory methods, with the precision we are accustomed to look for in regard to some of the medical and surgical matters in the realm of bacteriology.

But, on the other hand, there is much in medicine which is incapable of exact demonstration, and we rightly accept many facts and conclusions on the basis of accurate clinical observation by those qualified to judge. In this way much of the evidence in regard to the relation of errors of metabolism to certain diseases of the skin has been accumulated, and with advancing science they are being more and more put to the tests of laboratory work.

It is interesting to note that while older observers recognized and believed that certain diseases of the skin were dependent upon what were then called disordered blood states, or "bad blood," more recent scientific inquiry has confirmed the real truth of the observations, only under the different names of "autointoxications," "errors of metabolism," etc. It is also instructive to remember that the more recent study of Haemotology has conclusively demonstrated that the elements of the blood itself are subject at times to great changes, which are more and more recognized as resulting from or indicative of disorders or diseases of various organs. This is the more important because not many years ago only ridicule was given to those who subscribed to the older and more popular views regarding any forms of dyacrasia, diathesis, or blood-states in connection with diseases of the skin or other organs.

Time and space would fail in any attempt to treat fully of the views of older authors in regard to these matters; but in justice to the prescience and clinical acumen of those who had few if any of the methods of proof now available, some mention should be made of the wise judgment which experience led many to make in regard to the true nature and cause of certain affections of the skin.

Not to go back to the humoral pathology of what might be called the dark and middle ages of medicine, reference must be made to the many English and French writers of the last half century who advocated so strongly the dependence of certain skin lesions upon what was called the gouty, lithæmic, or arthritic state, or diathesis. The work of Garrod, Bence-Jones, Murchison, Bazin, Hardy, Tilbury-Fox, and many others, testify that, although ignorant of the exact manner in which the results were produced, they were convinced from clinical observation that systemic changes, now included under the general term of metabolism, faulty in character, had much to do with alterations of tissue, to which the names of various diseases were given.

The subject for our consideration, "Hautkrankheiten bei Stoffwechselanomalieen," or "Diseases of the skin connected with errors of metabolism," is by no means an easy one, for it involves the deepest and most secret processes of the economy, and seeks to penetrate the mysteries of nutrition in health and disease.

We can investigate the food and drink taken, and understand their chemical constituents, and know of the oxygen absorbed through the lungs; we can study some of the processes of digestion and comprehend the integral elements of the salivary, gastric, hepatic, pancreatic, and intestinal secretions which have to do with them; we can examine the blood chemically and microscopically, and recognize certain changes in health and disease; we can analyze the excreta and discover in them certain changes indicative of abnormal states.

But, after all this, how much do we know of the processes of life which intervene between the ingestion of aliments and oxygen, and the formation and regeneration of tissues and their activity? We can trace, to a certain point, the manner in which organic and inorganic materials combine and split up again into other substances: we can follow, to a certain degree, the chemico-vital processes which take place in the body, and account largely for the oxygen and food consumed; we know the condition of metabolism in health and under various conditions of diet and starvation; we understand also the difference in the metabolic processes belonging to conditions of labor, rest, mental activity, sleep, etc.

But still, after all this, we can know very little of the actual methods in which metabolic changes take place in the various tissues of the system, and still less of the mysterious power by means of which the living cells of the organism appropriate for their use the elements required, and cast off effete matters, which has given up its "potential energy" to be expended as "living force" in the economy.

It is thus seen that while we can go to a certain distance with our physiological laboratory knowledge, when it comes to the actual relations of

*Read before the Fifth International Dermatological Congress, Berlin, September 14, 1904.

errors of metabolism to diseases of the skin or other organs, we are entering quite a different field of study. We have now only to rely on the careful clinical observations of repeated occurrences of certain morbid changes in an organ, in connection with evidence of deranged metabolism, as manifested in the excretions; and from this we infer an association or even a causal connection between the two.

The four great emunctories of the body, the lungs, skin, intestines, and kidneys, between them eliminate the waste products of metabolism, including water, the total of which, under normal conditions, very nearly corresponds to the amount of the ingesta and oxygen taken; in sickness and in conditions of starvation, or over-feeding, the proportions may vary considerably.

It is rather a difficult process to ascertain and analyze the amounts yielded by the lungs, skin, and intestines, and the urine has always been the excretion most depended upon to reflect the normal or abnormal state of the system. And this rightly remains a most valuable indication of the state of metabolic changes; for, coming so directly from the blood, when repeatedly and properly studied it portrays the state of that vital fluid with an accuracy and reliability leaving little to be desired. The results of the destruction of the carbonaceous elements are largely given off as carbon dioxide by the lungs, and to a very slight extent by the skin. Little is known as to the part played by the excretion of the skin, other than as to its water, except that under some circumstances considerable urea, uric acid, and even sugar may be found; and it is not ordinarily feasible to utilize this excretion in the study of metabolism. The intestinal excretion, while it undoubtedly contains some of the products of metabolism, is so largely composed of refuse from the food, varying so greatly with the variety of the ingesta, that relatively little is known as to the part it plays in removing the waste products of catabolism; and the difficulties in the way of accurate analysis of its components are so great that practically it is excluded in the ordinary study of metabolic changes.

But the urine yields itself with peculiar advantage to the investigation of the results of metabolism, both by the readiness of its collection and relative ease of its chemical analysis; its revelations are also peculiarly valuable from the fact that it represents nearly one-half of the total excreta, and practically all of the nitrogenous and soluble mineral substances, together with about one-half of the water expelled from the system. Complete and minute urinary analysis, therefore, affords a very fair indication of the manner in which anabolism and catabolism are performed. It is understood, of course, that this urinary analysis does not refer simply to the detection of albumen or sugar; indeed, these morbid elements seldom play an important part in the studies under consideration; for in the class of cases to be considered these conditions are relatively rare.

The urine, however, on close analysis, often shows derangements in its many constituents which are of the greatest significance in connection with metabolism, which clinical experience teaches are of the highest importance in their relations to many diseases of the skin. And, as a corollary to this, we find that in many cutaneous diseases the favorable results of a therapeusis which corrects evident errors of metabolism warrants the belief that the errors which have been thus corrected have exercised an influence on the causation and the continuance of the skin lesions.

We find, therefore, the proper study of the urine an invaluable aid in the practical management of this class of cases, without which much of the treatment would be experimental and empirical.

This proper study of the urine involves often a knowledge of the total daily output, and an estimate of the entire quantity of solid ingredients, as well as a quantative analysis of the same, in respects to urea and its various salts, indican, etc. The determination of the amount of solids excreted daily is not a difficult matter, as I have elsewhere shown[7], and the other matters are well treated of in the text books, and relatively simple methods can be employed.

For many years I have given very special attention to the condition of the urine in connection with various diseases of the skin, and have had some thousands of complete urinary analyses made in my laboratory, and have repeatedly written upon the subject.[8] But, while the experience reported has demonstrated undoubtedly that errors of metabolism are of very frequent occurrence in many diseases of the skin, and has continually assisted very materially in the treatment of the cases referred to, I am not yet at all prepared to speak with positiveness in regard to the exact changes which belong to special skin lesions.

Bouchard[3] has well shown the toxicity of the urine and also the toxicity of the blood which supplies the urinary ingredients, and the necessity of full and proper elimination from the tissues. In view of the varied errors in the urine, in the direction of its quantity, density, acidity, and the relative proportion of its ingredients, which I have constantly found in analyzing specimens from patients with various diseases of the skin, there is no doubt in my mind as to the relation between certain cutaneous affections and the faulty metabolic changes indicated thereby.

Hardouin[21] has made a remarkable contribution in regard to the elimination of urea in polymorphous dermatitis, which may have a very important bearing on our knowledge of metabolism in this disease. Making a daily analysis of the urine of 24 hours, over a period of nearly six months, he found that in one case on eight occasions, at pretty regular intervals, there was a fresh eruption after a period of diminished excretion of urea; the outbreak began a few days after the lowest point of urea elimination was reached, and when the quantity of urea was rising. In the second case the onset of the attack repeatedly coincided with the lowest point of urea excretion. He believes that "there is a constant relation between the variations of urea and the outbreaks of the eruption."

Tenneson and Lyon[43] have strikingly confirmed these observations, and Gaucher and Claude,[17] Thieberge,[45] Julien,[24] Wickham,[48] Hallopeau and Fournier,[19] and Dekeyser,[11] have reported cases with urinary analyses, bearing in the same direction.

Tommasoli[46] has written at length to show the alloxuric origin of eczema, and believes firmly that the purim bodies furnish the pathological condition whereby the eruption develops from various other causes, external or internal.

While it is difficult to establish exactly the mode or method in which metabolic processes, which may be erroneous to a greater or less degree, operate in regard to the causation of diseases of the skin, there is no question scientifically or clinically that such is the fact. Even in the microbic and vegetable parasitic diseases we must look for some factor other than infection, for it must be acknowledged that we are all so constantly surrounded by microorganisms that otherwise none would escape.

Undoubtedly, disturbances in nutrition, produced by erroneous metabolic changes, due to functional disorders of many organs, render the soil suitable for the development of organisms, which would otherwise be quite harmless. It is also easy to see how disordered metabolism can lead to changes in structure of the skin, as in other tissues in gout, to which we give the names of various diseases, modified unquestionably by different extraneous influences.

In all this study of the relationship of diseases of the skin to errors of metabolism, it is to be remembered that the latter does not represent a distinct disease process, but is only a modern term to express briefly, and perhaps more scientifically, that which was formerly spoken of as nutrition in health and disease.

Metabolism represents the series of chemical changes occurring within the system, whereby, first, nutritive material is converted into an integral part of living tissues, *anabolism;* second, *catabolism*, whereby its potential energy is expended in living force and heat, and the products of physiological disintegration of tissue are rejected, in altered form, and appear in the various excreta.

It is also to be remembered that the well-recognized relation between many diseases of the skin and certain errors of diet, disorders of the digestive apparatus, and the changes in the system belonging to the menstrual cycle, all find their ultimate explanation largely in the errors of metabolism, belonging thereto or occasioned thereby. All processes of health and disease must be and are intimately dependent upon or affected by metabolic action, rightly or wrongly carried out.

Recent writers on metabolism, von Leyden,[28] von Noorden,[35] and others, recognize four principal diseased conditions as dependent upon errors of metabolism, namely, gout, chronic deforming rheumatism, diabetes, and obesity, to which I would add a fifth, namely, the scrofulous or strumous state, as exhibiting a metabolic condition favoring the growth of microorganisms. Some have added oxaluria and phosphaturia, which, however, can hardly be regarded as more than symptoms, often associated with one of the other states mentioned. These metabolic diseases will now be briefly considered in succession, so far as relates to cutaneous phenomena, more or less definitely observed to be connected with them.

1. Gout. It is understood now that the term gout is no longer applied solely to an inflammation of the joints, notably that of the great toe, but refers rather to a gouty state of the system, which may manifest itself in a great variety of manners. It is not necessary to enter here into a discussion of its nature and cause, but only to state that in the present connection the word gout is used to express all that is understood thereby, according to the best modern writers. It may be described as a disease of faulty metabolism, largely relating to nitrogenous metamorphosis, with hereditary tendncies; of unknown origin, but acknowledging a dietetic, digestive, or nervous causation, and exhibiting various functional and structural disorders of many organs and tissues.

There is no doubt but that the circulation in the blood of the results of faulty metabolism induces inflammatory changes in the structures of the joints, also alterations in the blood vessels, disturbances in the nerves, and, indeed, modifications in very many of the tissues and structures of the body. There can, therefore, be no doubt but that the skin suffers with the other organs, and this may occur in two ways: (1) In common with the rest of the body its tissues can take on inflammatory or hyperplastic action (idiopathically, or from external causes), excited by the presence of the results of erroneous metabolism; or (2) That as an excretory organ its elements may suffer in endeavoring to remove imperfectly formed waste products.

It would lead far beyond the proper limits of this paper to attempt to discuss the nature of the metabolic alterations connected with the gouty state, or the part which uric acid plays in the results observed, which have by no means reached their final solution. At present we have rather to do with the clinical observations of competent men who have noted the connection between certain skin lesions and the gouty habit with such frequency, or with such therapeutical results, that we are forced to accept a relationship of cause and effect.

(*a*) *Eczema.*—Foremost among the diseases of the skin which very many trained observers have recorded as often of gouty origin, comes that protean eruption to which the name of eczema has long been given. While all cases of eczema are by no means of a gouty nature, it appears that the eruption is at least favored by the conditions of metabolism belonging to gout.

Garrod,[16] in a study of nearly 2,000 cases of gout, seen in private practice, found that in his last group of 212 cases no less than 47 per cent. had eczema, and he estimates that probably over 30 per cent. of patients whose gout has been of long duration have eczema. He states that eczema, in its acute form, will occasionally occur in place of an ordinary attack of gout, of which he had seen many illustrative cases. He further says, "Eczema is often present at the same time as the articular disease, and sometimes the intensity of the two alternates, one increasing and the other decreasing; at other times they run a simultaneous course. Not infrequently eczema is present many years before the joint disease manifests itself; and I have numerous records of patients suffering from skin disease, whose whole history points to its gouty character, but who have not yet suffered from joint complication. On the other hand, eczema often occurs late in a gouty life, and even in extreme old age, when the fits of ordinary gout have become much less frequent and severe."

My own experience, viewed from a different standpoint, confirms fully the statements of Garrod. Among over 4,000 recorded histories of patients with eczema, in private practice, I should place fully 30 per cent. of them in the gouty category; not that acute or active gout was observed in any proportion of them, for I believe this to be relatively rare in this country, it becoming less frequent as we advance in our knowledge of the conditions which lead up to it. But fully 30 per cent. of the cases exhibited phenomena recognized as belonging to the gouty state, or gave a strongly gouty family history.

Many writers on gout confirm the tendency to eczema in these subjects, and many authorities on disease of the skin also recognize the close relationship, and lack of space only prevents our presenting much corroborative evidence.

A number of other skin diseases have been pretty definitely associated with gout, but the connection is not always as clear as in eczema.

(*b*) *Psoriasis.*—This eruption is far more commonly associated with rheumatism or chronic arthritis, as will be mentioned later, but unquestionably it is often found connected with the gouty state. Duckworth[12] quotes Greenhow as reporting several examples where there were alternations of articular gout, psoriasis, and bronchitis, and men-

tions two personal cases of psoriasis associated with tophi.

(*c*) *Dermatoneuroses.*—Gout is constantly seen to be associated with eruptions of a neurotic or angioneurotic character, for, as Minkowski[32] says, "gout is accompanied by manifold nervous affections."

Prominent among these is *chronic uricaria,* and its allied condition *angioneurotic œdema,* which are extremely common in the gouty, as has long been known. *Pruritus,* both general, and localized in the anal and genital regions, is a well recognized gouty symptom. Duckworth[12] gives a colored plate of uratic tophi, much resembling patches of *xanthoma,* in the eyelids of a gouty man; there were also extensive deposits of the same in the integument, of all parts of the body. He also states that "true gout figures in the etiology of *dermatitis exfoliativa,* perhaps in one-fifth of the cases, and it may alternate with attacks of it." He mentions likewise the *flushing of the face* in gouty subjects, and the concurrence of indolent inflammatory *follicular inflammation* in the ala of the nose, both of which I have repeatedly observed.

2. Chronic Deforming Rheumatism.—Although resembling gout in some features, it is pretty generally agreed that this condition, known also as arthritis deformans, or rheumatoid arthritis, is quite distinct from both gout and rheumatism, with different metabolic changes; although, as is well recognized, the faulty metabolism of all the states under consideration are closely allied, and may appear interchangeably.

Certain skin lesions have been observed so often in connection with rheumatoid arthritis that some writers recognize the former as dependent upon or related to the latter. But the various forms of arthritic disease, gout, rheumatism, arthritis deformans, etc., have been so confounded, and so little is clear as to the differential metabolic processes in them, that we are not yet in a position to assign any skin diseases definitely to the class of arthritic deformans.

While acute rheumatism is now generally recognized as an infective disease, due to ordinary cocci (especially streptococci), Menzer[30] holds that they have become pathogenic only owing to a special reaction of the body, and that rheumatism is a clinical entity, not because it owns a specific microbe, but on account of the special susceptibility of the organism, which enables a general infection to occur. The same is more or less held in regard to chronic rheumatism and arthritis deformans, in which much the same organisms have been found. So that we are again led back to the metabolic changes which, as Theilberg[44] holds, result in a diminished alkalinity of the blood (due to increase in lactic acid), which lessens the resisting power to micro-organisms. And, in the same manner as in gout, these faulty metabolic processes can favor or produce lesions in the skin, or render it susceptible to parasitism.

Psoriasis is the main disease which has been connected with all the forms of arthritic disease, and my experience certainly associates it strongly therewith, both clinically and therapeutically.

Bourdillon,[5] in a study based on 36 cases of psoriasis and anthropathy, argues strongly for the common origin of the psoriasis and joint trouble, in an alteration of the trophic (nervous) centers of the cutaneous and articular surfaces. But the cases are of such varied character as to their arthritic symptoms that little can be judged as to any relationship; some of them with generalized stiffening of most of the joints were probably of nervous origin.

Pribram[39] considers at some length the subject of cutaneous alterations in connection with rheumatoid arthritis, referring freely to the views of others, and while he does not consider that psoriasis is a very frequent accompaniment he does recognize that changes in the skin are not unusual in this class of subjects, as are also alterations in the nails and hair.

Lipman-Wulf[29] reports a case of arthritis deformans with psoriasis, and after reference to the work of others he concludes that there is no necessary connection between the two; but whether both the joint disease and the psoriasis arise from a common but unknown cause, he is not prepared to say. Menzen[31] has made a very complete study of the subject, with many references to the observations of others, and an analysis of 1,000 cases of psoriasis, and arrives at about the same conclusion.

Forrestier[14] records a curious tubercular-crustaceous eruption in a man aged 50, who developed multiple arthritis, tending to ankylosis; some of the skin lesions seemed to be determined by iodized dressings, but others appeared in the scalp and forehead. Bosanquet[2] reports a case of rheumatic *urticaria,* where the eruption was observed to appear with an exacerbation of the rheumatic pain, and to recede under the administration of sodium salicylate. Much clinical and pathological work is yet to be done before the real connection between arthritic disease and lesions on the skin can be clearly established, and the metabolic processes in both need to be observed and recorded.

3. Diabetes.—The pathology and true metabolism of diabetes are still in such a chaotic state that as yet any observations in regard to its connection with certain diseases of the skin must be only provisional. Moreover, observers are by no means agreed as to just what urinary conditions should be classed as diabetes, and the distinction between true diabetes and non-diabetic glycosuria is steadily gaining ground. Some would exclude from diabetes those cases where sugar is found in the urine accidentally, as in connection with boils, etc.

However, as far as relates to certain changes in the skin, it seems to be simply a matter of hyperglycæmia, indicated by the presence of saccharine urine, for many of those reporting in regard to skin lesions do not directly specify if the condition was true diabetes or only one presenting a glycosuric urine.

A very considerable number of quite different affections or conditions of the skin have been noted by different good observers as connected with the diabetic state, and dependent upon it, so much so that the conclusion is irresistible that there must be some pathogenetic connection. We may briefly mention them, grouped mainly in accordance with Naunyn's[34] arrangement, as (1) Glycæmic; (2) Cachectic; (3) Neurotic; (4) Suppurative and neurotic.

1. *Glycæmic.*—First is placed *xanthoma diabeticorum,* which von Noorden[36] states is the only dermatosis peculiar to diabetes. This, though rare, is now a well established entity, of which Stellwagon[42] gives a bibliography relating to 38 cases. The other cutaneous disorders placed here are *saccharine sweat,* said by Naunyn to have been often demonstrated, *pruritus,* which occurred in 21.5 per cent. of von Noorden's cases, *urticaria, eczema, bronzed skin, parasitism.*

2. *Cachectic.*—*Acne cachecticorum, impetigo, rupia,* Kaposi's *bullous serpiginous diabetic gangrene,* and *dermatitis diabetica papillomatosa* (Saalfeld[41]), also *purpura.*

3. *Neurotic.—Zoster, angioneurotic erythema* and *œdema, cyanosis of fingers and toes, shedding of the nails, anæsthesia,* and *perforating ulcer.*

4. *Suppurative and Necrotic.—Furuncle, carbuncle, diabetic gangrene.*

We are, of course, in no position to establish the direct relations of any of these conditions with the faulty metabolism pertaining to diabetes, but mention them because reliable observers have connected them with errors of metabolism.

Barthelmy,[1] in treating of the relations of skin lesions to diabetes, dwells largely on the fertile soil afforded for microorganisms, by the diminution of the resisting power of the tissues; and also on the circulatory disturbances, inducing miliary embolisms, leading to infarctions in the skin, in connection with gangrene.

4. Obesity. The last of the four disorders of metabolism generally recognized is obesity, the true nature of which, and the metabolic changes producing it, are still in much doubt. There is, however, little question but that there is a metabolic error, especially in respect to the carbohydrates and hydrocarbons, even as gout exhibits a faulty metabolism, especially of the nitrogenous elements.

But there is thus far very little direct evidence accumulated that any skin lesions are directly dependent upon this state, although some writers have claimed such relationship.

Von Noorden[35] claims that *intertrigo* and *eczema* occur especially in the obese, and are characterized by great obstinacy and tendency to relapse. He also mentions *dermatitis seborrhœica* and marked *hyperidrosis.* Bouchard[4] records 13 instances of eczema in 108 cases of obesity.

While these conditions, which I have also noted, may possibly be influenced by the faulty metabolism belonging to such subjects, their occurrence can be better explained on other grounds, such as circulatory disturbances of the capillaries and lymphatics, etc.

5. Scrofulosis.—While this is not ordinarily included among the diseases due to errors of metabolism, there is abundant clinical evidence that, in both the hereditary and acquired condition, the processes of waste and repair are far from normal. All are familiar with the type of individual to whom this term is applied, and with the class of diseases, and their course, belonging to this state.

As far as relates to the skin they exhibit a laxity of tissue which favors the growth of microorganisms. Hence in them we see the tendency to suppurative processes, *boils* and *cutaneous abscesses,* and *eczema* in them tends to take on an *impetiginous* form. In them also the tubercle bacillus finds easy lodgment and growth, and *lupus* and the various forms of *scrofuloderma* flourish. Thus far, to my knowledge, there have been few if any researches in regard to the metabolic changes belonging to scrofulosis, but that faulty anabolism and cataboism play an important part in the poor nourishment of this class of individuals there can be no doubt.

We have thus passed in review some of the abnormal states of the system, including the skin, more or less clearly associated with errors of metabolism; we should, however, fail greatly in our study if we stopped here.

As already pointed out, we recognize perversions of metabolism largely by the conditions of the excreta, of which, as has been seen, the urine affords by far the best indication. But it is to be remembered that the blood furnishes to the urine these results of normal or abnormal metabolism, and much more study of the blood is necessary before we understand the true relations of assimilation and disassimilation. Studies in regard to the changes in the blood have been largely confined to its solid constituents, and relatively little is known in regard to changes in the plasma, which forms fully one-half of the volume of the blood, and is recognized as the chief carrier of the products of metabolism, through the agency of the lymph: as Hammarsten[20] puts it, "The bodies necessary for the nutrition of the tissues pass from the blood into the lymph, and the tissues deliver water, salts and products of metabolism into the lymph."

But much has been done in studying the changes in the blood cells in various diseases of the skin, and as these observations are extended and properly interpreted we shall learn more of the metabolic relations of certain diseases of the skin. Especially in regard to the eosinophiles there have been many investigations made, of which Ewing[13] and Coe[10] have collected many observations. Leredde,[26] Okamura,[37] Radaeli,[40] Wende[47] and others have also contributed one or more studies in this direction.

Leredde[27] especially has emphasized the importance of eosinophilia in connection with certain eruptions of the bullous type. He insists that amongst the large number of bullous dermatoses formerly classed as *"pemphigus"* and *"erythema multiforme"* there is an eosinophila and an elimination of eosinophiles by the skin. These conditions bring into relationship certain types, which clinicians have in turn united and separated. He believes that there is a grand "hæmatodermite," which has manifold cutaneous symptoms, and reveals itself now as a *dermatitis herpetiformis,* again as a *pemphigus foliaceus,* or as a *pemphigus vegetans.* He questions if eosinophilia is ever lacking in dermatitis herpetiformis.

Chlenoff[9] has made some researches on the alkalinity of the blood in thirty patients with various skin diseases, the blood being taken, when possible, two hours before dinner. In a number of general eruptions, *lichen ruber, erythema multiforme, eczema* (acute and chronic), *psoriasis,* and some others, the alkalinity of the blood was lowered.

Haig[18] still adheres to the theory that colloid uric acid produces changes in the skin, through defective capillary action, and also by the local irritation induced by precipitation of uric acid in fibrous tissue. When the deposit is in the vessels the circulation is sluggish, the skin becomes dry and harsh, and slow to heal, the culmination of such a condition producing *Raynaud's disease.* When the uric acid is deposited in the tissues, there is increased circulation, resulting in such eruptions as *eczema, psoriasis* and other forms and conditions of skin irritation.

Thus far, however, no definite statements can be made in regard to the exact blood conditions, belonging to any particular disease of the skin, but abundant evidence has been adduced that goes to prove that many of them are connected with blood changes which probably indicate metabolic derangements.

The subject of the metabolic relations of certain skin diseases is undoubtedly a most complicated one, and still very far from satisfactory solution: but advances have certainly been made along some lines, which can often be taken advantage of therapeutically.

But in all studies as to the etiological relationship of diseases of the skin there are many elements to be taken into consideration. External agencies certainly play an important part in regard to many of them, and parasitism is always to be reckoned with. The agency of the nervous system, direct or reflex, is often very influential, and internal toxic

agents, medicinal or alimentary, may be effective in inducing skin lesions, to which may be added toxins from intestinal fermentation.

But autointoxication, as ordinarily spoken of, must be included under errors of metabolism, for, except when caused by special putrefactive processes in the intestines, it arises largely from faulty action of the chylopœtic vesiera, together with derangement of the ductless glands.

We are thus led, by our studies on metabolism, back to errors of digestion and excretion, in their largest sense, which have long been recognized as of the utmost importance in connection with the etiology and treatment of many diseases of the skin. For when we speak of metabolism we only go one step farther in the great study of nutrition, which necessarily depends on the former.

It would lead far beyond the proper limits of this paper to enter at all fully upon the disorders of digestion and liver derangement, which, through faulty metabolism, may have an effect upon the skin, as they have been dwelt upon by many writers, both in monographs and text books. Jessner[23] has collected together much material bearing on this subject, and Herz[22] and Mrazek[33] have also elaborated the matter very fully; and Brocq,[6] in a masterly essay, shows how the idiosyncrasy of the patient has everything to do with the manner in which external, neurotic, or metabolic agencies may affect the skin.

Although not wholly connected with our subject some of the cases of the erythema group reported by Osler[38] and Galloway[15] are of value, as indicating the connection between lesions of the skin and disorders of the blood and internal organs.

In attempting to show the metabolic relations of certain eruptions on the skin we may be met with two objections. First: That the special state of faulty metabolism does not always produce the eruption in question; and, second: That the same eruption often exists without the apparent occurrence of metabolic causes. It may be answered that the same is true in regard to many other etiological matters, of which we are reasonably certain. In gout the errors of metabolism may proceed indefinitely and the acute gouty explosion occur only when some definite point or climax is reached, while in the meantime many minor symptoms may arise equally indicative of the gouty state.

In regard also to lesions of the skin, so many elements may enter into etiology that, although we may attribute an eruption to one cause at one time, at another it may have quite another etiological basis. Take urticaria as an example: all recognize that it frequently arises from acute indigestion after almost any food, while in different persons clams, lobsters, mushrooms, or various sorts of berries, etc., will invariably evoke it, even without special digestive disturbances. But, on the other hand, exactly the identical eruption may also occur, and recur with perfect regularity from malaria alone, and again certain drugs can produce the same lesion.

We recognize, then, that the same or similar metabolic disturbance may cause different skin lesions, to which are given special names, each according to the idiosyncrasy of the patient, as Brocq[6] has pointed out. Furthermore, this excitation of skin changes by perverted metabolism can occur in three ways: (1) by direct irritation of skin tissues by faulty blood supply; (2) through nervous influences, direct or reflex, and (3) by the agency of the glands of the skin, endeavoring to furnish an excretion from improperly prepared blood and lymph. In a large share of instances, local agencies of various kinds, atmospheric, mechanical, chemical and parasitic, play an important part as secondary or exciting causes, faulty metabolism having prepared the ground for their action; even as the acute attack of gout in the toe can often be traced to direct exposure of the part to cold or mechanical injury.

We have by no means fathomed the depths of metabolism, but we know enough of its processes to understand that, as in health perfect anabolism and catabolism produce and maintain healthy tissues, so when their action is perverted the same tissues take on unhealthy action, which we call disease, whether it be in the skin or in other organs.

In conclusion, we may, perhaps, sum up our knowledge in regard to diseases of the skin dependent upon errors of metabolism, as follows:

1. Metabolism represents the changes occurring in the system, whereby nutritive materials and oxygen are transformed into living tissue, and re-transformed into waste products, while, during these processes, their potential energy is being given off in living force and heat.

2. As healthy cell action and transformation is produced and maintained by perfect metabolism, so when there is perverted metabolism the structures in various parts of the body must suffer, and this we call disease.

3. As every cell in the body constantly takes up and gives off material, so the results of metabolism can be affected by the normal or abnormal action of every living cell in the organism.

4. Metabolism is, however, principally affected by (1) the kind of nutriment taken; (2) the action of the digestive organs and ductless glands, and (3) the action of the nervous system.

5. Certain skin lesions, or eruptions, have been credibly reported as connected with or dependent upon the generally recognized metabolic conditions of (1) gout; (2) rheumatoid arthritis; (3) diabetes; (4) obesity; (5) scrofulosis.

6. As yet no absolute statements can be made as to the necessary connection of the two, for the same eruptions occur in several of the metabolic affections.

7. The idiosyncrasy of the patient, and many causative elements, external or internal, nervous, etc., often determine which form of skin disturbance or alteration shall take place.

8. Errors of diet, disorders of digestion, faulty excretion and nervous derangement, which have all along been recognized as causative elements in many diseases of the skin, often find their ultimate expression or mode of action through the faulty metabolism induced thereby.

9. Metabolic errors are exhibited in the excreta from the lungs, skin, intestines and kidneys; and of these, the urine best affords a satisfactory indication, as it represents nearly one-half of the total excreta, and practically all of the nitrogenous and soluble mineral substances, together with about one-half of the water expelled from the system.

10. Complete and minute urinary analysis is a very great aid in discovering metabolic errors, and in establishing proper therapeutic measures for the cure of many diseases of the skin.

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The Emblem of Respectability.—According to the *Medical Press*, whether for use or ornament, it may be unhesitatingly affirmed that nothing could be less well adapted to its purpose than the top-hat, which is ugly, unhygienic, and embarrassing. Its sole claim to support is the appearance of respectability it gives. If only a few medical baronets would drive to their consultations in Panamas and caps they would break the tyranny of habit over health and comeliness, and at the same time earn the undying gratitude of their humbler confreres.

A CASE OF CONGLOMERATE TUBERCLE OF THE CHOROID.*

By THOMAS R. POOLEY, M.D.,
NEW YORK.

From a clinical standpoint the tumors of the choroid of most practical importance are sarcoma and tubercle. At the last meeting of this Society I reported one of non-pigmented sarcoma, by far the rarest form of sarcoma. I now beg to present one of conglomerate tubercle, which from several points of view is very interesting.

On July 6, 1903, I was consulted by a young man, aged 26. There was nothing in his general appearance to suggest a grave constitutional disorder, although he was somewhat emaciated and of a sallow complexion, and he declared that besides the eye disease, about which he came, he had not suffered, except from the usual infantile diseases, but had always been healthy. He denies syphilis, and there were no physical signs of tuberculosis present. His mother died of diabetes in her fifty-third year. His father, aged 65, is still alive, and has never been sick a day in his life, but all of his brothers and sisters died of consumption. For the past year he had suffered from pain and redness of the right eye, which had been alternately better and worse. For a long time (several months) he was under the care of a member of this Society, who treated him with antisyphilitic remedies, but at the end of six months advised enucleation. He then consulted Dr. Knapp, who also gave the same advice.

When I saw the patient, the eye presented the usual symptoms of absolute glaucoma: Wide, immovable pupil, circumcorneal injection, anæsthesia of the cornea, slight opacity of lens, + T^2, no pain on pressure over the ciliary region, V = O, no ophthalmoscopic reflex. Left eye normal. The same day he was admitted to the hospital, and the eye enucleated under ether anaesthesia. The healing was without any incident, and he was discharged on the 13th, with a good conjunctival stump.

The globe was examined by the pathologist of the New Amsterdam Eye and Ear Hospital, Dr. Edward B. Coburn, whose report is as follows:

"*Macroscopical.*—The globe is somewhat irregular in shape, appearing somewhat enlarged in a plane slightly oblique to the antero-posterior axis of the eye, being larger from above and to the temporal side than to the lower and nasal side. This axis measures 30 mm., the one at right angles to this measuring 22 mm. The antero-posterior diameter measures 26 mm. This enlargement is to the outer, upper and temporal side, just behind the equator. Transillumination of the globe shows the pupillary area least illuminated when the light shines through this thick part, which appears more dense and more resistant to the touch. The lower half of the cornea appears somewhat opaque. The pupil is dilated and irregular. On section, the anterior chamber is shallow and is partly filled with an albuminous exudate. The iris is pressed forward by the lens, which is surrounded by what looks like condensed vitreous or exudate. The retina is almost entirely detached, only a small portion being adherent over the site of the above-mentioned thickening. Elsewhere it extends from the *ora serrata* to the head of the optic nerve. The enlargement of the eyeball seems to be due to thickened sclera, which measures about 4 mm. in thickness. Measurement of this thickened sclera shows that it extends from the equator about 15 mm. toward the optic nerve. The choroid under this enlargement is also thickened and solid and of a different color from that of the rest of the choroid.

*Read before the American Ophthalmological Society, July, 1904.

This thickened choroid is about 1 mm. thick at its densest part, is flat, and extends in every direction, covering an area about 12 mm. in extent, tapering off toward the ends.

"*Microscopical.*—The circumcorneal vessels are dilated and filled with blood. These appear to merge with vessels from the scleral and episcleral tissue, and extend into the *substantia propria* of the cornea. This corneal infiltration and new vascular formation appears separable into two distinct regions, the anterior one having its origin in the conjunctival and episcleral vessels and extending to and beneath the anterior limiting membrane (Bowman's). From the scleral vessels are continuations extending into the middle and posterior lamellæ of the cornea. These extend so far into the *substantia propria,* that only the central portion is free from them. One vessel appears to lie on Descemet's membrane. The anterior chamber is shallow and contains some albuminous exudate. The angles are closed and the root of the iris is adherent to the cornea.

"The iris is infiltrated and thickened. The anterior surface is covered with an exudate membrane, which extends to the pupillary margin and is continuous with an exudate in the pupillary area lying on the lens capsule, and extending backward to a mass of exudate behind the lens and in the ciliary region. There are several aggregations of round cells in the iris, and the cells here and elsewhere in the eye show marked mitosis.

"The lens is normal except in one part just outside of the pupillary area and beneath the capsule where the lens fibers are broken, and there is a small area of infiltration with round cells. At this place, the intracapsular epithelium is absent, being replaced by round cells. Continuous with and from this infiltrated area is a layer of flat cells, three or four in thickness, but gradually diminishing to a layer of a single cell, extending for some distance to either side of the infiltrated part, between the capsular epithelium and the lens substance. At either side of the lens, and continuous with the iris exudate and the condensed vitreous behind, is a mass of hyperplastic tissue. This appears to come largely from the proliferated retina at or behind the *ora serrata* and extending forward. The ciliary body and processes are only moderately infiltrated and but slightly involved in the inflammatory action. The ciliary processes are somewhat entangled in the circumlenticular mass, but not apparently active in its production.

"A satisfactory description of the sclera, choroid and retina is difficult, as the changes are so numerous and the characteristic features of each are so altered in many places that it is quite impossible to distinguish one tissue from another. The thickened part of the eyeball consists of tissue eminently tubercular in character, and here the landmarks are in large measure destroyed. The sclera is infiltrated in different parts, and many of the nerves and vessels are surrounded by areas of round cells. The linear infiltrations in the cornea extend into the sclera in a similar form (or more properly speaking, from the sclera into the cornea). Many infiltrated parts consist chiefly of round cells, but numerous ones contain nests of epitheloid and giant cells. The thickened part of the sclera which occupies about the position of exit of one of the perforating vorticose veins, is composed most of caseous material, surrounded by a zone infiltrated with round, epitheloid and giant cells. At one point the diseased tissue does not appear to have been entirely removed when the eyeball was enucleated.

"The choroid is everywhere infiltrated, in many places is increased in thickness, especially where the sclera is thickened and near the entrance of the optic nerve. In some places it appears to merge into the retina and sclera in an indistinguishable union. Epitheloid cells are particularly numerous in this structure and numerous giant cells are visible.

"The retina is generally detached except for a limited extent over the thickened choroid and sclera. It is generally hyperplastic and where not so changed, is infiltrated with round epitheloid and giant cells in a structureless mass. This hyperplasia of the detached retina seems to form the material surrounding the lens. The optic nerve shows round cell infiltration, but the nerve was cut behind this affected portion.

"The result of the staining for tubercle bacilli was positive.

"*Pathological Diagnosis.*—Conglomerate tubercle of choroid, with extension into the sclera and retina and secondary glaucoma."

The pathological examination of this conglomerate mass therefore gives positive evidence of the tuberculous nature of the growth, the result of the staining for tubercle bacilli being positive. In view of the statement made by the pathologist, "at one point the diseased tissue does not appear to have been entirely removed when the eyeball was enucleated," I think it proper to say that the operation was done in the usual way, that no rupture of the globe occurred, the conjunctiva was circumcised to the corneal margin, and, as it is stated, the optic nerve was divided far back in the orbit behind the affected portion, and therefore, it is difficult to see how the operation could have been more thorough without the removal of all the orbital contents, a procedure which did not seem to me to be warranted.

It is well established that tubercular growths in the choroid are met with in the subject of chronic tubercule whose general condition is not such as to be of greater importance than the local affection, and that although the choroidal disease is probably always secondary to tubercle elsewhere, the existence of the latter is often difficult to establish. Such seems to be the fact in the case here reported. That the diagnosis, in some instances, too, may be made by ophthalmoscopic examination, is well known, and cases have been reported by Brailey, Horner, Manz, Carpenter, Schöbl, Hirschberg, and others, (*vide* Griffith's Chapter on Diseases of the Choroid Vitreous in Norris and Oliver's "System of Diseases of the Eye." These growths sometimes spring from the disk, as shown by Michel, Brailey and others, and quite recently Dr. Arnold Knapp has reported one of Localized Tuberculosis of the Head of the Optic Nerve (*Archives of Ophthalmology,* Vol. XXXII, No. 1, 1903) in which the eye was removed on the probable diagnosis of glioma. It is obvious enough, however, that in my case no positive diagnosis other than the one of a probable tumor and the supervention of glaucoma, could have been made. As would be expected from the fact that tubercle usually causes softening of the tissues in which it originates, the globe generally assumes the form of a general inflammation with rapid formation of a staphyloma, when it has to be distinguished from panophthalmitis or specific disease, for which this was mistaken, or it may, as shown, occur as an ophthalmoscopic picture, or, as in my case, which is the rarest, under general glaucomatous symptom.

In regard to the prognosis of my case, I will state that I have seen the patient while writing this paper, one year after the operation. He has married since, looks perfectly well, has gained in flesh, and there is no evidence in the appearance of the stump, of any return of the disease. In order, however, to be

better advised as to his physical condition, I referred him for examination to Dr. J. F. Russell, whose long experience in the diagnosis, observation and treatment of tuberculosis, makes his report of much value and importance.

His report is as follows:

"My dear Doctor Pooley:

"Thank you for the opportunity of examining Chas. Hedde. I find no physical signs of disease. Should he develop any symptoms later I shall be happy to examine him again any time.

"Very truly yours,

"John F. Russell."

In considering in a general way, prognosis and treatment, I agree with Griffith (*loc. cit.*), that we are not justified in removing every eye affected by tuberculosis, in the hope of preventing general infection. This should only be done when the eye is either lost or the course of the disease is of a markedly rapid and progressive character. But the eye should be carefully observed, and the disease treated with the usual remedies. Death may occur—whether or not enucleation has been performed—from tuberculosis of any organ, but not with the same frequency that it does in miliary tubercle of the choroid. Thus, as pointed out by Griffith, in the summing up of the whole matter, it is more than probable that the dissemination takes place not from the affected eye, but from the lighting up of activity of some latent focus in the interior of the body.

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THE TREATMENT OF PNEUMONIA.*

By FRANK DEWITT REESE, M.D.,
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I have practically no apology to offer for presenting a paper upon the treatment of pneumonia at this time. When the meeting of the American Medical Association was held at Saratoga I listened with others to a very interesting paper which was read before the section on medicine, by Dr. E. Fletcher Ingalls (*Journal of the American Medical Association,* November 22, 1902). His subject was "The Prognosis and Treatment of Croupous Pneumonia." He also gave an analysis of the cases of pneumonia that had been treated in the Cook County Hospital for the fifteen months preceding April 1, 1902, which showed an appalling mortality of 36 per cent.

The discussion which followed this paper was as interesting as the paper itself, and the climax was reached in my mind when Dr. Osler, of Baltimore, stepped out and said, "When we think that other infectious diseases we treat have their mortality reduced, some 10 or 15 per cent. it is terrible to realize that we, as physicians, must listen with mute, impassioned faces to the announcement of a 36 per cent. mortality in pneumonia. What I deeply feel is that something should be done, in a systematic and energetic way, to study this problem of pneumonia, and to see if we cannot reduce this death rate of 36 per cent."

My desire to do what I could towards solving this problem came when I began to realize the great variety of drugs that were used in the treatment of Dr. Ingalls' cases, and to reflect upon the statement that in some cases from 16 to 36 ounces of whiskey was given within the twenty-four hours.

I immediately asked myself these questions: (1) Were not the patients overdrugged, and some of them overstimulated (if alcohol is a stimulant?). (2) Can we not let the pendulum swing the other way and dose less, both with whiskey and drugs? Since that time I have treated a limited number of cases of pneumonia, without the use of alcohol, with a greatly simplified medication. As a result the mortality is practically nothing, and my confidence is greatly strengthened in the belief that a physician can somewhat modify the course or intensity of lobar pneumonia, and so favor a successful termination of the same.

It goes without saying that we should understand the pathology of a disease before we undertake to treat it. This we do know of pneumonia, because the pathology is studied and can be at the autopsy. There are many changes going on in the metabolism for days, before the initial chill announces the beginning of pneumonia. With these changes we should acquaint ourselves.

After consulting a number of authorities, I was impressed with the way in which they did or did not record the premonitory symptoms of pneumonia, some ignoring them altogether, and beginning the description with the initial chill, while others mention as a prodrome a slight indisposition. The writer is convinced that pneumonia is not as acute a disease as at first appears. The system is preparing for days and perhaps weeks, I might say months, for the initial chill.

What takes place previous to the chill? Metabolism is disturbed and its products are retained, the urine is reduced in quantity; the bowels are sluggish; appetite is not as good as formerly, and the routine of work is accomplished with great fatigue.

In treating pneumonia these factors must be taken into account. I am beginning to believe that the disturbed metabolism which comes from overwork, exposures, and errors of diet, is the primary cause of pneumonia, rather than the pneumococcus. Other observers confirm this statement, and if this is true it gives us a principle upon which to base or formulate a satisfactory treatment.

What conditions have we to meet and overcome in the treatment of lobar pneumonia? We have (1) toxæmia which is due to retained products of a defective metabolism, and to the introduction of the pneumococcus; (2) impaired function of the kidneys in nearly all cases and upon examination of the urine, which is scanty, albumin is found; (3) an overtaxed right heart, weakened by the toxæmia, and extra work put upon it, because of the solidification of the lung; (4) cough, which is usually constant and annoying and is aggravated by the viscosity of sputum; (5) an impaired nervous system, which disturbs the function of all the organs and glands of the body; (6) pyrexia; (7) a disturbed digestion, accompanied, usually, with constipation.

There are many drugs, called specifics, put forth to overcome these conditions. For example, A. H. Kerr advocates creosote and says that it is the nearest approach to a specific that has yet been reached. Creosote renders the *Micrococcus lanceolatus* (of Welch) less active and virulent. A. H. Smith thinks

* Read at a meeting of the Third District Branch of the New York State Medical Association, June 23, 1904.

that carbolic acid and chloroform are specifics, having seen good results from their administration.

Robert Liegel reports a series of 72 cases of pneumonia treated with salicylates, without a death Large doses are required, two drachms daily. I am persuaded that salicylate of sodium judiciously used at the onset of the disease is of the greatest value. It seems to retard the activity of the pneumococcus and neutralizes or eliminates the toxins. This is really the one drug that I give most commonly when the premonitory symptoms are those of influenza. I have practically no experience with the antipneumotoxin serum in the treatment of pneumonia. However, the authorities which I have been able to read question its utility, as yet. Large doses of digitalis have been advocated by those who believe this drug would abort the disease.

Of all the specific treatments that have been advocated, the one advanced by Dr. H. Altshul, of New York (Medical Record, March 26, 1904), impresses me as having been founded upon the most reasonable scientific premises of any. It is that of giving an initial dose of 10 or 15 grains of iodide of potassium, and increasing the dose by 5 or 10 grains every two or three hours, according to the severity of the disease, day and night until defervescence is established. He says that the effects of the drug are: (1) antiseptic and antizymosis; (2) markedly increased activity of the lymphatic system, and hence increased absorption of products of inflammation; (3) increase of the alkalinity, and lowering of the specific gravity of the blood; (4) very decided vasodilator action, and thus cardiac stimulation; (5) direct cardiac stimulation through its base, and through increasing circulation in the arteries supplying the heart; (6) diuresis; (7) diaphoresis; (8) antipyresis; (9) respirator sedation. This drug, if it works as Dr. Atlshul claims, meets all of the cardinal indications for the successful treatment of pneumonia. He claims to have treated a series of sixty-two cases, extending over twelve years, without a death.

Surely we ought to be liberal enough to give this very sensible method of treatment a trial. In nearly all the special treatments for pneumonia which have come to my notice, the dosage has been large.

I think we should refrain from putting anything into the system in such large doses as taxes the vital powers to eliminate it. We should not overdose, but should aid nature. We should ask ourselves, what would the system do to cure itself of pneumonia if it was able to do it, and then try to do that thing.

I have intimated that the products of metabolism are retained, these products affect the function of the mucous lining of the bronchial tubes and air cells which throw out the exudate. This exudate is a natural medium in which the pneumococcus is propagated, and it is from this splendid means of propagation of the pneumococcus that the system is overwhelmed with toxins, and the pneumococcus finds entrance into the blood. It is said by Thompson that the cause of the dyspnœa is the action of the toxic material in the blood, acting on the respiratory centers, rather than the mechanical action of the exudate in the lungs. It is also claimed that in one mouth out of every five the pneumococcus can be found in health.

In my own practice I have had twenty-one successive cases of lobar pneumonia, which have been treated in what I call a very simple way, with few drugs and without alcohol. In this series of cases I had two deaths. One was a man 28 years of age, who was doing well until it was discovered that he had a stricture, by which we could not pass a catheter, and he died, practically from uræmia. The other was a traumatic case, that of an old lady of 83 years who fell and broke two or three ribs, and developed pneumonia; she lived only a few days. This case should be eliminated from the series, making a mortality of 5 per cent., and in that case the death was due to a cause that was foreign to the disease.

I will outline the treatment employed in the twenty-one cases. The treatment of pneumonia should always be eliminative. There are three ways by which the toxins can be eliminated, viz., the kidneys, the bowels, and the skin.

When called to a case of suspected lobar pneumonia I at once order a foot-bath, which should be given according to Dr. Rochester's method. The foot-bath should be given in bed with the patient on his back and well protected from drafts; the water should be at a temperature of 110° or 115° F. By this, I wish to accomplish two things, namely, to equalize the circulation and to quiet the nervous system. At this time I give 5 grains of calomel, followed by a saline, to empty and disinfect the alimentary canal, and stimulate the action of the kidneys. I also give salicylate of sodium in small doses, every hour, until the diagnosis is fully established. Then the patient is put upon acetate of potassium, 10 grains every four hours, with half a glassful of water, for I believe if we can stimulate the kidneys (which are nearly always now elminating albumin) by making the blood more alkaline, the system will be relieved of the ever-accumulating toxins, which depress the nervous system and poison the heart muscle. I have a belief, confirmed by experience, that the potassium salts have some specific action in the treatment of pneumonia, and that they should be administered in some form to every case. Associated with the acetate of potassium, there is given one dessert-spoonful of liquor ammoniæ acetatis, with fluid extract of licorice, diluted with water, every two hours.

It is expected with this to relieve continually the burdened right heart, by bleeding the patient into his capillary vessels and eliminating the toxins by diaphoresis. With this also, pyrexia and cough are controlled to a great extent. If the temperature rises to 105° I usually order cold sponging or the cold pack to the chest, changed every two hours. I look for this to soothe the nervous system, even if the temperature is not materially lowered. Patients are usually grateful for this.

The method of applying the pack is the following: Fold a cotton cloth of desired width (smoothly) to four thicknesses, wring out of icewater, then place it in a flannel cloth which encircles the chest, and fasten. If the patient is excitable, use a flannel cloth instead of a cotton one. If the temperature does not reach 105°, turpentine and lard is applied. I have used some of the putty mixtures which give a degree of comfort.

The diet is of very great importance. The patient should not be fed too often, nor too much, and the food should consist of the most digestible substances, such as milk, beef-tea, broths, beaten egg, etc. If the patient rebels against food, or is nauseated, with-

hold food for a time, and if necessary use nutrient enemas.

Abdominal distention must be overcome, for it interferes with the action of the diaphragm, impeding respiration. The distention is relieved by the use of the rectal tube, or a daily enema, and turpentine stupes to the abdomen.

The pulse should be closely studied, for it is the keynote to impending troubles. A slow pulse is not always a safe pulse, neither is a rapid pulse always one that denotes danger. It is the quality of the pulse that points either to safety or to danger, and this should be carefully watched and the indications met. A hard pulse is softened with Dover's powder and nitroglycerin, and a soft pulse is strengthened with strychnine, digitalis, ergot, and *rest*.

I wish to lay great emphasis on the latter. How many patients have taken their departure because the family, nurse, and doctor have disturbed their rest with kindnesses, baths, and by frequently administered medicine! Plan to give the patient two-hour intervals of rest during the day, and never waken him in the night if he will sleep. Rest and fresh air are the very best of remedies in the treatment of pneumonia.

The patient should never turn himself without assistance. He should not be allowed to sit up to attend to nature's calls. The attendant should be instructed to anticipate the wants of the patient, thereby saving him thought and effort.

Pneumonia must soon be permanently classified with the infectious diseases. The utensils and clothing used around the patient and the bedding should be disinfected, as in typhoid fever. The sputum should never be allowed to dry, and should always be burned. The sick-room should receive the pure sunlight, and should be well ventilated.

Why not give alcohol in pneumonia? Because experience has taught me that the mortality is less, in my practice, when I do not give alcohol during the treatment of this disease. Alcohol is nearly always prescribed when we do not know what else to do. It is called a food by some investigators, and we must admit that, in small quantities, it is oxidized in the system. Some one has said that the human system is a crematory, in which substances are burned or oxidized, as urea is, to protect the system from harm. Because strychnine, phosphorus, morphine, ptomains, some leucomains, and toxins are oxidized in the system, should they be classified as foods? Who would think of making a meal of these or of substituting a small quantity of them for food? Grant that alcohol is a food, I want to ask, did one ever know a patient with pneumonia to die of starvation? Usually the trouble is that patients are overfed. Alcohol really does just what we try to undo with our treatment.

Listen to one of our greatest teachers on dietetics: "One of the most injurious effects of the enormous quantity of alcohol used and prescribed in this country and Europe is its influence in lessening the efficiency of respiratory movements, and the capacity of the blood to receive and distribute oxygen to the tissues of the body. Experimental therapeutics have fully established the fact that alcohol by its anæsthetic or paralyzing influences on the respiratory nerve centers diminishes the depth of respiratory movements, thereby lessening the amount of air used, in direct proportion to the quantity of alcohol taken. At the same time by its action on the hæmoglobic and corpuscular elements of the blood it lessens the capacity of that fluid to receive oxygen from the pulmonary air cells, and to carry it to the various tissues of the body. It is by this duplicate interference with the reception and internal distribution of oxygen that alcohol retards tissue metabolism, encourages the retention of effete products and lessens the vital resistance to all toxic agents, including pathologic bacteria."

I do not believe that any one can give a good scientific reason why alcohol should be used in the treatment of pneumonia, nor an indication for its use that has not been met by some other drug or remedy. In Europe and America it must be noted that the medical profession is discarding to a great extent the use of alcohol in the treatment of this disease. During the symposium on the treatment of pneumonia before the section of medicine at the American Medical Association held at Atlantic City, in June, 1904, one could not help observing that of the twenty-six physicians who took part, not one advocated the use of alcohol in the treatment of this disease.

To show how thoughtless and bound by routine those physicians are, who depend on alcohol and its compounds, as a remedy in pneumonia, permit me to give a brief history of a case that occurred in my practice in the winter of 1902-03. On December 5, 1902, I was called to see Mr. W. in a neighboring village, and found him ill with typhoid fever. The fever pursued the normal course without complications until December 25, when the patient was taken with a severe chill. The temperature rose from normal to 102° and pulse from 86 to 100. Physical signs and symptoms revealed the fact that the patient had lobar pneumonia in the right lung. The lower lobe first took on the process, but later the whole right lung was solidified. The disease pursued its usual course for a few days when the family demanded that the patient be given whiskey or brandy, as a tonic, they said, but I refused to give it, because I saw no indications for its use. The friends requested counsel and I assented, with their choice of a physician.

On December 28, the patient's symptoms were these: the lung was in the stage of red hepatization, sputum rusty and characteristic; pulse 120, full soft, and regular; respiration 30; temperature 103. The patient was somewhat restless and anxious, but was easily controlled with sponge baths. He was taking nourishment nicely. The bowels were moved with an enema, the urine very scanty. The counsel ordered half an ounce of whiskey every hour. At the end of the next twenty-four hours, when I saw him again, his condition had changed somewhat. He was delirious with a pulse of 130, soft and compressible, respiration 36, temperature 102°. The same treatment was faithfully followed for another twenty-four hours, when the family saw that the patient was failing. On December 30 the pulse was 140, very soft and thready; temperature 101°; respiration 46 and labored. There was cyanotis and the mind was wandering. There were involuntary bowel movements and the patient expectorated a bloody mucus with difficulty. I suggested that the whiskey was partly the cause of the symptoms, and if the

family would consent I should withdraw the alcohol. I then gave tincture of nux vomica in ten-minim doses every two hours. The effect was pleasing. The next morning the patient was more quiet and his mind less wandering; he expectorated with less difficulty, but the character of the sputum was the same; pulse 120, temperature 102°, respiration 36. This treatment was pursued, lengthening the interval to four hours until January 6, when the change for the better came. The patient made a slow but sure recovery. I told the family then, and I believe now, that if we had persisted in administering the alcohol the patient would have died, and of course contributed to the usual 20 to 40 per cent. mortality in pneumonia. This case shows the effect of whiskey and brandy on the pulse, respiration, and temperature. It reduces temperature and quickens the pulse and respiration by attacking and paralyzing the nerve centers that govern these functions.

In concluding my paper I wish to call attention to these points:

1. More attention should be given to the prodromes of pneumonia; for the toxæmia may be cellular or due to the *Diplococcus lanccolatus*.
2. The treatment should be eliminative and some form of potassium should be used.
3. Rest is of the greatest importance.
4. There is no indication in the treatment of pneumonia that cannot be met by other remedies than alcohol.

THREE CASES OF PRIMARY MALIGNANT TUMOR OF THE LUNG.

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THE comparative rarity and certain peculiar clinical and pathological features may justify the report of the following three cases that were seen at the Montefiore Home in the past eighteen months.

CASE I.—L. P., male, fifty-five years of age, German, bookkeeper by occupation, contracted bronchitis in January, 1903. The pains in his chest became so severe and his expectoration so persistent that he went to a hospital on July 1, 1902, and on August 7th sought admission to the Home. On examination, his pulse was 96, his temperature 98° F., and his respiration 24. His fingers were clubbed. There was no glandular enlargement. His tongue was protruded straight. His chest was barrel-shaped, and his respiration labored and wheezing. Percussion gave an emphysematous note. There was a small area of slight dullness over the left upper lobe in front (over the third rib), and one more marked posteriorly at the same level. The lower borders of the lungs were freely movable. Auscultation gave some sibilant and a few moist subcrepitant râles over the upper part of the right lung posteriorly. The heart, liver, spleen, and kidneys were normal. The urine was negative. In the sputum were seen many cells resembling mouth cells, but smaller, with a large nucleus. In some of these nuclei there were two or three nucleoli. The chromatin threads were arranged as in beginning karyokinesis. There was segmentation of the nuclei. There were no elastic fibers, but numerous fatty globules in emulsion.

During September, 1902, the patient's condition became gradually worse. On percussion, an area of dulness was found over the right upper lobe, extending downwards on the side. Soft grating râles were heard in the axillary line at the level of the sixth and seventh ribs. These were directly under the ear, and sounded as if two adherent surfaces were forced apart; they were heard at the end of inspiration. The pains were so severe that the patient could not sleep at night. A slight tumefaction was noticed over the right supraspinous fossa, which was exceedingly painful. There was no abnormal temperature. Examination with the *x*-ray revealed a mass to the left of the spinal column, adherent to the vertebræ; also a mass to the right, but here there was a light space between the column and the dark area. A loud thump was heard over the mass on the left; also a systolic blow. Percussion dulness corresponded to these areas. The patient constantly became weaker. He complained of great pain, unrelieved by large doses of anodynes. The pains spread to the left side and leg. The sputum was profuse and bloody. October 16, 1902, patient died from exhaustion. He had lost 11 lbs. while at the Home.

The post-mortem examination was made by Dr. Harlow Brooks on October 18, 1902. Body of an aged male showing very marked emaciation. There were no adhesions to the anterior thoracic wall. The lymph nodes along the internal mammary arteries were enlarged, their tissues firm and white, apparently infiltrated with new growth. The left pleural cavity was free. The right pleura was intimately adherent over the upper lobe posteriorly. The epicardium showed old patches of thickening. There was slight atheroma of the aorta, and all the valves were thickened. The heart muscle showed brown atrophy. The isthmus of the thyroid gland was entirely absent, but the lobes were of normal size. The tissue was markedly œdematous, and contained frequent, firm, whitish nodules. The right lobe was, however, permeated by new growth. The tissue was firm and, in the central portions, fibrotic. The lymph nodes of the neck contained pearly-white nodules, clearly neoplastic in nature. The tracheal lymph nodes were greatly enlarged and infiltrated. The mucous membrane of the trachea was anæmic and covered by a thin purulent exudate. The right upper bronchus led into the right upper lobe, which was entirely infiltrated by new growth, which communicated directly through the ulcerated walls of the enlarged bronchus. This growth infiltrated a considerable portion of the upper lobe, but in no area was atelectasis complete. The infiltration extended downward through the inferior and posterior portions of the lobe, where it mingled with and could not be distinguished from, a general œdema, complicated by pneumonia and thrombus of the pulmonary arteries. The growth further infiltrated the posterior portion of the middle and upper lobes, the anterior borders being largely uninvolved. The growth was evidently extended by infiltration. The pleura over the upper portion of this lung was thickened, and intimately adherent to the parietal layer. The new growth infiltrated the lung from the pleura. The pleura itself was free from growth, but, however, showed inflammatory thickening. The lymphatics on the upper left lobe were outlined by new growth, but the growth apparently had not infiltrated beyond the immediate neighborhood of the lymphatics. The intervening portions of the pleura were apparently uninvolved.

The upper left lobe was apparently free from growth, markedly anthracotic and largely airless, but the inferior portion was infiltrated by new growth, while the pleura covering this new growth was apparently uninvolved. The liver was small, mottled by spherical areas varying from 1 to 2 cm. in diameter, and composed of pearly-white tissue of a very firm consistency. The mesenteric lymph nodes were infiltrated with new growth. The pancreas was small and normal, but the lymph vessels were infiltrated with new growth. The adrenal capsules were large, and showed extensive post-mortem changes and nodules of new growth.

Causes of death: (*a*) Pulmonary carcinoma, probably primary in the lung, with general lymphatic metastases; (*b*) hepatic carcinoma; (*c*) carcinoma of the thyroid gland.

Case II.—F. B., female, an Austrian nurse, sixty years of age, was exposed to rain six months before entering the home, and a few days later intense pains in the left shoulder appeared, and she began to cough. There was no swelling or redness of the shoulder joint, but the pains were worse on movement. The cough stopped after two or three weeks, but the pains persisted, and gradually extended downward in the axillary line, and also in the vertebral column. The pain was intense and "twisting-like." She never had any fever or hæmoptysis; she became hoarse just before entering the Home, on April 1, 1903. On examination, we found an emaciated cachetic woman, with a dry and parchment-like skin. Her pulse was 96, temperature 99° F., and respiration 25. A periosteal growth was present over the right temporal bone of about two inches diameter. There was wasting of the temporal and masseter muscles. The tumor on the head was tender, firm, not cystic, yet elastic. The veins over the left mamma were dilated. The percussion note showed flatness over the upper left lobe and also at the base in the posterior axillary line. A marked dulness over the base posteriorly. Anteriorly there was a boardy note in the axillary line. There was also a marked dulness over the right upper lobe, chiefly the apex. The rest of the lung gave a boardy note. There was marked dulness over the upper end of the sternum. The breathing in the left lung was markedly diminished throughout, especially over the upper lobe, and almost absent over the base in the posterior axillary line. The left side of the thorax was bulging. There was exaggerated vesicular breathing over the right upper lobe. Pleuritic friction râles were heard over the base of the left lung in the posterior axillary line. Whisper voice and vocal fremitus were diminished over the greater part of the left lung. Exaggerated vesicular breathing was present over the right base. The heart was found to be within normal boundaries. The sounds were somewhat muffled. The second pulmonary sound was accentuated. The pulse was of increased tension with moderate arterio-sclerosis. Her fingers were clubbed. There were many stigmata of degeneration. Attempts to move the left shoulder, passively, elicited violent pain. The patient herself was able to do so, with the assistance of the other hand, and with less pain. There was marked wasting of the left pectoral and deltoid muscles. Grating was present in the left shoulder joint. Percussion of the left upper chest caused pain. There was a bulging of the ribs (seventh, and chiefly eighth) in the axillary line. The left lobe of the liver was enlarged. The inguinal glands were greatly enlarged but no enlargement of the axillary glands. The urine showed no pathological constituents. The sputum never showed tubercle bacilli, but there were found clumps of cells which resembled cancer cells.

The post-mortem examination was made by Dr. Wachsmann on August 27, 1903. Body of an extremely emaciated female. The following tumors were visible: a flat nodular tumor over the right parieto-occipital region, over which the hair is atrophic; a small, hard tumor over the second left chondrocostal junction; and another hard nodular tumor to the left of the first lumbar spinous process. The superficial femoral glands were enlarged on both sides. Both lungs were adherent. About 60 cm. of serosanguinous fluid were found in the pericardial sac. The heart was of normal size. The pericardium showed patches of fibrous thickening. At the apex was a hard, nodular, intramural, projecting node the size of a hazelnut; in the auriculo-ventricular groove there were a series of nodules varying in size from that of a hazelnut to that of a bean. A similar nodule in the region of the pulmonary artery. On section the nodules were hard, fibrous, resembling the medullary swelling of glands, the center being yellowish and softer. The color of the heart muscle was normal. Both pleural sacs were obliterated, less on the base. The left lung was very friable and adherent to the thoracic wall. At the base of the left lung were a series of hard nodules, varying from the size of a cherry to that of an apple. At one place, corresponding to the left second rib, the tumor was infiltratory and projected through the chest wall. The tumor mass was firmly adherent to the lower cervical vertebræ, to the upper three left ribs, and also infiltrated the sternal end of the left clavicle. The entire left lung was infiltrated by tumor mass, with large lumps in the upper lobe and base. There were similar infiltrations in the right lung, though smaller in size. The liver was small, smooth, glistening surface, and showed several whitish-yellow protuberances, some showing central depression, and which, upon cutting, prove to be tumor masses varying in size from a pea to that of an apple. The substance of the liver was friable, brown, and congested. The right kidney was small, adipose, the capsule showed a small amount of fat, the fibrous capsule was not adherent. The markings were indistinct; a few tumor masses projected on the surface, the size of a large pea. The left kidney was about normal size and consistency; very small tumor masses were found in the pyramids, and also in the periphery. There were tumors in the left adrenal, making it about three times its normal volume. The right also had a few small tumors. The retro-peritoneal glands were replaced by tumor tissue. The stomach was vertical in position and contracted. The mucous membrane was normal. The mesenteric glands were slightly enlarged, hard, not resembling the other tumors.

Cause of death: Carcinoma of the lungs, with metastases in the heart, liver, ribs, kidneys, clavicles, skull, mesenteric glands, and suprarenal capsules.

Case III.—L. H., female, Hungarian, Hebrew, thirty-eight years of age, who worked in a very dusty fur shop, had been ill for a year and a half before her admission to the Montefiore Home on August 31, 1903. Her illness began with a tickling sensation in her throat, followed by a cough, accompanied by a profuse, greenish-yellow, tenaceous, mucoid sputum, which would sink to the bottom of the vessel. At times she noticed blood in the sputum. Her skin became a little darker, and this gradually increased until it was of a bronzy-brownish color. By that time she was very weak and had lost about 50 lbs. Her voice became hoarse, but she never had any pains in the larynx. Pain in the left side of the chest began about one year ago, and gradually increased in severity. On examination

her temperature was 100.2° F., pulse 120, and respiration 26. She was poorly nourished. Her skin was of a brownish color all over the body, darker on the face and forehead, where freckles were present. The larynx was prominent. The base of the tongue was very much congested. The arytenoid cartilages were congested and infiltrated. The right vocal cord was thickened; the left was paralyzed. The voice was husky. On the left side of the neck a few small glands could be felt, along the posterior border of the sternomastoid muscle. The thyroid gland was rather full. The platysma reflex was delayed on the left side. With respiration the intercostal spaces retracted. The right side was more movable, and the right scapula stood higher than the left. In the left axilla a small gland could be felt. During inspiration the left infraclavicular space was not as filled out as the right. A tremor in the upper portion of the pectoralis major was at times seen, especially during inspiration. The intercostal muscles retracted during inspiration, but more on the right than the left side. The mammillæ were normal. The apex-beat was distinctly visible, but more so during expiration; it was felt in the fifth intercostal space, at a distance from the mid-sternal line of 11 cm. During expiration the systole and diastole could be noticed in the impulse. During inspiration these were broken up into a number of small throbs. The impulse was not very forcible. The right relative dulness began at about one centimetre to the left of the right sternal border; above at the fourth intercostal space in the mid-clavicular line; the left border was marked by the apical impulse. The cardiac dulness did not extend beyond the apex. Auscultation at the mitral area gave the first sound forcible, the second much weaker. No murmur. The first aortic sound was practically absent. A short diastolic murmur was heard, rather rough and blowing in character, and followed by the second sound, which was very weak. The murmur was transmitted upward and into the vessels of the neck, as well as into the right axilla, where it was plainly heard. The first pulmonic sound was weak; the second distinctly accentuated. No murmurs. The pulse showed increased tension and greater volume on the right side. The rhythm was equal on both sides. The respiration was more marked on the right side, and was laboring in character. The vocal fremitus was absent on the left side, present on the right. The percussion note over the right apex was somewhat increased anteriorly. At times a note was obtained resembling somewhat a cracked pot. This extended down to the upper border of the fourth rib. From there down the note was dull. In the axilla the note was normal. Increased pulmonary resonance was found on the right posteriorly down to the spine of the scapula. Lower down it was normal. On the left side there was a dulness over the apex to the first rib, and from there flatness down to the base. Breathing was rough over the apex. A few small distant râles were heard after coughing. At the first interspace the breathing was nearly cavernous, accompanied by small dry râles, especially during inspiration. Exaggerated breathing in right axillary line. No râles on coughing. Rough breathing, with a few distant râles down to the spine of the scapula over the right side posteriorly, and from there down the breathing was slightly exaggerated, but no râles were heard. On the left side anteriorly there was no respiratory murmur over the apex, that which was heard was transmitted from the trachea. Practically no respiratory murmur down to the third interspace. From there a very slight murmur could be heard, but no râles. Respiratory sounds were absent in the left axillary line, and in the back. The cough was metallic and whistling, occurring at short intervals, followed by expectoration of thick globular masses of a greenish-gray color. Cough did not stop until one of these masses was brought up. The pain in the chest varied as to the location, but mainly on the left side and axilla. This pain was pressing in character and not influenced by respiration. When patient lay on left side the pain would disappear entirely, and as soon as she turned over to the right side the pain returned. The pain was not affected by the cough. The pains in the right side were less severe and less frequent. The pains in the left side would at times start in the back and radiate to the front as far as the sternum. The abdomen was normal. Liver dulness began at the fifth rib and extended three finger-breadths beyond the free border. The inguinal glands were somewhat enlarged on both sides. The right scapula moved with greater excursion than the left. The urine always had a very heavy sediment—no albumin but much triple phosphates urates, and hyaline and granular casts. Renal and vesical epithelium were present. The sputum was bloody and malignant-looking (somewhat like raw chopped meat). In thirty examinations it was negative for tubercle bacilli and cancer cells were found at times. The blood count made September 12 gave the following results: Hb. 80 per cent. R. B. C. 4,200,000. W. B. C. 8,000. Differential—Baso. 0.02. Neutro 0.82. Eosino. 0.03. Small Lympho. 0.02. Large Lympho. 0.08. Large Mono. 0.03. On September 24,—Hb. 65 per cent. R. B. C. 3,950,000. W. B. C. 21,200.

There was a (Head's line) of pain extending from below upwards, beginning at a level corresponding to the sixth dorsal segment. There was also pain upon percussion of the spine of the fifth dorsal vertebra. On October 11, 1903, the patient developed œdema of the lungs of the right side during the night, was too weak to expectorate, and died the following day.

The post-mortem examination was made by Dr. Harlow Brooks on October 13, 1903. Body of an emaciated woman. The skin was generally dark, especially over the face, where the pigmentation was almost melasmic. The thyroid region was prominent. The thorax was unusually long, slightly pigeon-breasted. The lower border of the liver lay 2 cm. below the umbilicus (corset liver). Old adhesions to the anterior thoracic wall, particularly on the left side; marked adhesion of an acute and ulcerative character to the parietal pleura at the level of the second intercostal one inch to the chondro-osseus junction. A few strands of adhesion at the right upper lobe. The pericardial space was pretty well enlarged and extended 5 cm. to the right of the medium line. The left pleural cavity was completely obliterated by very dense old adhesions. Complete adhesion to the diaphragmatic pleura. The pericardial lymph nodes were considerably enlarged, anthracotic and partially involved by some new growth infiltration. The pericardial sac was found distended and its surface covered by a recent fibrino-hemorrhagic exudate. The posterior wall of the pericardial sac on the left side was found completely involved by a white nodular growth, for the greater part subendothelial. Near the base the growth had ruptured through the endothelium, producing nodular excrescences, extending in one place into the left auricle; passing backward, it involved the bronchial lymph nodes and so caused laryngeal prominence. The epicardium showed recent pericarditis apparently caused by friction against the roughened pericardium, thus accounting for the hemorrhagic effusion. The ventricles were contracted. The left

ventricle was distended with mixed clot, was of normal size, and the superior portion of the wall was completely invaded by new growth. The aortic murmur was accounted for by the fact that the tumor involving the bronchial lymph glands had forced the aorta to make an acute angle in its descending portion. The heart showed a moderate brown atrophy. The arotic arch extended upward and backward, being displaced to the left by the involvement of the lymph nodes, particularly to the right of the arch. This all tended to compress the right subclavian artery to a lesser extent than the vessels on the left. Those on the left were compressed by separate nodules of new growth. The vessels showed moderate degree of atheroma. The thyroid was about double volume. The blood vessels were greatly enlarged in the gland, and the tissue appeared adenomatous. The growth was apparently due to a true adenomatous struma. The involvement of the bronchial and tracheal lymph nodes was almost universal, and these compressed the laryngeal nerve to a marked degree. The lumen of the œsophagus was compressed and deviated first to the left, then to the right. The mucous membrane of the œsophagus was congested. A marked compression of the bifurcation was present, and the trachea and both bronchi contained large quantities of pus. The right lung showed general emphysema, especially the anterior border, with marked œdema. There was a general fibrotic infiltration of the upper lobe with minute areas of bronchopneumonia. A few isolated healed tubercles were found, together with a beginning pneumonia of the lower lobe. The left lung was completely involved by new growth, most extensive in the base of the lower lobe, where the growth was white in color, soft, giving rise to a milk-like exudation upon scraping. Functionating tissue was entirely absent on the left side. The tumor growth in the lung united with the growth in the pleura in the sixth and seventh intercostal spaces, compressing the fifth, sixth and seventh intercostal nerves on the left side. The growth had extended into the diaphragm, and also involved the pleura at the junction of the first and second left ribs with the spinal column. There was one small nodule of new growth in the upper portion of the right lobe of the liver. Otherwise it showed a general fatty degeneration, with congestion. The spleen was enlarged about two volumes, and its tissue deep purple in color, showing small areas of amyloid degeneration. The stomach and kidneys were normal, but were forced down by the liver. The mesenteric lymph nodes were enlarged, but not involved by new growth. The left adrenal body was separated from the kidney by a distance of 4-5 cm., being itself attached in its normal position to the left lateral aspect of the lower dorsal column. The right adrenal body was completely isolated from its kidney, being found attached in its normal position, and some 10 cm. from the corresponding kidney. The bodies were large, their tissues firm and deeply congested, and the distinction between the cortex and medulla was indefinite, as though there was some inflammatory infiltration. The kidneys on section showed marked fatty degeneration, with general congestion. A section through the mid-dorsal segment showed no apparent gross lesion. It was possible that the symptoms noted were partly due to pressure upon the intercostal nerves.

Causes of death: (*a*) Acute hemorrhagic, neoplastic pericarditis with lobar pneumonia terminating a tumor of the lung with lymphatic metastases; (*b*) chronic parenchymatous nephritis with fatty degeneration; (*c*) septic bronchitis; (*d*) thryoid struma.

From the gross appearance of the tumor, it appears that it was probably primary in the lung or pleura, and from its general characteristics most likely endothelioma, or small round-celled sarcoma. Microscopical examination of the specimens proved it to be an endothelioma, probably originating in the pleura and then spreading to the lung. At the region of the cord, where the section was made, there were signs of a very early myelitis.

From the histories of these cases, it will be seen that pain, of great intensity and persistence, is one of the early and characteristic symptoms of carcinoma of the lung. Quite often it is, at first, localized by the patient in the shoulder and spine, and is independent of the cough. As to the localization of the lesion, in one of the cases, we ascertained Head's lines of hyperæsthesia and found them to correspond to the fifth and sixth dorsal segments of the spinal cord. There was no gross communication nor any involvement by contiguity of the spinal cord, yet microscopically a beginning myelitis was found in the fifth and sixth dorsal segments of the cord. The clinical history of carcinoma of the lung resembles, mostly, a tuberculous affection, but runs a more rapid course, and is not accompanied by fever. In the beginning expectoration resembles the frothy sputum of a bronchitis, but soon it assumes the mucopurulent, tenacious, globular nature of tuberculous sputum, and quite often shows streaks of blood, or even at times larger quantities. In the later stages copious hemorrhages may occur. In one case the sputum showed a very peculiar appearance:—in a serous, flesh-water-like fluid were firm masses with ragged outlines, of a beefy color, sometimes mixed with yellowish-white, tenacious mucopus. No elastic fibers were present. The microscopical examination, naturally, is of more decisive importance than the macroscopical aspect. Aside from the absence of the tubercle bacillus, there is very often a positive result obtainable, *i. e.*, the presence of certain cells may be detected. These cells resemble mostly epithelial cells of the mouth, but are smaller, more the size of pus cells. They are not granular, have one or more small nuclei, sharp, angular outlines, and occur singly, or in nests or pearl-like arrangements, and, what is most important, sometimes intimately mingling with pus cells, thus giving evidence that the mixing took place in regions remote from the mouth. At the post-mortem examination we were surprised to find metastic tumors of considerable size in the heart muscle. They must have taken some time to grow to that size, and it is remarkable how little they interfered with the heart's action. No murmurs or irregularity had been demonstrable. There was an inequality of the pulse, due to depression of one subclavian artery.

The Population of the World.—In a paper entitled "Die Bevölkerung der Erde," by Dr. Supan, quoted in the *Bulletin* of the American Geographical Society, the author gives the results of the latest censuses and sums up his estimates of the population of the world in the following table:

	Total Population.	Per Square Mile.
Europe	392,264,000	104
Asia	819,556,000	46.6
Africa	140,700,000	13
Australia and Polynesia	6,483,000	2
North America	105,714,000	13
South America	38,482,000	5
Polar lands	91,000	...
Total	1,503,290,000	30.6

REPORT OF A CASE OF CHRONIC CYSTIC DILATATION OF THE VERMIFORM APPENDIX.

By J. C. LANDENBERGER, M.D.,
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Through the courtesy of Dr. S. H. Pinkerton, of Salt Lake City, I report the following interesting case of cystic dilatation of the appendix, which occurred in his practice and was operated upon by him, the writer assisting:

C. S. H., male, age 32 years, single, white, born in Illinois; occupation, farmer, stationary engineer, and as laborer in packing house. His work has always been heavy and laborious. Habits good. The father died at the age of 45 of "dropsy;" the mother of Bright's disease. He had mumps at the age of ten, typhoid pneumonia at fifteen (in bed nine weeks, good recovery), and chicken pox at twenty-three.

He seemed perfectly well until April, 1903, at which time he was assisting twelve men in unloading piles from a freight car, each weighing one thousand pounds. He was in a stooping position with shoulder under a pile when the other men let go, allowing the pile to crush him against the car. At this moment he felt a sudden sharp pain in the left side of the back running around the front to the left testicle, thence to the region of the appendix, where it remained. Thirty days after this injury he fell off a scaffold, twelve feet high, striking with the left hip on the end of a pile.

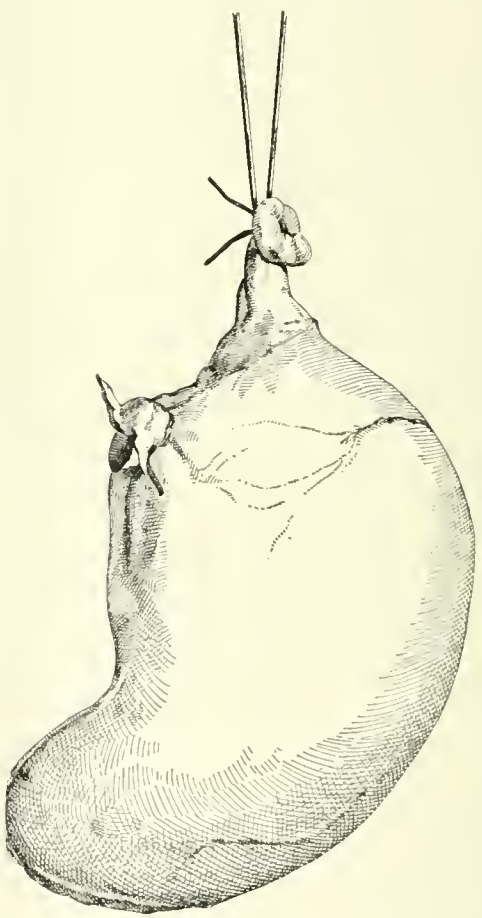
Following the first injury he complained of constant pain in right iliac region; following the second injury vomiting developed, occasional and irregular, but always after a meal, and there was a peculiar dragging sensation in the abdomen, at times relieved by a reclining position. When vomiting he would always make pressure on the right side of the abdomen for relief, as "there seemed to be something there that wanted to push out." He was admitted to the hospital March 13, 1904, complaining of a "heavy bearing-down pain in the bowels and a sharp pain in the right side below the navel." This sharp pain would at times last only a moment, at others four to five hours, and would always occur at least once daily. All of his complaints were increased by work, but ceased when he was confined to bed.

The patient is of medium height, well nourished, and very muscular. A complete examination with especial attention to the abdomen, made upon admission, elicited nothing. He was retained in bed, and put upon liquid diet, the temperature, pulse and respiration being recorded every four hours.

The abdomen having been palpated on several occasions with negative results, there was finally detected a mass in the right iliac fossa about the size and shape of a small goose-egg which could be easily grasped between all the fingers, slightly tender on squeezing and so freely movable that without great care, when one thought it was held firmly, it would slide away much in the same manner as a cake of soap in the bath-tub, and when it had escaped the grasp, usually it would disappear until the next day, despite immediate and continued efforts to again locate it. When the tumor was palpable, in every instance it was found between McBurney's point and Poupart's ligament of the same side, usually hugging closely to the outer end of the ligament and the anterior part of the crest of the ilium. So difficult was this tumor to palpate, that if with three or four abdominal examinations one succeeded in finding it once the occurrence was fortunate.

Close observation on several days revealed nothing further to advance a probable diagnosis, and it is only fair to say that a cystic appendix was not considered. There was no abnormality of temperature, pulse, or respiration, and so long as the patient remained in bed he admitted feeling very well; only when he was up and about, working, did he vomit and complain of abdominal pains and a "dragging sensation in the bowels."

Following proper preparation and under ether anæsthesia, an exploratory incision was made in the right semilunar line and the tumor brought out by the hand on to the abdomen. It was now seen to be an extremely dilated vermiform appendix. There were no adhesions whatever, the appendix and cæcum being freely movable, with no semblance of inflammation present in either the appendix or



the peri-appendicular tissues, so that the cyst could sink deep in the pelvis or lodge under a mass of intestines almost anywhere in the abdominal cavity, which readily accounts for the extreme difficulty in locating it during an abdominal examination. The dilatation was throughout the distal four-fifths of the organ, the proximal end for about three-fourths of an inch being apparently normal, excepting that the lumen at one point was obliterated, as no fluid from the cystic end could be squeezed out. The condition accurately resembled an ordinary cyst with pedicle. This pedicle allowed a very easy and simple excision as well as opportunity to ligate and save the specimen, a picture of which (exact size) is here furnished.

The patient's recovery was complete.

The appendix, closely examined after removal, showed nothing peculiar pathologically. It was not dissected, but appeared to contain within its lumen a quantity of serous, watery fluid which distended all the coats regularly and evenly to the size of a

small goose-egg. It was translucent. The pathology of this case, as well as of other appendical cystic dilatations, is first that of an obliterative appendicitis occurring at one or more points, after which, the secretion continuously increasing, there is a gradual distention distal to the occlusion from mere accumulation.

Just when the obliteration occurred in this particular instance is conjectural as no definite history of an acute attack could be elicited. However, it will be remembered that pain was a constant symptom. The history of trauma seems very significant etiologically. The patient was perfectly well until the first injury, immediately following which there was pain in the right iliac region, and vomiting and a dragging sensation in the bowels at once succeeding the second injury.

The occurrence of cystic dilatation of the appendix is manifestly rare, considering the vast numbers of appendicectomies yearly, with the few reports of such an occurrence. Of the many surgical textbooks treating on appendicitis, only a few devote any space to this condition.

John B. Deaver in his "Treatise on Appendicitis," second edition, mentions a cystic dilatation of the appendix the size of an orange, which was "adherent to the neighboring coils of small intestines and to the right broad ligament," and speaks of similar conditions having been observed by Coats, Weir, Kelynack, Fenwick, and Guttman, the latter's specimen being 14 cm. in length and 21 cm. in its greatest circumference.

"The Twentieth Century Practice of Medicine," Volume VIII, merely mentions the possibility and states that "Wolfler found one of these cysts in an appendix contained in a hernia."

Hemmeter mentions retention cysts having been described by Mayland, Sonnenburg, Ribbert, Gruber, Hawkins, Shoemaker, and Coats.

The pathology of this condition is considered in detail in the new American edition of Nothnagel's Practice, where it is also mentioned that Latham found a dilated appendix filled with small, round, white bodies which did not give the reactions for mucin or for fibrin.

The contents of these cysts may be tough and gelatinous, or white and mucous, or serous and watery.

NATURAL VS. SCIENTIFIC FEEDING OF INFANTS.

By D. E. ENGLISH, M.D.,
MILLBURN, N. J.

The prevention of sickness is more important than its cure. How shall we feed a baby in order to keep it well? This is a more important question than, How should a sick baby be fed? The mother finding herself unable to nurse her new-born babe asks the attending physician how she shall feed it; on the wisdom or folly of his answer depends the future happiness of a human being, and probably the length of its life. First let us consider the manner of feeding, rather than the matter fed.

My first advice is to give the baby nothing but water for the first three days, and to give as much water at a time as the baby will swallow. At the end of the third or beginning of the fourth day suitable food is begun, and my instructions then are to give the baby all it will take of this food at each feeding. Not to let it fall asleep too soon, but to keep it awake and feeding as long as possible, in fact, until it "runs over." After that the baby is not to be fed again until absolutely necessary. In the intervals between feedings give it water, and so try to keep it contented for a time, and make the interval as long as possible. The baby should always be allowed to cry and fret some before the next feeding; not long enough to get it into a state of hysterical nervousness, but long enough to prepare the stomach and nervous system for the next meal, to give them warning, as it were. The intervals will not, and should not, be of equal length. Some may be as short as two hours, others may be eight hours in length. A baby will not always digest the same amount of the same kind of food in the same number of minutes, any more than an adult will, and it should not be fed again so long as any remnant of the last meal is still in its stomach. When the right time comes fill the baby full again, as before, and so on. This is what I mean by natural feeding, and differs from scientific feeding in the length and irregularity of the intervals, and in the amounts given at each feeding. This is the way in which a puppy or a kitten is fed, either of these animals eating enough at each feeding to make the abdomen round and tense, and both being forced to cry and worry for a time before being allowed to feed again. This complete filling of the stomach develops it and makes it strong. The long interval allows time for complete emptying of the stomach, for the firm contraction that prevents dilatation, and for the creating of an appetite that prepares the stomach for the next meal and draws out the digestive juices. Under scientific feeding the stomach never gets properly stretched, never becomes entirely empty, never is firmly contracted, and never has a normal, irresistible craving for more food. As a result the stomach becomes weak and flabby, the digestive juices scanty and poor, and the innervation of the digestive organs sluggish, and the baby is not so well able to resist disease. The natural method of feeding applies as well to breast-nursing as to bottle-feeding. It simplifies very much the question of the quality of the baby's food, for under this plan of feeding a stomach is developed that will digest food that would cause indigestion in a baby that has been scientifically fed.

As to what shall be fed, the first thing given, therefore the first to discuss, is water. When the physician can be sure that the water does not contain harmful microbes it is better to use it unboiled, but care should be taken that all containers are sterile. It is always dangerous to disturb the balance of nature, for the trusted remedy sometimes proves worse than the disease. It is probably true that it is beneficial to both adults and babies to swallow certain kinds of microbes. Under normal conditions the beneficial microbes will keep the pathogenic bacteria in check, *i. e.*, reduce their numbers or their virulence so much that they will not do harm. Under existing conditions this normal balance is generally found to be disturbed, and so when there is doubt it is safer to boil the water. But when it is certain that the water is free from harmful microbes, the baby will do better if the water is given unboiled. Water from deep driven-wells, which clinical experience has shown to be harmless, can be trusted, but care should be taken that it is not contaminated between the time it is drawn from the faucet and the moment it is given to the baby.

A healthy baby fed according to the natural method, and who has plenty of unboiled pure water, and proper care, will invariably do well, if he must be artificially fed, on a simple mixture of milk, cream, water, salt and sugar. Chapin says, "the less milk is manipulated the better." Kerley says, "the milk used for an infant's food should be handled as little as possible." The closer the baby is to the cow the better will it thrive. After milk has lost its animal

heat it is not the same food and not as good food as it was before. Milk used within four hours of milking is better for the baby if it is not cooled below 65° F. If it is to be given older than four hours it is better to cool it at once on milking and keep it at 50° or lower, until warmed for use. Pasteurizing does not kill spores, but it does kill many beneficial microbes. Pasteurized milk if kept a little too long or a little too warm becomes nasty, and is more harmful than raw milk. It is quite possible that some cases of infantile diarrhœa do not get well because of the absence of beneficial microbes. Cleanliness is better than pasteurization, asepsis is better than antisepsis. With these primary principles in mind, select the best milk available and use it raw, at least at first. If it does not agree get the milk from another source. Different babies thrive better on different milks, although all the milks may seem to be equally desirable. Chapin says, "Large numbers of ordinary dairy bacteria in milk are not harmful to adults." It is quite probable that some of them are beneficial to both adults and infants, and this may be the reason one milk will agree when another will not. When it is reasonably certain that the milk is clean and fresh it is better not to sterilize it, but if it is sterilized it must be done thoroughly or it will do more harm than good. Cooling does not eliminate bacteria from milk, it merely prevents for a time their activity and increase. My directions to the nurse are to place the thumb against the side of the bottle for an index, and to pour out slowly the upper two-thirds of the bottle, after the cream has risen. This will approximate twenty-one ounces, and is called "top-milk." To this is added water in quantity suitable to the age of the baby, two heaping teaspoonfuls of milk sugar, or one of granulated sugar and as much salt as it will take without becoming distasteful. The kind and amount of sugar and the amount of salt are variable quantities and must be adapted to the taste of the baby, for if the baby does not enjoy the food it will not take enough at a feeding, nor digest it well. If on this mixture the baby is inclined to have loose bowels without marked signs of indigestion, leave out the salt, and instead of plain water use lime-water in whole or in part. Chapin says, "lime will cause milk or cream to become thick and viscid, its action being on the mucoid proteid," and I do not care to use it much, but sometimes it seems to act well. If, on the other hand, the baby is inclined to constipation, leave out the salt and in its place use sodium bicarbonate, from an even teaspoonful to a heaping teaspoonful to two-thirds of a bottle of top-milk. The sugar, salt, lime-water and baking-soda are to be used in proportion to the top-milk, not in proportion to the quantity of the mixture after the water is added. For the first few days one part of top-milk to four, six or eight parts of water should be given, according to the size and condition of the baby. The strength of the mixture should be increased as rapidly as the child's age and digestive abilities will allow.

If on this food the baby does not keep fat enough it is better to give a little cod-liver oil before each feeding, than to increase the cream-strength of the mixture. When it is necessary to resort to cereal water as a dilutent for the food of a baby under eight months of age, there is something wrong with the baby, its care, or its environment. Kerley says, "Pediatric writers and teachers in their enthusiasm with percentage methods and milk formulæ have been entirely too technical in this teaching, and have not greatly advanced the knowledge of infant feeding by the use of cow's milk among the profession at large. They have issued series after series of intricate formulæ to be used in definite amount at the various ages of infancy, but devoted surprisingly little attention to the infant who is to be fed, or to the instruction of the physician as to how he is to judge of the child's food capacity, or how he is to meet the many phases of the infant's digestive peculiarities. There can be no set formulæ for the various ages of infancy. For this to be possible, it would mean that all infants must be socially, financially, and physically alike, living in one climate, having but one season. Further, among infants living under like conditions one will require stronger food than another of the same age and weight, one child will have a weak proteid and a high fat capacity, another will have a low fat capacity and a high proteid. One will thrive as well as the other when the food is properly adapted." It is quite true that the many intricate formulæ issued by pediatrists are of little or no help to the busy general practitioner, who has not easy access to a milk laboratory, but the working out of these formulæ, and their publication, has in a way enlightened the general practitioner on the subject, broadened his mind, and caused him to observe closer and study his cases more carefully. Teachers of pediatrics seem to take the position that every baby is living under a death sentence, and that our duty is limited to delaying that sentence as long as possible.

The natural tendency of babies is to live; they are stronger and have better resistive powers, weight for weight, than adults, and with proper attention to feeding, clothing and environment, they will live, if healthy when born, and we should expect them to do so.

Wounds and Their Treatment.—Henry D. Michler emphasizes the fact that some wounds which appear at first to be trivial may result most disastrously. He believes that much of a physician's success depends upon the way in which he handles these cases. In the treatment of incised wounds, hemorrhage should be arrested at once by forceps and catgut ligature. The parts are then thoroughly cleansed and the skin shaved. Irrigation follows. All foreign matter should be picked out with forceps. The wound should not be touched with the fingers any more than is possible. Nerves and tendons should be sutured with fine chromicized catgut, and the wound then closed. If the wound is superficial, it should be sutured with silkworm gut, and several strands of silkworm gut are placed in the most dependent corner for drainage. If the wound is deep, catgut is used for suturing it. Capillary drainage is then used. The sutures should never be drawn tight. Adhesive strips should never be used to close wounds. A splint is often an advantage. Some contusion is always present in lacerated wounds, and the thorough cleansing of such wounds is difficult. But this part of the work should not be slighted. Hopelessly damaged tissues must be trimmed out. Sutures are not often advisable in these cases. The wound should be dressed with an abundance of gauze, and the part kept at rest. An ice-bag is often beneficial. In the case of complications, such as gangrene or sepsis, continuous irrigation is the best treatment. In smooth, punctured wounds, the hemorrhage should be arrested, antisepsis procured, and the part dressed and placed at rest. In the case of face injuries, nature will do marvels, and a good result should not be despaired of. If the hand, after being injured, becomes infected, it should be put into a hot 5 per cent. lysol bath for one hour. Fresh hot solution is occasionally added. Or the entire infected area may be painted with pure carbolic acid. The acid remains on the part one minute, after which the part is bathed freely with alcohol and dressed with an alcohol dressing. Ichthyol also acts well. Even if the infection has spread along the lymphatics, it can usually be overcome in one of these ways.—*Pennsylvania Medical Journal.*

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FATTY DIET AND ACETONURIA.

IT is not infrequently assumed that in a diabetic diet, the fats are the one element which can do no harm. This view is, but only to a limited extent and with important qualifications, confirmed by Dr. E. P. Joslin, who, in the *Journal of Medical Research* for October, reviews critically former work regarding the influence of various fats on the formation and excretion of acetone, and gives a report of his own experiments, the practical bearing of which on the proper diabetic diet is obvious. Most previous work is invalidated by lack of proper control of the diet, which is usually described merely as strictly albuminous, albuminous and fatty, or that plus varying amounts of carbohydrates—descriptions which tell nothing inasmuch as both albumin and carbohydrates diminish acetonuria. To be of value such experiments must take account of the B-oxybutyric and diacetic acids, and acetone, all being interrelated bodies to be estimated together; and the pulmonary excretion of acetone must be measured, as much as 7 per cent. at times escaping in the breath. In general, no demonstration of the amount of absorption of the fats administered has been furnished; and soaps have been used, though the power of alkalies to increase acetonuria is well known; and no account has been taken of the acetone-inhibiting power of the glycerin component of neutral fats. While numerous observers have shown that the addition of large quantities of fats to a mixed diet results in greatly increased acetonuria, Geelmuyden showed that this was largely conditioned by the simultaneous administration of carbohydrates, an acetonuria of 223 mgm. artificially produced in a healthy individual by an albumin-fat diet, falling to one of 26 mgm. as soon as 150 grams of carbohydrates was taken; and Schwarz saw an acetonuria disappear entirely within 75 minutes after the ingestion of 150 grams of glucose. If with healthy individuals, the diet be merely albumin and fat, while matters are simplified, it is, nevertheless, as Geelmuyden has pointed out, important to know just how much of each is given, as the acetonuria rises with a decrease in the albumin, by reason, Geelmuyden believes, of the liberation of a considerable amount of carbohydrate material in the metabolism of the albumin, and to large quantities of albumin sparing the consumption of the body fat. Examined from this point of view, the literature offers few satisfactory observations. Geelmuyden's experiments further show in the plainest manner that butter increases acetonuria; also the great increasing effect of inanition, an acetonuria of over 300 milligrams increasing when the total calories were reduced from 3,000 to 700, though the fact was diminished at the same time from about 300 to 30. When more than 100 grams of fat was given, at least 80 per cent., and usually 90 per cent., was absorbed. Geelmuyden further showed that during phloridzin diabetes in a dog, acetonuria increased under sodium butyrate, but was prevented or lowered by a neutral (beef) fat. But no determination was made of the absorption factor. Schumann-Leclerq and Hagenberg also note the increase of acetone excretion after the use of butter.

The relation between fats and acetone excretion in diabetes is universally acknowledged. Thus Schwarz found this increase under the use of butter during a strictly albuminous regimen; Waldvogel, the same following the administration of oil; while Lépine saw an increase in diacetic acid after the use of cream. Grube found butter to have a marked action in the direction of increase; a moderate increase occurred with cream, but none with hog fat. Schwarz's cases were the most thoroughly studied. He concluded that not only butter with its volatile fatty acids, but also other kinds of fat poor in those acids, increase the acetonuria. Butter, he believed, increases it more than fats composed of the higher fatty acids, and oil he thinks acts chiefly by its content of volatile fatty acids. On this Joslin remarks that the first conclusion is amply warranted by the facts, but that the others have to be qualified by the lack of proof as to extent of absorption. Schwarz also studied in diabetics the effects of palmitic and oleic acids, and of sodium stearate, valerianate, caproate, butyrate, propionate, and bicarbonate; but these experiments again are inadmissible as not taking account of all the factors.

To eliminate the foregoing sources of error, Joslin carried out twelve experiments on men, each experiment lasting four days, on the second and third of which nothing was taken but a liter of water. In most cases the stools were examined for fat; in all the acetone was estimated in the breath as well as in the urine. During the starvation days tests were made with oleic, stearic, palmitic, and butyric acids, sodium palmitate and bicarbonate, tristearin, triolein, and glycerin. Joslin considers that his experiments show that conclusions as to the action of various fats (whether neutral fats, fatty acids, or soaps) upon the elimination of acetone are of little value without proof of their absorption. Neutral fats, whether of the lower or higher fatty acids, do not increase acetonuria, their glycerin component sufficing to prevent it. Oleic acid produces marked acetonuria; butyric does not produce such result. The poor absorption of palmitic and stearic acids suffices to explain the negative result obtained in this and other experiments. Sodium palmitate produces a marked acetonuria not explicable merely by the presence of the alkali.

STREPTOCOCCUS AND TETANUS ANTITOXIN INJECTIONS.

DR. VICTOR VAUGHAN, in the *Physician and Surgeon* for May, reviews the reports of recent work on the streptococcus and tetanus toxins. The literature on streptococcus toxin of late has been fairly voluminous, but the results of researches have been unsatisfactory and to some extent conflicting. The most important paper which has recently appeared on the toxin of streptococcus is that of Simon

(*Centralblatt f. Bakt.*, xxiv, 1903). Simon's conclusions are as follows: (1) In the cellular substance of streptococci intracellular poisons can be demonstrated, but their action is relatively weak and uncertain, so much so that the symptoms and the rapidly fatal course of acute streptococcus infection cannot possibly be due to these poisons. (2) The toxicity of the streptococcus cells is not always proportional to the virulence of the strains employed. (3) Streptococci excrete toxins, the toxicity of which is markedly greater than that of the intracellular poisons. (4) The elimination or elaboration of toxin by the streptococcus is independent of the amount of intracellular poison in the cocci. (5) Streptococci are not permanent toxin builders, as are diphtheria and tetanus bacilli, but they require a certain amount of external stimulation, especially that of the bactericidal juices of the body, before they produce soluble toxin. Therefore the condition necessary for the elaboration of a toxin by the streptococcus is that the multiplication of the germ should be interfered with by the antibacterial substances of the animal body. (6) The toxin and the hemolysin of the streptococcus are two different bodies, which owe their origin to different conditions. Furthermore, it is highly probable that the streptococcus produces a hemolysin only when it can no longer elaborate a toxin, that is, when it is overcome by the antibacterial substances of the body.

Vaughan does not altogether agree with the conclusions reached by Simon. As yet, he thinks, we know too little concerning the conditions necessary for the splitting up of the molecules within the bacterial cells. We must ascertain whether or not this molecule which constitutes the essential part of the bacterial cell has certain definite lines of cleavage, and what the conditions are and must be before the molecule will split along such lines. That a streptococcus toxin exists, there can be no doubt. That it is intracellular in origin there are many reasons for believing; but we are ignorant of the conditions under which the toxic part of the bacterial molecule is split off from its other constituents. Until, then, we have the streptococcus toxin in fairly large amount, it will be quite impossible for us to have or produce an antitoxin of definite reliable strength. After commenting upon the various streptococcus antitoxins in use, Dr. Vaughan quotes Ogle's conclusions from his experience with antistreptococcus serum published in *The Lancet* of March 14, 1903: 1. That the greatest symptoms combined with streptococcic infection, even of the blood stream, are not incompatible with recovery if treated by injections of antistreptococcus serum. 2. That this is true also in malignant endocarditis, but that here the chances are probably less favorable on account of the colony of micrococci involved in the vegetations in constant contact with the blood stream. 3. That in malignant endocarditis staphylococci are frequent, or a mixed infection of staphylococci and streptococci: 4. That if an examination of the blood be negative it would be prudent to use injections of both antistaphylococcic and antistreptococcic serum. Concerning the toxin of tetanus Vaughan notes that little has been attempted in the chemistry of this subject in recent years.

As to the action of the toxin some very valuable work has been done. Marie and Morax (Annales de l'Institut Pasteur, 1902, xvi, 818, and May, 1903) conclude that tetanus toxin is absorbed by the peripheral nerves and that this is due to a special affinity between the toxin and the substance of the axis cylinder. Marinesco (Compt. Rend. de la Soc. Biol. 24, 1896) claims to have found by Nissl's method histological changes in the cells of both the anterior and posterior horns of the cord in animals poisoned with tetanus toxin. According to Marinesco, the chief change found consists in enlargement of Nissl's granules. However, according to other investigators, these cell changes are by no means characteristic of tetanus. Babes, in the Supplement volume "Twentieth Century Practice of Medicine," concludes that antiserum inoculations, as they are used to-day in the treatment of tetanus, give unsatisfactory results. He states that inoculations of carbolic acid and brain substance give better results than does the specific treatment.

Behring (Beiträge 3, exp. Therap., 1904, Heft 7) states that the tetanus toxin is probably an albumose, while the antitoxin is a true proteid. This conclusion is reached largely because a solution of the toxin dialyzes much more readily than one of the antitoxin, thus indicating that the antitoxin molecule is much larger than that of the toxin. Furthermore, Behring has shown that when a solution of a toxin is placed inside the dialyzer and the solution of the antitoxin outside, the toxin passes more rapidly outwards than when dialyzed against water or physiological salt solution, or when dialyzed against other than the antitoxic proteids. This, says Vaughan, demonstrates that the antitoxin attracts chemically the toxin, and offers an explanation for the observation that the toxin of tetanus travels centripetally in the axis cylinder.

Vaughan concludes that we must know much more about streptococcus toxin than we do, and must be able to prepare a soluble streptococcus toxin before an antistreptococcus serum of value can be prepared; and further, that there is no satisfactory proof that any of the antistreptococcic sera now employed by the profession have decided therapeutic value. Regarding antitetanic serum, he says there is at present no satisfactory method of standardizing it. When we use the serum we are quite ignorant of the value of the preparation which we are employing. There is, however, no danger apparently of using too much, as it has been shown that antitetanic serum is harmless. Vaughan considers that the prophylactic value of antitetanic serum has been abundantly demonstrated, and he would recommend that prophylactic doses be given whenever the surgeon is called upon to dress a wound which in his opinion might be infected with tetanus bacilli. Indeed, he recommends that a prophylactic injection be given at the time of dressing, and that this be repeated on the third, fifth, and seventh days after the receipt of the wound.

THE IMPROVIDENT HEALTH SEEKER.

There is hardly a question before the practising physician involving greater responsibility in its decision than that of the course to take with the consumptive still in the early stages of his disease and dependent on his own exertions for a livelihood. The health-giving properties of the climate in several regions of the West are so marvelous that the temptation is to disregard all other considerations and to hurry the sufferer as rapidly as possible from his humid and otherwise unsuitable surroundings to

the dry air and sunny weather of Colorado, Arizona, or New Mexico. Of late the tendency has been in favor of the southern localities, since, while the prospects of a cure are just as good, the patient on his return home is not deprived of the additional stimulus to which one living in high altitudes has become accustomed. Phœnix, the center of the Salt River District in Arizona, has become the rallying point of these health seekers, and that their trust is not ill-founded is attested by the fact that a local estimate goes so far as to say that ninety per cent. of those who go to Phœnix in the first stages of tuberculosis have been cured, sixty per cent. of those in the second stage, and ten per cent. of those who had been considered incurable have been restored to health and usefulness.

There is another and very terrible side to the picture, however, and to this Frank D. Witherbee directs attention in an article entitled "Health Drifters of the Great Southwest," appearing in a recent issue of *Charities*. The climate may do much in the way of restoring health, but it is not all-powerful, and according to the estimates of local physicians from two-thirds to four-fifths of those sent to Phœnix are hopelessly incurable and beyond the help of any power on earth. Out of a winter population of fifteen thousand fully five thousand are health seekers, and the streets are filled with them—thin, wretched, homesick, and suffering, and, worst of all, in many cases utterly destitute.

The conditions are not what heedless physicians and relatives think them when they send patients to Phœnix alone and with scant means of support. The sick man is told that all he needs is to get to that country and that there he will be able to support himself by light and healthful work. But what the incapacitated one finds on his arrival is a country already overcrowded with people looking for similar opportunities, and that competition has forced down prices until it is difficult to earn even a mere pittance. The country is essentially a ranching and agricultural one where the rough farming and herding work to be done requires previous training and a healthy body to support its hardships. Board and lodging are high even on the ranches, and the food is rarely of the expensive kind necessary for tuberculous patients. Friendless and alone the despairing patient sees his small reserve fund rapidly consumed, and soon becomes dependent on the charity of strangers in a community that has no interest in him, and where he finds on many sides an almost hardened indifference to his pitiable need. This is not because residents of Phœnix are lacking in the finer feelings which prompt to charitable service, but because the people of the East and Middle West are, by their lack of forethought, putting upon them a burden which in no sense belongs to them. The supervisors say that the poor in the almshouse cost the county $20,000 a year, and three-quarters of this is spent in the care of ailing consumptives, while the resources of the local lodges, the church, and the one free sanatorium are all strained to the uttermost.

The duty devolves upon every physician considering the question of sending a consumptive away from home, to determine first whether the lesion is still slight enough to offer reasonable prospect of cure, and secondly, whether the patient's finances are such as to enable him to secure the comforts his illness requires and which his protracted isolation from home and friends makes doubly needful. Such progress is being made in the home treatment of tuberculosis by careful management and attention to details that one assumes a serious responsibility in sending an invalid into a strange country where there is more than a possibility that he will be exposed to all the horrors of sickness and want in a community so overburdened with similar appeals as to make adequate assistance impossible.

The Fourth Disease.

It required centuries of medical observation of the acute infectious exanthemata, which had always been collectively grouped under the one heading of variola, before Sydenham, in the seventeenth century, separated one type from the other forms and created the new classification of morbilli. Fothergill made the next step when, in the eighteenth century, he segregated another set of cases, which he called scarlatina, and it is only comparatively recently that rubella has become universally recognized as a distinct affection *sui generis*. The question now before the profession is whether further subdivision should be made and the identity of another affection be accepted which shall stand in the same relation to scarlatina as does rötheln to measles. The first observations in this direction to attract universal attention were those of Clement Dukes, who, in 1900 (*Lancet*, July 14), advanced the hypothesis that a mild form of exanthematous affection might be differentiated which closely resembled scarlatina, except in the greater length of the incubation period, the absence of prodromes, and limited period of infectiousness. Other authors, such as Weaver (*Journal of State Medicine*, 1901), promptly came forward with observations of epidemics similar to those described by Dukes, whereas some writers, including Dawson Williams (*British Medical Journal*, December 21, 1901), who described a school epidemic of undoubted German measles, in which morbillous and scarlatiniform types existed side by side, are equally emphatic in considering such a classification as premature.

The picture which Dukes considers as characteristic of the fourth disease, comprises an incubation period of from nine to twenty-one days, and a prodromal stage conspicuous through its mildness, though sometimes headache, loss of appetite, and backache are observed. The eruption is usually the first symptom and covers the entire body in a few hours. It is finely punctate, very slightly raised, and of a pale red color. The conjunctiva and pharynx are congested, but the strawberry tongue is not seen. The cervical glands are swollen, but less so than in rötheln. The eruption fades quickly and is usually followed by a slight desquamation, which may, however, be quite pronounced. Renal complications are unusual, the systemic disturbance is only slight, and rapid pulse and high temperature are uncommon. The patient can get up on the fifth to sixth day, and the period of infectiousness is over in two to three weeks.

Bokay (*Deutsche medizinische Wochenschrift*, October 20, 1904), who is a believer in the disease as a separate entity, refers to the publication of an observation in point as long ago as 1885 by a Russian pediatrist, Filatow, who has since died. This author recognized a separate group, and gave to it the name of rubeola scarlatinosa, saying that it was characterized by a scarlatiniform eruption, but was distinguished from scarlatina by its uniformly mild course and by peculiarities of the contagium. Bokay says that the fourth disease can be definitely accepted only when observations of such epidemics

have been reported in which children who have already had scarlatina and measles are not immune, and in which the patients are not protected against subsequent infections with these two diseases. If then the condition is received into the family of the exanthemata, he makes the suggestion that it should be given the name of the Filatow-Dukes disease—just as though there were not more than enough eponyms in medical terminology already.

The Treatment of Cancer.

In spite of the fact that nothing is really definitely proven as to the origin of cancer, Dr. Robert Bell, formerly of Glasgow, and now of London, reiterates his belief that he has discovered a means of successfully combating all forms of malignant neoplasms.

He dismisses the parasitic or microbic theory of malignant disease as a myth, and gives as his opinion that the adventitious bodies which have been recognized in cancerous tissue are a result of morbid metabolism rather than of cell activity. He believes that while cancer is not hereditary, yet that the physiological conditions which tend to its development are inherited, and that in the pathogenesis of malignant disease the power of the thyroid gland has been overthrown in one way or another.

Dr. Bell mentions, as a support to this theory, that Dr. Lorand of Carlsbad has ascertained that cancer has in many instances been found associated with atrophy of the thyroid, whereas in diabetes this gland is frequently observed to have undergone fatty degeneration. The causes at work which tend to interfere with the physiological reciprocity of the thyroid, the writer names as, in the first place, the toxic effects of a continuously contaminated blood supply, which is bound to interfere with the functional activity of every organ of the body. Then, he thinks, when the fact is borne in mind that the thyroid gland inhibits to a large extent the injurious effect due to the absorption of fetid matter, which in constipation is derived from the colon, the conclusion cannot but be that, if the amount of this poisonous material is in excess of what the thyroid can render harmless by its inhibitive power, the gland itself must necessarily suffer in conjunction with other organs which are thus made dependent upon a vitiated blood supply. Injudicious diet and overeating, and the presence in excess of highly nitrogenous food is pointed out as a contributing cause.

The treatment recommended by Dr. Bell is founded upon his belief that some species of saccharomyces, which is invariably present when cancer has manifested itself, is an important factor in the pathogenesis of the growth. This fungus has the power to a limited extent of producing fermentation in saccharine fluids. But when it is coexistent in the blood with an excess of nitrogenous impurity, it would appear to be able to tell much more energetically as a ferment, or at all events as a chemical agent, and by its catalytic effect in propagating itself to act upon the foreign material contained in the blood, transforming this into uric acid or a substance closely allied to this.

Arguing thus, Dr. Bell contends that our first duty is to adopt measures which we know have a destructive effect upon the fungus above mentioned, and he invariably supplements treatment by thyroid extract, by giving in conjunction with it 15 grains of salicylate of sodium three times a day. The latter part of the brochure by Dr. Bell chiefly consists in an arraignment of the *x*-rays in the treatment of cancer, and he concludes by expressing the opinion that overeating and drinking, whereby the various organs of the body are overtaxed, are accountable for very many diseases to which mankind is susceptible, and this to an extent of which few have any conception.

The Hygienic Condition of the Subway.

The atmospheric conditions in the subway seem suddenly to have improved. A week or two ago we were told the percentage of oxygen at the stations was lowered from twenty nearly to twelve, and a ride in the leisurely express trains was said to induce such an air-hunger as to raise the number of respirations to twenty-five or thirty in the minute. The results of various analyses of the air, made by practising physicians, druggists, and amateur sanitarians, were published, and all showed that the Harlemite took his life in his hands when he rode on the asphyxia line. Finally a chemist made an analysis of the air at numerous points in the subway, and found that the percentage of oxygen was very little below that at the surface, and practically the same as that in the average well-ventilated dwelling. Prof. Chandler's report is somewhat optimistic, and we cannot agree with all his conclusions, but the facts regarding the comparative purity of the air three weeks after the subway was opened are undoubtedly as stated and are essentially reassuring. But we were told, further, that while the danger of asphyxiation was great, that of acquiring any one of a number of infectious diseases was greater. The dark tunnel was represented as one gigantic culture-tube, in which all forms of pathogenic bacteria swarmed and pullulated. It is true many bacteria grow better away from the light, but they also need other conditions which the subway does not furnish. We have not seen any reports of culture experiments made after exposing plates in the underground stations, but we question whether the results would show more germs below than at the level of the city streets. Until a scientific investigation of this sort has been made, all talk on the subject is pure speculation.

The hygienic conditions in the subway are, of course, not ideal; neither are they on the elevated road, nor elsewhere in any large town. They will probably tend to grow worse than better, unless great care is taken, but that again is true of health conditions in general in any crowded city. It is manifestly the duty of the public health officials to study the sanitary conditions of the subway, and to insist upon their betterment whenever this is possible and practicable, and we may trust the present efficient health commissioner to do this. In the meanwhile, the citizens of New York can go about their business, under ground or above it, calm in the assurance that the microbe is not the only factor in disease, and that the human organism is so constituted that it can usually adapt itself to the changing conditions of its environment, whatever these may be, unless they are overwhelmingly bad—and such they are not yet in the subway.

The Goose Step.—Every one witnessing a military review in Germany or Austria for the first time must have been impressed by the peculiar stiff-kneed, slamming step adopted on parade by the infantry. At the Congress of Naturalists and Physicians, which recently met in Breslau, this "goose-step," as it is popularly called, was strongly condemned. Dr. Thalwitzer read a paper on the subject in which he showed that the adoption of this ridiculous step accounts for numerous knee and foot complaints among the troops. Sixty per cent. of the sores on the feet of the men are in consequence of persistent adherence to this antiquated step.

News of the Week.

Incorporation of the American Medical Association.—A petition is being circulated among Chicago physicians asking for a special act of Congress incorporating the American Medical Association. The change is said to be merely a nominal one for the sake of business convenience, as the association is not incorporated in several States in which it has membership.

The Middleton Goldsmith Lecture of the New York Pathological Society will be delivered at the New York Academy of Medicine, on Wednesday evening, November 30, at 8:30 o'clock, by Dr. Charles Wardell Stiles, Chief of Division of Zoology, Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service. Subject, "Zoological Pitfalls for the Pathologist."

Red Tape Binds the Pneumonia Commission.—The committee appointed at the instance of the Health Commissioner of New York to investigate the subject of pneumonia, its cause and prevention, is seemingly to be seriously hampered in its work by the action of the Municipal Civil Service Commission. At the preliminary meeting, held not long since, the committee reported that it would be necessary as a first move to employ physicians in Baltimore, Philadelphia, and Boston to gather data and make reports for comparison. A salary of $100 a month each was recommended. The Municipal Civil Service Commission, however, declined to authorize such appointments, unless the physicians in question would present themselves to the board in this city and pass a regular civil service examination.

Microscopical Exhibits at the Natural History Museum.—The directors of the American Museum of Natural History have added to the other collections in the new hall of invertebrates a large series of microscopes with slides containing mounted specimens of some of the minute organisms which represent the lowest forms of animal life, such as are found in stagnant water, and in some pathological conditions. The intention is to supplement this collection by a series of bacteriological specimens.

An Antivaccination Revolution.—The city of Rio de Janeiro has been placed under martial law for thirty days, in consequence of rioting on November 13, ostensibly in opposition to a compulsory vaccination law, recently enacted. Military and naval detachments were called upon to restore order. Seven persons were killed and thirty others wounded. It is believed that the opposition to vaccination was only a pretext for disorder, and that the disturbances were really instigated by discontented politicians.

Dr. Simon Baruch, of this city, delivered an address on "Fallacies, Aims, and Methods of Hydrotherapy in Fevers," at a meeting of the Medical Society of the City Hospital Alumni of St. Louis, on November 17. The discussion was participated in by Drs. Barker, Deutsch, Jacobson, Smith, Shattinger, and others.

Civil Service Rules in the Cook County Hospital. Application for an order enjoining the Cook County (Ill.) authorities from placing members of the medical profession under civil service rule, was made before Judge Dunne, November 17, and resulted in a pledge by County Attorney Wilkerson that the examination for membership on the county hospital staff would be postponed indefinitely. The court expressed the opinion that the county board had exceeded its authority in attempting to hold an examination for the attending physicians. The applicants for the injunction included many representatives of the three different schools of medicine. The opinion of Judge Dunne was based on an Illinois statute providing that all civil service examinations within the State shall be open to "all citizens of the United States," with definite restrictions on residence, age, health, and moral character. He sustained the contention of attorneys representing the petitioners that the examinations for physicians were limited to persons of a particular class, and therefore would be a violation of the statute.

Civil Service Examination for Physicians.—Open competitive examinations will be held in various cities throughout the State, December 3, 1904, for the following positions: *Resident Physician,* State Industrial School, Rochester; $1,500 and maintenance. Candidates must be licensed medical practitioners of New York State and have had at least one year's experience on the staff of a public general hospital. Subjects of examination and relative weights: Materia medica and therapeutics, theory and practice, surgery, hygiene and sanitation, pathology and diagnosis, hospital management, 7; experience, education, and special training, 3. *Fourth Grade Physician.* This examination is intended to provide eligibles for the position of Medical Interne and other medical positions of similar grade in the State hospitals and other State and county institutions. The usual salary is $600, with maintenance, including quarters, board, laundry, etc. It is open to men or women who have graduated within three years from a registered medical school. Candidates of the Homœopathic school will be admitted without regard to date of graduation. Candidates may be either non-residents or residents of New York State, and a license to practise is not required. Subjects of examination and relative weights: Written examinations covering anatomy, physiology, chemistry, materia medica, therapeutics, obstetrics, surgery, theory and practise, 8; education, experience, and personal qualifications, 2. In order to be eligible for appointment, candidates must obtain a minimum standing of 60 per cent. on the written examination and 60 per cent. on education, etc., and a general average of 75 per cent. The medical service of the State comprises the sixteen State hospitals, with about 160 salaried medical positions, and about thirty positions in the Pathological Institute, the Craig Colony for Epileptics, and other institutions. All higher medical positions, from assistant physicians at $1,200 to $1,500 and maintenance, to superintendents at $3,500 to $4,500 and maintenance, are filled by promotion through regular grades from that of sixth grade or junior physician. Persons desiring to enter these examinations must execute applications on forms supplied by the Commission and file them in the office of the Commission before noon of November 28. Application blanks and further information regarding the character of the service and the nature of the examination for Fourth Grade Physician may be obtained by personal or written application to the superintendent of any of the State hospitals, of the Institution for Feeble-Minded Children, Syracuse, the State Custodial Asylum, Rome, the Craig Colony, Sonyea, the director of the Pathological Institute, Ward's Island, New York, or the Chief Examiner, State Civil Service Commission, Albany, N. Y.

New York and New England Association of Railway Surgeons.—The fourteenth annual meeting of this society was held at the New York Academy of Medicine, November 17, the first vice-president, Dr. G. P. Conn, of Concord, N. H., in the chair. The following officers were elected for the ensuing year: *President,* Dr. G. P. Conn, of Concord, N. H.; *First*

Vice-President, Dr. J. P. Creveling, of Auburn, N. Y.; *Second Vice-President,* Dr. Henry T. Dana, of Cortland, N. Y.; *Secretary,* Dr. George Chaffee, of Brooklyn, N. Y.; *Treasurer,* Dr. J. K. Stockwell, of Oswego, N. Y.; *Assistant Secretary,* Dr. Clinton B. Herrick, of Troy, N. Y. The morning session was devoted to the symposium on "Surgical and Relief Service on Railways," the following contributing: Dr. R. S. Harnden, Waverly, N. Y.; Dr. G. G. Thomas, Wilmington, Del.; Dr. D. S. Fairchild, Clinton, Iowa.; J. D. M. Hamilton, Esq., Topeka, Kan.; Dr. J. P. Kaster, Topeka, Kan.; L. L. Gilbert, Esq., Pittsburg, Pa.; W. C. Wilson, Esq., New York, and Sanders McDaniels, Esq., Atlanta, Ga. On the day following the meeting, Dr. Howard Lilienthal gave a general surgical clinic at the new Mount Sinai Hospital, in the morning, and Dr. A. J. McCosh, at the Presbyterian Hospital, in the afternoon.

The American Public Health Association.—The thirty-second annual meeting of this association will be held at Havana, Cuba, on January 9-13, 1905, under the presidency of Dr. Carlos J. Finlay. The executive committee has selected the following topics for discussion, but papers upon other sanitary subjects will be received: 1. Purification and Preservation of Water Supplies. 2. Disposal of Sewage and Industrial Wastes. 3. Animal Diseases Common to Man. 4. Etiology of Yellow Fever. 5. Tuberculosis. 6. Plague. 7. Demography and Statistics in Their Sanitary Relation. 8. Infectious Period of Communicable Diseases. 9. Public Health Legislation. 10. Causes and Prevention of Infant Mortality. 11. Disinfectants and Disinfection. 12. Teaching of Hygiene and Granting of Diploma of Doctor of Public Health. 13. The Sanitation of Travel. 14. The Tenement House Problem. 15. Methods to Control the Milk Supply of Large Cities. 16. Hygiene of Dress. 17. Sanitary Agreement Between Adjoining Nations. In the Section of Bacteriology and Chemistry, the subjects for discussion will be: 1. Standard Methods of Water Analysis. 2. On Diagnostic Procedures. 3. The Significance of Bacillus Coli in Water Supplies. 4. On Bacillus Tuberculosis in Man and Animals. 5. On Laboratory Tests of the Efficiency of Water Filters. 6. Action of Formaldehyde as a Disinfectant. 7. On Antitoxic and Immunizing Sera. 8. The Relation of Protozoa to Disease. 9. Varieties and Action of Anærobic Bacteria in Sewage. 10. Standard Methods for the Identification of Bacterial Species.

The Southern Surgical and Gynecological Association.—The seventeenth annual meeting of this association will be held in Birmingham, Ala., on December 13, 14, and 15, under the presidency of Dr. Floyd W. McRae, of Atlanta. The memorial to the late Dr. Davis, of Birmingham, will be presented to the city by the association. The address of presentation will be made by Dr. C. M. Rosser, of Dallas, Texas; the address of acceptance on behalf of the State of Alabama, will be made by Governor R. M. Cunningham, who is a medical man, and that on behalf of the city of Birmingham by the Hon. W. M. Drennan. The preliminary programme contains the titles of thirty-six papers. All communications regarding the presentation of papers should be sent to the secretary, Dr. W. D. Haggard, 302 North Vine street, Nashville, Tenn.

Charity Reforms in Illinois.—At the meeting of the State Conference of Charities, held November 16, at Rockford, Ill., what the conference of charities wants of the State legislature was outlined in brief by the resolutions adopted. Most of the provisions look to legislative action. Some can be obtained without the aid of the general assembly, but with the coöperation of the authorities. The resolutions recommend the transfer of the Dunning Asylum of Cook County from the care of the county to that of the State; the transfer of all insane patients from the various county poor-houses to the State institutions; the substitution of a more modern system for the present grand jury system; the establishment of an epileptic colony, and an appropriation for that purpose from the State legislature; investigation and correction of all faulty tenements and dwellings in Chicago; passage of a bill compelling the disinfection of houses in which there has been a death from consumption; more adequate appropriation for the State Factory Inspector's office, to enable a more rigid enforcement of the laws pertaining to space and light; and finally, custody of all feeble-minded children by the State.

Nurses Return from Japan.—Dr. Anita McGee and her eight associates, of the American Red Cross Society, who arrived in San Francisco on November 17, say that they were honored in every possible way during their stay in the country, by the officials and representatives of the Japanese army. Before they left, a farewell reception was given them, at which a large number of dignitaries were present. The way they performed their duties in the hospitals is said to have won the highest praise from the surgeons at Hiroshima, the receiving hospital for all the Japanese wounded in the war, where they were stationed.

Martyr to Medical Science.—Information has reached Mexico City to the effect that Dr. Zaldo Gocchi has died of yellow fever at Merida. He was sent by the Italian government to study the disease, and contracted it himself in the course of his investigations.

Smallpox in Washington.—One of the employees of the Department of Commerce and Labor was taken ill on November 15, with what was discovered to be smallpox. As the man had been about the department for four or five days, complaining of feeling ill, much apprehension is felt by the other employees, who have all been vaccinated.

Hospital Interne in Court.—A member of the house staff of one of the large hospitals of this city was last week held in $500 bail, in the West Side Court, for an alleged assault upon a lawyer's clerk. The latter was making inquiries in behalf of a woman who is suing the hospital for damages for an autopsy upon her husband, said to have been made without proper authorization.

Delirious Patient Leaps from Bellevue Windows.—A patient suffering from pneumonia plunged through a closed window at Bellevue Hospital, a few days ago, to the pavement, twenty feet below. He sustained a fracture of the skull.

A Proposed War on the Opium Trade.—Secretary Hay gave a hearing, recently, to a committee of the International Reform Bureau, on a petition asking this government for diplomatic action toward a world movement for abolishing the opium traffic in China. Secretary Hay promised the committee to lay the matter before the President.

New York Orthopedic Dispensary and Hospital.—Dr. Russell A. Hibbs will give a course of clinical lectures on orthopedic surgery at the Institution, on Tuesday and Thursday afternoons, at 4 o'clock, from December 6 to January 5, both inclusive. The course will be free to the medical profession and students.

Hospital Founded at Muskegon, Michigan.—Hackley Hospital, Muskegon, Mich., was dedicated, November 17, with a gift of $220,000 by Charles H. Hackley. Mr. Hackley had already endowed the

institution with $100,000 in six per cent. bonds. He has also donated $40,000 for the establishment of four free beds.

Condemnation of the Division of Fees.—At a recent meeting of the Council of the Chicago Medical Society, Dr. Arthur Dean Bevan offered the following resolution which is to be voted on at a subsequent meeting and then, if adopted, to be incorporated as an amendment to the Constitution: "Any member who is guilty of giving or receiving a commission, or of entering into any arrangement for the division of a fee for professional services, which arrangement is not known and fully understood by the patient or party by whom such fee is paid, shall be guilty of unprofessional conduct."

Hospital Ships Sunk at Port Arthur.—A refugee from Port Arthur has reported that on October 30, two hospital ships in the harbor, and on November 1 a third, were struck by the indirect fire of the Japanese, and sank immediately. All on board the three vessels were lost.

The War Against Tuberculosis.—The Board of Directors of the National Association for the Study and Prevention of Tuberculosis held a meeting, last week, in the United Charities building, in this city. Dr. William Osler presided. The plan of organization for the first annual meeting of the association was discussed. This will be held in Washington, the third Tuesday in May, 1905. It was decided to appoint an advisory committee of prominent physicians and laymen throughout the United States. It was also decided to appeal to philanthropic people throughout the country for contributions. The association wishes to have it understood that not only physicians, but all laymen, should be interested in the movement. The help of municipal bodies throughout the country will be sought.

Adulterated Milk for Jersey City.—Dr. Gordon K. Dickinson, president of the Jersey City Health Board, is reported as saying that the board has found it impossible to stop the sale of adulterated milk in that city, and that it will accordingly give up the fight. He said that the board had done its best to prevent unscrupulous dealers from doctoring their milk with formaldehyde to preserve it, but it was impossible to secure juries that would punish dealers who sold milk not up to the standard.

Dr. E. J. Brown has been appointed professor of histology in the Chicago Eye, Ear, Nose, and Throat College.

Bequests to Hebrew Charities.—Mr. Solomon Rothfeld, who died on November 3, made a number of charitable bequests, among which were the following: To Mount Sinai Hospital, $5,000; $1,000 to the German Hospital and Dispensary; $2,000 to the Montefiore Home for Chronic Invalids; $1,000 to the Hebrew Benevolent and Orphan Asylum; $1,000 to the Home for Aged and Infirm Hebrews; $1,000 to the United Hebrew Charities of the City of New York; $500 to the Colored Home and Hospital; $1,000 to the Educational Alliance of this city; $1,000 to the Beth Israel Hospital Association, at Jefferson and Cherry streets.

The Late Dr. Pryor.—The Faculty of the New York Polyclinic Medical School and Hospital, through its committee, appointed at the annual meeting, held November 10, 1904, adopted the following minute: "That the death of Doctor William Rice Pryor, Professor of Gynecology in the New York Polyclinic Medical School and Hospital, which occurred on August 25, 1904, was a great loss and sorrow to the Faculty of the Polyclinic, and to his many friends. Graduated from Princeton College in 1878, from the College of Physicians and Surgeons in New York in 1881, and from Bellevue Hospital in 1882, Dr. Pryor was particularly well equipped for his life work, and the eminent position he attained in the special branch of medicine to which he gave his attention was due in no small degree to this thorough preparation. His ability, perseverance, originality, and thoroughness were recognized by all who knew him, and will always serve as a stimulus to his fellow workers. Throughout his entire career he was in the highest sense the friend of the needy and the afflicted. The amount of time he devoted to charity work was enormous, and in many instances, where those under treatment could not afford to pay for little delicacies needed, he supplied them from his own purse, besides giving his services free. His attention to details and his personal supervision and care of those he treated was most painstaking. His services to the Polyclinic were most valuable. Appointed as Clinical Assistant to the Chair of Gynecology in 1886, he filled all the intermediate positions most creditably until, in 1895, he was made full Professor of Gynecology. His clinics drew students from all over the country, and his writings attracted marked attention both at home and abroad. He was a frequent contributor to medical literature, and shortly before his death had completed a text book of gynecology. We assure his bereaved family of our deepest sympathy, and do hereby resolve that this record be inscribed at length upon the minutes of the Faculty, that it be published in the medical journals, and a copy, suitably engrossed, be sent to the family of our late colleague. Signed, W. R. Townsend, Chairman, J. Riddle Goffe, Brooks H. Wells, Committee."

Obituary Notes.—Dr. Hunter A. Bond, of this city, died on November 13, at the home of his parents in Petersburg, Va. He was a graduate of the Bellevue Hospital Medical School in the class of 1891, and had for twelve years been on the medical staff of the Manhattan State Hospital on Ward's Island.

Dr. H. H. Woods, probably the oldest man in Missouri, died recently at Granby, in that State. He is said to have been born in New York State, in 1800. He resided in Granby fifty years, thirty in active practice, and the remaining twenty years managing a drug store.

Dr. Henry Moore Humphrey died in Dresden, on November 13, at the age of eighty-three years. He had been in failing health for the past two years, death being due to gastritis. He was born in Philadelphia, his father being Dr. Gideon Humphrey, a prominent physician of that city in the early part of the last century. He was a graduate of the College of Physicians and Surgeons in New York. He practised his profession for a few years, and then became interested in finance. He was the cashier of the Ninth National Bank of New York, and later founded the National Bank of Stamford, Conn., and was its first president. For the last twenty years he had lived the greater part of the time in Europe.

Dr. Benjamin F. Sides died at Furniss, Lancaster County, Pa., in November, at the age of eighty-two years. He was graduated from Jefferson Medical College in the class of 1871.

Dr. Thomas M. Drown, president of Lehigh University, died at Bethlehem, Pa., on November 16, at the age of sixty-two years. He was graduated from the medical department of the University of Pennsylvania in the class of 1863, and he entered the

United States army as a surgeon. At the close of the war, he pursued his studies abroad, and on his return to this country became instructor in metallurgy in Harvard College. From 1871 to 1881 he was professor of chemistry in Lafayette College. For ten years he occupied a similar chair in the Massachusetts Institute of Technology, whence he went to Lehigh University, in 1895. From 1887 to 1895 he was chemist to the Massachusetts State Board of Health, and, since, consulting chemist.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MILK AND TYPHOID IN COURT—PAROTITIS—LEUCOCYTOSIS—TOTTENHAM HOSPITAL—LEPER ASYLUMS AND HOMES—THE LATE DR. RUSSELL—DR. ROSS.

LONDON, November 4, 1904.

ONE of the large dairy companies has been cast in damages £106 for the sale of milk alleged to have caused death from typhoid. In the summer of 1903 there was an outbreak of typhoid at Ealing, which the several inspectors and others traced to the milk supply of the company. A customer of long standing lost his wife in the epidemic, and sought to recover the expenses caused by her illness and the injury from her death. The action began on Monday and closed yesterday, when the jury, without leaving the box, gave the verdict for £106. There was a regrettable difference of expert medical opinion between the two sides, but even the defense had to admit the case was suspicious. The judge, in summing up, said he had never known a case in which the evidence called for the defendants did more damage to their case. It appeared that not a drop of milk came from where the dairy was supposed to be, and had not for many years, and the judge doubted if any ever had. They went to a district where the water was admittedly bad, and had therefore been carrying on business under false pretenses, he did not say illegally false, but certainly morally false.

It is certainly discouraging that a company, founded with a great flourish of trumpets for the purpose of ensuring complete protection from contamination, should have been shown to be blameworthy. It is strange that with their vaunted system of inspection of farms from which their supply was taken they should have accepted one where the water was so bad that they put in the contract it should be brought daily in carts from a spring three miles distant. When this fact transpired, the judge asked whether a farmer who had a well on his farm was likely to send three miles for water. Being told that he had contracted to do so, and the witness believed he had, his lordship remarked, "Well, wonders will never cease." It seems clear the company's inspections were not what they should be. But what about milk from farms where no kind of check is in force?

Parotitis offers an interesting field for investigation, and perhaps of speculation, especially as its pathology and the possibility of preventing its occurrence under the circumstances which commonly accompany its appearance. At present those who are agreed that symptomatic parotitis is due to secondary infection, are by no means agreed as to the path of infection—some maintaining that it is through Stenson's duct, while others hold that it is through the blood stream. These divergencies were well seen at the Medico-Chirurgical Society's meeting on the 25th ult., when two papers were read and discussed on the subject.

The first of these was by Mr. Rupert Bucknall, and was illustrated by a series of lantern slides showing the blocking of the ducts of the gland, while the blood-vessels remained free. The previously published evidence in favor of the view of duct infection was thus strengthened, and a study of six successive cases of secondary parotitis added as further proof. From this Mr. Bucknall went on to argue that parotitis might be prevented. Experiments go to show that the healthy parotid cannot be infected by smearing the orifice of the duct with microorganisms or by passing them into its lumen or even through a fistula. On the other hand, such experiments will lead to parotitis when the vitality of the animal is depressed by starvation or otherwise, or when the secretion is abnormal, or if the organisms introduced are excessively numerous or virulent. Clinical evidence was added to show that in secondary parotitis the predisposing conditions of duct infection are present—the dry mouth, the diet, the drugs (opium, etc.). To the avoidance of these conditions, it was held, we must look to prevent the occurrence of secondary parotitis.

The second paper was by Dr. B. N. Tebbs, who regarded secondary or metastatic parotitis as a complication rather than a disease *sui generis*. It mostly occurs as a sequel to abdominal operations or disorders, and to some specific fevers, but is also met with as a complication of other diseases. Dr. Tebbs based his paper on seventy-seven cases, of which sixty-four were observed in St. George's Hospital. He thought some cases septic, others toxic, and others again, perhaps, vasomotor. In septic cases he held the infection to be through the blood stream, not through the mouth, on the ground that they were closely associated with other septic states, especially those of abdominal or pelvic origin, the severity of the parotitis varying with the intensity of the other infections. Further, parotitis is less frequent since antiseptic surgery is practised; the socia parotidis is only involved after the main gland and the complication cannot be prevented by disinfecting the mouth.

Mr. S. Paget admitted that some cases might be infected through the blood stream, but Mr. Bucknall's sections proved that it was mostly through the duct. Mr. Malcolm also held that the sections were conclusive. He added that he had seen parotitis follow abdominal operations when there was no sepsis, and he had found the orifices of Stenson's ducts inflamed in such cases. Mr. McAdam Eccles suggested that both views might be correct. He had seen parotitis follow severe intestinal hemorrhage. Mr. Mummery said that the specific gravity of the blood was shown by Prof. Sherringham to be raised after abdominal operations and that would account for dry mouth and tendency to duct infection. Dr. Hawthorne mentioned two cases following hæmatemesis, but he admitted that the sections exhibited proved that infection might take place through the duct.

The diagnostic value of leucocytosis, though much insisted on by some, is hardly yet generally recognized and its limitations are such that even with rapid accumulations of facts much caution is required in formulating conclusions. The subject was, therefore, a good one for the discussion introduced by Dr. J. H. Drysdale, at the Medical Society, on the 24th ult. He pointed out that personal variations were often as great as pathological ones. The conditions of pregnancy and parturition, of the digestion, etc., had to be considered; age, also. In pathological leucocytosis the increase may be due to any variety or to a combination of varieties of leucocytes. The term leucocytosis is more commonly used to denote polymorphic, but a differential count is essential. Polymorphonuclear leucocytosis is found in many pyogenic infections, in certain specific fevers, in some toxic states, secondary anæmia (especially post hemorrhagic), and in prolonged cachexia. The causes may be grouped as inflammatory, toxic, cachectic, and anæmic. Allowing for physiological variations, 10,000 probably, 15,000 certainly, must be considered pathological. In the detection of appendicitis the occurrence of leucocytosis was said to be of value, but not in its differentiation from pyosalpinx. Pus may be present without it; above 15,000 indicates severe sepsis.

Dr. A. E. Wright did not accept Ehrlich's theory of hæmotaxis. Experimentally, leucocytosis could be produced by injecting irritating substances into the blood; or by supplying the blood with pabulum for the formation of the leucocytes. In the latter course white cells were formed up to the limit of the nutriment supplied, not further. Dilution of the blood might neutralize the value of the count.

On this point Dr. C. G. Watson remarked that dilution would not account for differences in the kinds of leucocyte found. In tuberculous peritonitis there is no leucocytosis; in septic there is. He thought a long series of progressive counts in appendicitis would be of value.

Mr. G. E. Gask said leucocytosis was in no way pathognomonic by itself of deep-seated suppuration, but in conjunction with other signs was important.

Dr. John Broadbent commented on the relative proportion of the several leucocytes and the value of differential counts. The phagocytic function should not be overlooked.

The Tottenham Hospital has had a successful career. It was founded in 1869 and its annual dinner took place on Wednesday evening, when more than £4,000 was contributed. Last year 1,000 in-patients were treated and 19,000 out-patients. The latter seem in excess of what ought to be the requirements at Tottenham. There are 73 beds and the committee want to add 50 more. King Edward's fund has granted £4,000 and the Drapers Company £5,000.

During the last two years sixteen new asylums or homes have been added to those already established by the Mission to Lepers in India and the East. To sustain these and to mark the 30 years' work a fund of £8,000 is being raised.

One of the most eminent of our sanitarians, Dr. James B. Russell, of Glasgow, died on the 22d ult. You will know him by reputation, for he had been regarded as in the foremost rank of sanitarians for the last thirty years. He occupied a seat on the local government board for Scotland in 1898, though he declined it some four years previously. He represented Scotland on the Royal Sewage Commission. He was M.D., 1863, Glasgow, and received from his university the honorary LL.D. in 1885. He

had been president of the Royal Philosophical Society, and for a whole generation was held in the highest esteem by his fellow citizens, as well as by his professional brethren. In 1899 the London College of Physicians awarded him the Bissell-Hawkins medal for zeal in promoting public health. Four years previously the British Medical Patrick Stewart Prize, of £50, was awarded him for his works on the prevention of disease, etc. He was not only a worker, but a great inspirer of others, so that much of their work owed its origin to him. His most intimate friends knew that his failure of health spoken of outside their circle would have but one termination, but to those who were not aware of it the sudden close gives a sense of shock at the loss Glasgow and sanitary science have sustained.

Deputy Inspector-General Ross, R.N., died on Monday, at the age of 81. He served through the New Zealand war of 1846-48, and received the medal. In 1861 he was in the *Virago* at the capture of Chilean pirates in the Straits of Magellan. In 1853 he was in medical charge of exploring expeditions across the Isthmus of Darien, and in relief of the lost U.S. exploring expedition, for which he received the thanks of the U.S. Navy Department. In 1854 he was at the bombardment of Petropavlovsky, and landed in the attack on that settlement. He served in the Black Sea and the Sea of Azof in 1855, and in India and Burma during the mutiny. A Greenwich Hospital pension was awarded to him in 1895.

OUR PARIS LETTER.

(From Our Special Correspondent.)

TREATMENT OF PHLEBITIS—PROPHYLAXIS IN MALARIA—RÔLE OF THE TRICHOCEPHALUS IN TYPHOID FEVER—FRENCH SURGICAL CONGRESS—FRENCH UROLOGICAL CONGRESS—DEATH OF PROFESSOR TILLAUX.

PARIS, October 28, 1904.

At the Académie de Médecine, Reynier spoke in opposition to the treatment of phlebitis advocated by Lucas-Championnière in a former meeting. Lucas-Championnière recommended substituting for rest and immobilization, methodical movements and massage as the treatment of choice. Reynier cited observations on cases of phlebitis in which fatal embolism had occurred immediately after voluntary or passive motion. He concluded by saying that in the case of old phlebitis even exaggerated carefulness should always be the basis of treatment. At the beginning of phlebitis, immobilization, later, absence of fatigue, serve, more than massage or passive movement, as protection from the dreaded embolism.

Laveran has been making some interesting investigations in regard to the contagium and prophylaxis of malaria in Madagascar. He called attention to the intimate relation between the presence of the anopheles and malaria. Prophylaxis should, then, consist in exterminating mosquitos. It is to be considered that one of the important factors in the development of mosquitos is the method of rice culture. After harvest, the natives leave the rice stalks to rot in place so as to act as fertilizer, but the resulting stagnant water becomes a good soil for the growth of mosquito larvæ, and, in consequence, a means of disseminating malaria. Laveran proposes as a means of combating the cause of infection, drying of the rice fields after harvest, and the cultivation of rice in running water. Moreover, he proposes protection of houses during the nights by metal screens in the windows, and also free distribution of sulphate of quinine for prophylaxis and cure.

Professor Blanchard read a paper by Dr. Guiart on the rôle of the trichocephalus in the etiology of typhoid fever. The author thinks that the intestinal parasite, the trichocephalus, is, in a majority of cases, a cause of typhoid fever: an indirect cause, however, for, fastening itself deeply in the intestinal mucosa, by its tapering anterior extremity, the parasite at the same time makes a wound through which the bacteria enter, thus causing an infection. The bacillus of Eberth is none the less specific, but, according to the author, so long as the intestine is free from parasites, one can drink with impunity water contaminated with the bacilli. On the other hand, if this same water is taken into an intestine in which there is the trichocephalus, it is by means of the wounds made by this parasite that the bacilli penetrate and infect the whole system.

The seventeenth Congress of Surgery was opened in Paris, October 17, with the President of the Republic present, and Professor Pozzi presiding. A number of foreigners took part in this meeting, and among them were Professors Bergmann and Sonnenburg of Berlin, Czerny of Heidelberg, Mikulicz of Breslau, Kocher of Berne, Fargas of Barcelona, Thiriar of Brussels, Roux of Lausanne, Ceccherelli of Parma, and Tilanus of Amsterdam. Three questions formed the program: 1. Surgical treatment of cirrhosis of the liver, Montprofit of Angers being the first speaker. 2. Examinations of the blood in surgery, Tuffier of Paris opening the discussion. 3. Traumatic separation of the epiphyses, Kirmisson being the introductory speaker. In the first meeting there was a discussion concerning the treatment of cancer in general. Tuffier, claiming good effects by the action of Röntgen rays on limited cutaneous epitheliomata, stated that he had not been able to obtain any result by the action of these rays in deep visceral cancers. He still thinks that the only treatment for deep visceral cancers is surgical, namely, excision, as complete as possible, of all cancerous masses.

Dr. Calot of Berck described an attempt to find a better method of obtaining extension of the spine in Pott's disease. He proposes making an opening in the dorsal part of the plaster apparatus, at the level of the affected vertebræ, about the size of the hand, through which are introduced, between the gibbosity and the apparatus, thirty squares of wadding, about a centimeter in thickness, held at the proper level by a band of moist gummed muslin. Every three or four months three or four squares of wadding are added. This compression is as vigorous as could be desired, and, at the same time, is very gentle. It is, therefore, both effective and well tolerated.

Morestin cited an interesting observation on a perisplenic hæmatocele following traumatic rupture of the spleen. It occurred in a man who had had intermittent fever, and whose spleen, friable in consequence, was ruptured by traumatism. Hæmatomata had formed which were encysted, and were afterwards removed by laparotomy.

The Congress of Urology, which is a part of the Surgical Congress, held its meetings at the same time. A number of foreign specialists took part in these meetings, among whom were Professor Casper of Berlin, and Drs. Nicolish of Trieste, Heresco Bardesco of Bucharest, Guizy and Kallienzies of Athens. The question for discussion was prostatectomy. Two papers were presented, one by Proust of Paris, and the other by Escat of Marseilles. These papers gave a history of the operation to date, showing the comparative values of the perineal route and the abdominal transvesical route, and giving the indications and contra-indications to operation. Among the contributions at this congress, one of the most notable was that of Luys of Paris, who showed the practical application of his urethroscope in the diagnosis and treatment of cystitis in women. Thanks to this method, which has been used for a long time in America, vesical lesions can be treated directly, and are seen as they would be by means of a hypogastric incision, but without the inconveniences of this operation. Hamonic of Paris presented an interesting modification which he had added to the lithotrite ordinarily employed. This modification consists in the manipulation of the arms of the lithotrite by means of a strong lever, through the power of which the calculus, once grasped, can be crushed, whatever its resistance. Dr. Freudenberg of Berlin also demonstrated a new cystoscope for single or double catheterization of the ureters. Muret and Le Fur laid stress on the rapid dilatation of urethral strictures by electrolysis, to which Desnos called attention last year. They showed the good effect of this method when progressive mechanical dilatation is combined with a weak electrolytic current. Nicolich of Trieste presented specimens of three cases of total removal of the genital organs for cancer.

Dr. Tillaux, professor of clinical surgery in the Faculté de Médecine in Paris, has recently died. He was the author of a well-known work on topographical anatomy. For a long time he had charge of the hospital amphitheatre, where his lectures in anatomy attracted large numbers of students.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

TETANUS—CONCEALMENT OF TRACHOMA—AMŒBÆ IN MANILA WATER.

MANILA, September 30, 1904.

Recently a very regrettable accident occurred, which resulted in the death from tetanus of an American who had been inoculated by the health authorities with antiplague serum, on account of his being a plague "contact." The newspapers took the matter up and for a time it appeared that in the future the work of the health authorities would be very much handicapped in this direction. The results of the investigation which was subsequently made were rather conclusive and the public uneasiness was allayed. It appears that this individual was injected with antiplague serum, but it was not until more than thirteen days had elapsed that he showed symptoms of tetanus. The evidence also shows that he removed the dressings which had been applied to the wound and scratched the same with his unwashed hands. Furthermore, a number of other individuals who were inoculated at the same time with the same serum did not develop any symptoms of tetanus. From this it would seem that the tetanus must

have been contracted some time after the inoculation Since the foregoing case of tetanus occurred there has been another case which was contracted in an entirely different manner. A Filipino workman was run over in the street by a vehicle, and as a result thereof he received a number of lacerated and contused wounds. Eight days afterwards he exhibited symptoms of tetanus and on the tenth day he died from this disease. The case received some publicity and it served as a valuable lesson to the public in showing that it was possible to contract this disease through an open wound, regardless of the fact as to whether it was produced by the inoculation of serum or otherwise. At the same time it served to remove much of the unjust suspicion with which the course of the Board of Health was regarded.

The tetanus organism seems to be quite abundant in the soil in and about Manila and considerable care is necessary to prevent infection of the operative cases at the hospitals. At the First Reserve Hospital, for instance, the surgeon in charge uses screens to guard against the entrance of dust and requires that all persons who desire to enter the operating room remove their shoes outside and wear the footgear which is provided at the hospital. Since inaugurating these precautions no further cases of tetanus have occurred among the operative cases.

A fine demonstration was given recently by the arriving Japanese immigrants that this race is fertile in resource not only with regard to things military, but also in other directions. The Japanese are badly afflicted with trachoma and rejections among immigrants from this one cause alone is from ten to thirty per cent. The officers of the Public Health and Marine Hospital Service, stationed at Manila, have noticed for some time past on everting the eyelids of Japanese immigrants that they presented a peculiar blanched appearance. At first it was thought that this was due to the treatment which they might have received prior to embarkation in Japan. Recently, however, several hours after the first inspection was completed and all suspicious cases had been set aside, it was decided to make a re-examination of the entire number; while this work was going on a number of additional cases of trachoma were found. Upon following some immigrants behind a convenient enclosure, they were found to be busily engaged in instilling a substance into their eyes, which subsequent investigation showed to be adrenalin. Experiments with this drug proved that if instilled into the eyes of mild cases of trachoma practically all evidence of the disease could be obliterated for about one half hour. To sum up, then, it seems that on arrival at Manila, and just before the medical inspection was made, they had been in the habit of instilling adrenalin into their eyes.

The government laboratory still continues to report the presence of amœbæ in the Manila tap water. Recently there has been a large increase in the number of dysentery cases among the American population. The cause for the increase has not been accurately determined. It is the opinion of some of the physicians that, owing to the disappearance of cholera, the public has become more or less lax about the water that is used for drinking purposes. Others think that the recent flood from which Manila suffered so inundated the truck farms that they were more than usually exposed to the risk of infection, and that for this reason many of the fresh vegetables sold in the local market contain amœbæ. In order to alleviate somewhat the danger from Manila drinking water it is proposed to try copper sulphate on a large scale, as suggested in Bulletin No. 64 of the Bureau of Plant Industry, published by the U.S. Department of Agriculture, and written by George T. Moore, Physiologist and Algologist, in charge of the Laboratory of Plant Physiology, and Karl F. Kellerman, Assistant in Physiology. The plan is to have copper sulphate drip from a barrel into the intake of the city reservoir in such quantities as to make a solution of one to four million. Careful bacteriological and chemical examinations are to be made of the ordinary tap water before the method is started, and at daily intervals during the experimental period. Since at best it will be some years before the proposed supply of undoubted purity for which arrangements are now being made can possibly be furnished to the city, it would be a great boon for Manila even if the copper sulphate method should prove only partly successful.

A Question of Longevity.—The newspapers have discovered an old gentleman in the Bronx who has used tobacco and liquor since he reached the age of discretion, and is now active and hearty at 103. He seems to have carefully shunned danger, for it is asserted that he has never ridden on a trolley car or elevated train, has never used soap, and has never called in a doctor.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Nov. 17, 1904.

The Differential Diagnosis and Treatment of the So-Called Rheumatoid Diseases.—Joel E. Goldthwait presents five types of rheumatoid disease, outlining the treatment for each. First, he describes the chronic, villous arthritis, or "dry joint." It represents entirely a local process, with no tendency to progression. The condition is most commonly seen in the knee, and is commonly associated with flat foot. After a time degenerative changes take place, the most common being fatty degeneration of the villi. The treatment consists in improving the tone of all the joint structures concerned in the action of the joint. All irritation should be avoided. Operation may become necessary. Atrophic arthritis is the second type. It is a progressive disease resulting in marked distortion and great crippling, with atrophy. The etiology is unknown. Tonics, fresh air, stimulating bathing, massage and forced feeding are recommended. Hypertrophic arthritis may be either local or general. In the finger joints, Heberden's nodes are the type. In connection with the spinal process, the costo-vertebral articulations are often involved. The etiology is unknown. The treatment consists of fixation, or at least of protection of the affected part during the active or painful stage. Internal treatment is of little importance, except as symptoms arise or as eliminative functions need supervision. Infectious arthritis is by far the most common. The result of the infection will depend upon the organism from which the infections element is absorbed. The pathological process is a local inflammation. The treatment concerns both the general condition and the local process. Large quantities of water internally are of advantage. If the joint process be acute, fixation will give relief. Chronic gout is far less common than the other types. It is usually slowly progressive, with periods of acute exacerbation. Of the bone changes, the lesion is a local one, but considerable portions may be destroyed. The etiology is not known, and comparatively little is known in regard to treatment. Rest in bed during the active part of the attack and local warmth are indicated. "Sweating" is helpful. Large amounts of water should be taken during the acute stage. The diet in general should be nutritious. Colchicum or the salicylates seem to be the most valuable drugs to cut short the attack, after which tonics are indicated.

Types of Rheumatoid Disease.—C. F. Painter, in speaking of the confusing nomenclature of this disease, states that it is partly the fault of the clinician and partly of the pathologist, but principally of the former. He believes that so far as we have data to work with, it is more valuable to rely upon a careful study of the clinical course and physical signs, coupled with the pathological evidence obtained from good *x*-rays, than upon any purely pathological classification, whether it be gross or microscopical or both. It is necessary to recognize the evidences of inflammatory changes due to the presence of organisms or their toxins in the joints, but it must also be recognized that there are probably chemico-physiological changes going on in the body which have nothing to do with direct septic intoxication, local or general; that although some of these metabolic changes do resemble in certain ways true inflammatory processes, still, careful clinical observation will generally distinguish them from each other. The writer then shows how the external appearances of these so-called rheumatoid joints correspond to their internal appearances. The atrophic joint is generally swollen in a spindle-shaped manner, covered with shiny and parchment-like skin. Inside the joint the swelling is in the synovial capsule of the type known as villous arthritis. There is rarely an excess of fluid. The bone is atrophic as well as the cartilage. In hypertrophic arthritis, if there is general swelling of the joint, it is due to fluid. There is very little villous arthritis as a rule. The bone is unusually dense. The cartilage is increased in thickness. The infectious joint from the outside is much congested. The fibrous as well as the synovial capsule is infiltrated. Adhesions form easily in the joint. The cartilage appears fairly normal, and the bone is not notably altered. In some cases these types shade into each other.

New York Medical Journal, November 19, 1904.

Ideal Tent Life for Consumptives.—H. B. Masten declares that the best conditions for the cure of incipient pulmonary tuberculosis are those under which the disease is seldom or never contracted. He extols the climatic conditions found in northern New Mexico and southern Colorado, and gives an illustrated description of a series of tent cottages so arranged as to have a common veranda, together with the necessary directions for the care of patients housed in such structures.

The Treatment of Diffuse Peritonitis.—J. A. Blake records his experience with nineteen cases of diffuse peritonitis; five of these were generalized and fourteen were

cases of spreading peritonitis. Of the cases of general peritonitis, one was caused by appendicitis and the patient died, two by the perforation of gastric ulcers with one death, one by a rupture of the jejunum whch ended in recovery, and one by what was apparently an acute pancreatitis, which also ended in recovery. The best results come, according to his experience, from an early and rapid operation, though not necessarily a large incision; the least possible handling of the intestines (if they escape from the wound and cannot be returned they should be emptied through a small enterotomy incision); thorough lavage; the omission of drainage when possible; and an after-treatment in which the main features are absolute rest for the alimentary canal and the exhibition of large quantities of fluids.

Passage of a Tooth Plate Through the Alimentary Canal.—M. K. Elmer reports the case of a man, aged fifty-nine years, who swallowed a plate about two inches square, with three teeth attached, and passed the same by the bowels about four years later. During this period he had some difficulty in swallowing food (this disappeared later), epigastric pain, eructations, metallic taste, indigestion and alternating periods of emaciation and recovery of body weight.

Medical News, November 19, 1904.

A Case of Typhoid Fever Complicated by Polyuria.—J. C. Wilson reports this unusual case. The patient, a man aged twenty-nine years, entered the hospital September 25, 1904. The disease seemed to run a typical course, except that delirium of a low, wandering type, but later becoming very active, manifested itself early and was quite constant, abating only after the plunges, when generally the mind remained clear for a short time. The quantity of urine began to increase on October 5. The highest amount voided was 215 ounces, on October 16. The patient suffered from unquenchable thirst. While the polyuria was most marked, micturition was so frequent that it was necessary for the patient to have a urinal constantly either upon his bed or upon the table adjoining it. The total amount of urea for periods of 24 hours was increased at the height of the polyuria. Convalescence was uninterrupted. The writer declares that he has no hypothesis to offer as to the significance of the polyuria in this case. It was evidently the cause, not the effect of the great intake of fluid. The patient was neurotic and overworked, but did not present the symptoms of any organic disease of the brain or nervous system.

Feigned Insanity; Malingery Revealed by the Use of Ether.—Charles G. Wagner describes this case. The pateint was 32 years of age and had murdered his wife. In court the man was incoherent, and answered questions irrelevantly or not at all. He appeared unable to walk without assistance, or to stand erect with his feet squarely on the floor. At each step, as he rested his weight to some extent upon the ball of his foot, a violent, coarse tremor agitated the entire leg. The patient exhibited these abnormal mental and physical phenomena throughout his trial and after conviction. Throughout the following eighteen months he was not caught off his guard, and as the day for his execution was approaching, the prison warden, being in doubt as to his mental condition, requested an examination of the prisoner by a commission. The writer was one of the experts named for this purpose. The most careful examinations were made, but the results were to a considerable extent negative and unsatisfactory. The prisoner did not appear to realize that he was in prison, and his face wore an imbecile expression. The writer then suggested etherizing the patient. Just before complete unconsciousness and thorough muscular relaxation were induced, the patient became talkative, profane, and abusive; his voice was loud and strong and his language coherent, forcible, and expressive; whereas previously he had talked but little, and always in a low tone. While still profoundly unconscious, he was lifted from the table and stood upon his feet. As he began to regain consciousness, with a little assistance, he walked across the floor without difficulty or muscular tremor, and at each step placed his foot squarely upon the floor. He walked to the elevator and to his cell without assistance. The plea of lateral spinal sclerosis was thus disposed of. The commission was satisfied after this examination that the pretense of insanity was without foundation. A day or two later the prisoner confessed that he had been "under an awful strain for a year and a half" and that he would "rather go to the chair than go through the same experience again." He was perfectly intelligent and discussed the whole period of his malingering, as well as his past life in detail.

Uncinariasis as Seen in North Carolina.—J. L. Nicholson and Watson S. Rankin conclude concerning the etiology of hookworm disease, that ground-itch is by far the most important portal of infection, and that dirt-eating, and the use of a contaminated water, while capable of infecting, are not nearly so important as ground-itch as a source of infection. Some of the grounds for their conclusion are as follows: It has been noted that in localities where ground-itch is frequent, there hookworm disease is also frequent. Where there is no ground-itch, there is little or no hookworm disease. Over 99.5 per cent. of 150 cases gave a history of ground-itch. Probably the cases without ground-itch were infected through water or dirt-eating. The severest cases give a history of severest ground-itch. The disease is definitely associated with the period of life when the child goes barefooted. Uncinariasis is a family disease. When the patient ceases to be troubled with ground-itch, it is the rule for improvement to begin. The symptoms are anæmia, poor appetite, malaise, headache and diarrhœa. Thymol is used in the treatment of this disease, while the anæmia indicates the employment of iron.

American Medicine, November 19, 1904.

The Postdischarge Mortality Among the Patients of the Adirondack Cottage Sanatorium.—Lawrason Brown and E. G. Pope conclude from their observations that: The real test of the sanatorium treatment is not the immediate, but the ultimate results. The lack of uniformity in classification renders the comparison or the combination of the result of various sanatoriums extremely difficult. The classification on "the ability to work" is beset by so many difficulties in America that it is rendered of very little value. The mortality among patients discharged in various conditions affords the best method of studying the permanent result of sanatorium treatment. Of those discharged apparently cured, 93 per cent. of the expected living are alive; of the disease arrested, 65 per cent.; of the cases discharged with active symptoms, 23 per cent. The death rate among the apparently cured patients is, during the first ten years, about three times the ordinary death rate. The death rate among the patients discharged with the disease arrested increases during the first few years to many (10 to 15) times the normal death rate, but afterward decreases. Nearly half of the patients discharged with an active disease died in the first two years. Patients between 30 and 40, when discharged apparently cured, seem to relapse less than younger patients. This tendency is little, if at all marked among the patients discharged with the disease arrested. Incipient cases seem to relapse less than advanced, when both were discharged in the same condition.

The Finsen Light, Röntgen Rays, and High Frequency Electric Currents in Certain Diseases of the Skin.—L. Duncan Bulkley explains the extraordinary results obtained with the Finsen light at the Finsen Institute as being due not solely to the application of light for a longer or shorter period, but to the perfect technique which has been shown to be necessary to secure the desired end. One factor in the success is that an attendant devotes an entire hour daily to holding the compressor. The writer believes that if sufficient time, intelligence, and patience can be given to it, the Copenhagen light treatment is one of the greatest advances yet made in the treatment of lupus. As to the value of the Röntgen ray, the writer believes that it is a most powerful means of influencing nutrition and overcoming certain forms of disease. If properly used, this treatment cures a considerable number of patients with superficial epithelioma, especially of the rodent ulcer type. It is often valuable in recurrent, inoperable cases of malignant disease, both in relieving pain and in checking the progress of the disease. Especially in epithelioma about the eye and nose, the Röntgen ray finds its greatest benefit. The writer reports three patients with lupus vulgaris who have done remarkably well under this treatment. The writer considers this treatment the best and most feasible that has yet been proposed for this disease. Six patients with late syphilis of the palm have been recently treated with satisfactory results. In cases of hirsuties, in which the hair is fine and downy, it is believed that a reasonable amount of repetition of the treatment by the Röntgen ray will result in freedom from the trouble. Great care should be taken in the application of this treatment. Commonly, the exposure given by the writer does not exceed five minutes. During the past year the writer has treated twenty-seven private patients with nine different cutaneous conditions by means of hyperstatic electricity from Piffard's generator, and it has proved a very valuable method in many instances. Finally, the writer states that radioactivity has active powers in connection with certain tissue changes. In regard to these various methods of treatment, it is only by honest and diligent experimentation and by truthful statement of personal experiences that advance along these lines can be made.

The Treatment of Basedow's Disease, with Report of a Case.—O. E. Lademann, after touching upon various methods of treatment of Graves' disease, states that the simplest, most inexpensive and safest method of treatment is that of Lanz, suggested by him in 1894. He fed exophthalmic goiter individuals with the milk of thyroidectomized goats.

Favorable results have followed the use of this method. The writer reports a most interesting case of this disease, in which he tried the milk treatment with excellent results. He believes that instead of the milk having direct antagonistic action, the process is more one of neutralization, or possibly combination, and the effects last only as long as the milk is given; he believes also, that the severer the exophthalmic goiter, the more milk is required to neutralize. He suggests the use of dessicated thyroidectomized milk in the form of tablets as preferable to that in its natural state.

Journal of the American Medical Association, November 19, 1904.

Œsophagoscopy and Bronchoscopy.—E. Fletcher Ingals reports his experience with the Killian instruments in removing a pin from the œsophagus and one from a bronchus. A history of previously reported cases is given, followed by his own personal experience. Diagrams illustrate the positions of the foreign bodies in situ and of the various pieces of apparatus employed for their extraction. For illumination of the passages he prefers a small electric lamp introduced to near the distal end of the bronchoscope. This enables the operator to work in a light room, a fact which is of great advantage also to the anæsthetist. This method enables the operator to move his head at will without interfering with the illumination. Chloroform is the best anæsthetic in these cases, and to avoid having it blown into the surgeon's eyes, a pane of glass may be held between the latter and the end of the bronchoscope. In view of the interference in respiration by the unaffected lung, when the bronchoscope is passed into one of the main bronchi, Killian had a large oval opening made in some of his bronchoscopes, some distance above the end. To meet this indication, Ingals has had a number of holes, each 2x4 mm., made in his bronchoscope, from 5 to 10 cm. above its distal end. He can see no objection to these, and finds that they overcome the difficulty fully, without in any way interfering with the use of the instrument.

A New Material for Sutures and Ligatures.—For this purpose C. F. Kieffer advocates the use of the long and strong tendons of the bird commonly known in this country as the blue crane. He finds that they are very slowly absorbed in the tissues, and serve admirably the purpose named. The tendons of the species of the same genus of birds may be used. They are regularly flat, like ribbon, and are easily rendered aseptic. Moreover, the supply is universal, and as the author observes, the surgeon in isolated places may have the comfort of knowing that he has a "reliable suture material at the end of his shotgun." The tendons must be rendered aseptic by immersion in some solution (the author prefers the Claudius method for catgut), and not be boiled, as the temperature of boiling water soon converts them into a jelly-like mass.

Differential Diagnosis Between Pseudomembranous Angina of Syphilis and Diphtheritic Angina.—The former of these conditions is, according to R. R. Campbell, not rare, and the diagnosis between the two cannot always be made from the clinical picture. We should never fail to utilize the culture test, and the microscope, and in cases of doubt should employ antitoxin while awaiting the result of the culture test. Several illustrative cases are deported.

The Lancet, November 12, 1904.

Carcinoma of the Appendix.—C. J. Cullingworth and E. M. Corner report a case, and analyze the records of previous cases. Their patient was a single woman of thirty-one years. Four months before coming under observation she had severe pain in her right side, and experienced several subsequent attacks, especially marked over the right iliac fossa, low down. On deep palpation there was a little tenderness over the McBurney point. Per vaginan a hard mass was found to the right of the uterus, depressing the vaginal fornix. Abdominal section revealed the latter mass to be a fibromyoma of the broad ligament. The appendix was found to have a thickened and bulbous top, examination of which showed it to be a spheroidal carcinoma. Recovery from operation was without incident, and three years later the patient was well, and free from all abnormal symptoms. It was a question to the authors which of the symptoms in this case were due to the fibromyoma, and which to the appendix. It seems, on the whole, that most of them were due to the former, though it is not easy to refer the sudden and severe pains in the right side to this cause. Perhaps the tumor may have caused some temporary obstruction to the right ureter. On the other hand, the nodule might be thought to have excited painful peristalsis (colic in the appendix), but as it affected the tip of the organ it would seem hardly able to do so. The tenderness over McBurney's point seems rather more likely to be due to the diseased appendix than to the fibromyoma. Finally, it may be pointed out that the concurrence of fibromyoma of the uterus and carcinoma of the appendix has never been recorded before.

Inflammation of the Muscles with Special Reference to Two Cases of Infective Myositis.—J. H. Abram calls attention to the particularly fatal character of many cases of muscle inflammation, and gives outline descriptions of the various forms of this class of diseases. Of the instances reported, Case 1 was a male, aged nineteen years, with history of a strain eight weeks before. He had had chest pains, limitation of movement, swelling of the chest, and axillary gland enlargement. A diffuse brawny swelling later extended from the clavicle to the nipple, while below the lower border of the pectoral muscle was an area of softening, incision into which was followed by very slow healing, hastened apparently by the internal administration of protonuclein. Case 2 was a woman of forty-five years, with an evident infection, which seemed to focus over the right upper chest region. Incision revealed suppuration in the pectoriolis major, but no definite abscess formation. Death ensued in a few hours. A smear test of the pus revealed typical streptococci. In the first case, no bacteriological finding could be made out. In similar cases the author would strongly advise free incision as being far more efficacious than drugs or serum infections.

Case of Exophthalmos in the Newly Born.—H. H. Borland records the case of an infant whose eyes, owing to severe pressure on the head during parturition, were in a state of exophthalmos. A few hours later it was noted that there was an effusion of blood under the conjunctiva in the upper sclera of the right side. The next day the effusion was increased, and the right bulbus oculi projected downward and forward, bulging out the lower eyelid, all evidencing a paralysis of the superior rectus muscle. On the third day an ecchymotic patch was observed on the right upper lid. On the fifth day a similar condition was noted on the left upper lid. From this time on the evidences of paralysis gradually disappeared. On the nineteenth day a clot of coagulated blood came down the right nares. Three weeks after birth there was still evident, but only occasionally apparent, a slight degree of paralysis of the superior rectus.

A Case of Attacks of Temporary Loss of Consciousness and Memory.—The patient of W.O'Neill was a woman of fifty years, who first had fainting spells, which were succeeded later by attacks of loss of consciousness, followed by complete loss of memory of acts that occurred during the period of unconsciousness. For instance, on one occasion the patient and a friend walked some distance to a butcher's shop to buy meat, but from putting on her bonnet immediately before leaving the house to taking it off on returning home, she had not the slightest recollection of what happened in the interval, although she bought the meat, and paid for it, and, of course, spoke to the butcher. These attacks consisted of two parts—namely, the oblivion with the power the patient had while in this state of performing many of her ordinary household duties, no doubt in an automatic way, and, secondly, the loss of memory of what she had been doing and saying while under the influence of the fit. It was suggested to the author that these seizures resembled somnambulism. They might be, in his own view, a species of epilepsy, regarding the earlier fainting turns as attacks of *petit mal*. In the intervals between the attacks, the patient was apparently normal in every way.

British Medical Journal, November 12, 1904.

Discussion on Intraocular Hemorrhage and Systemic Disease.—A. Hill Griffith confines his attention in this paper to the consideration of intraocular hemorrhages in eyes otherwise free from disease. Such primary or independent hemorrhages may, like hemorrhages elsewhere, occur from the following general conditions: Blood changes (pyæmia, infective endocarditis, septicæmia, purpura, scorbutus, pernicious anæmia, phosphorus poisoning, and parasitic blood affections). Diseased state of finer vessels. Back pressure of cardiac disease. Embolic processes, and thrombosis. Intraocular hemorrhage may occur in the retina, the choroid, the vitreous, or the anterior chamber. The writer has never seen spontaneous hæmorrhage into the anterior chamber; nor choroidal hemorrhage, with one exception, save in staphyloma posticum, choroiditis, choroidal growths, etc. In most of the retinal hemorrhages the retina was apparently otherwise unchanged, but in some there were slight changes recognizable, such as localized swellings and exudations, probably secondary to the blood effusions. Intraocular hemorrhages cannot be very common, for among 6,500 consecutive cases of all kinds in the writer's private practice, there were only thirty-three cases of spontaneous hemorrhages, a proportion of 0.5 per cent. Besides these, he has records of fifty cases in his hospital practice. These eighty-three cases he classes as follows: Retinal hemorrhages, 41; hemorrhagic retinitis, 20; so-called subhyaloid hemorrhage, 14; hemorrhage into vitreous, 8. Some of these patients were examples of more than one of the groups. The prognosis both

as to sight and life is much better in the case of subhyaloid hemorrhage than in any other form of intraocular hemorrhage, for, with the exception of two patients, none showed signs of systemic disease. In a little over half of the sixty-one cases of retinal hemorrhages and hemorrhagic retinitis, a definite cause was made out: Constipation, 2; bronchitis, 3; severe fit of coughing, 1; gout, 4; syphilis, 5; purpura, 1; Bright's disease, 2; diabetes, 2; organic heart disease, 4; hemiplegia, 2; hemianopsia, 2; alcoholism, 3; high arterial tension, several; rheumatism, 3. The writer believes that tobacco amblyopia is not infrequently the cause of retinal hemorrhage. In seven cases, marked sclerosis of the retinal arteries was noted. The writer describes one strange case, which he believes to be an arterio-venous aneurysm on each retina. One of the cases of hemorrhage into the vitreous had splenic leucocythæmia, and another died of angina pectoris. Of the thirty-three private cases, six died within twelve months or some years of apoplexy or other disease. Hemorrhage occurring as the result of embolism, the writer thinks, must be far less frequent in the retina than in other organs. He also thinks that pulsation in the retinal veins is of no pathological import. Aortic pulsation was made out in ten cases; eight of these were in aortic regurgitation; one in a case of general cardiac dropsy, and one in a case of cardiac muscle failure. Retinal hemorrhages were found in fourteen out of 500 hospital patients, who were suffering from various affections. From his study of the subject, the writer concludes that Nature is very well able to safeguard the eye even in grave disorders of the general circulation, but against changes in the blood she is not so efficient.

Investigations on the Comparative Visual Acuity of Savages and of Civilized People.—W. H. Rivers gave the results of his investigations on the comparative visual acuity of savages and civilized people. He came to the conclusion, after examining a large number of people of all tribes and nationalities, that apart from errors of refraction, man, all the world over, had practically the same amount of vision, and in instances in which savages appear to possess greater visual acuity than white men, it is entirely due to practice and education, and to their being thoroughly familiar with their surroundings.

Summary of Twenty Years' Treatment of Myopia.—Ernest Clarke advocated in this paper the full correction of all cases of myopia and compound myopic astigmatism. His method was to estimate the ametropia under a mydriatic, and to order the full correction for all cases. In high degrees the patients sometimes refused to accept the full correction, but with this exception he never reduced the spherical glass for near work. Out of 532 cases which had been under observation for more than two years, the majority showed no increase in the myopia, and in only three instances had the myopia increased as much as 4 D, and in only sixteen had there been any increase worth mentioning. In some it was necessary to stop all near work, but for these full correction was always given. If this principle were carried out generally, he felt sure that progressive myopia and high degrees would become almost unknown.

A Modification in the Usual Method of Using Cocaine in Operations Upon the Eyeball.—Carl Koller states that it is the experience of all operators, when operating upon the iris in a patient whose eye is under the influence of cocaine, that the anæsthesia of this part is by no means complete. To get over this, the author uses it as follows: A few drops of cocaine are put into the conjunctival sac, and then at the point where the fixation forceps will be placed, and opposite to where the incision is to be made, a few drops of a 5 per cent. solution of cocaine are injected beneath the conjunctiva, but not into the episcleral tissues. After five or six minutes the operation can be performed, and the iris will be found to be quite anæsthetic.

Berliner klinische Wochenschrift, October 31, 1904.

Movable Cæcum.—Hausmann says that this condition is not a very rare one, and that it explains many of the peculiar abdominal symptoms sometimes encountered. The cæcum in these patients has an abnormally long mesentery, which is continuous with that of the small intestine, and permits a variable degree of mobility to this portion of the large gut. In many cases this dislocation of the cæcum can be detected by simple palpation, and manifests itself by the presence of a movable mass on the right side of the abdomen and unnatural emptiness in the right pelvic fossa. The displaced cæcum may form a mass not unlike a movable kidney in size, shape, and consistency, and it may be possible to bring it as far upward as the free border of the ribs so that there is some likelihood of confounding the condition with one of nephroptosis. The differential diagnosis is easily made by the fact that the cæcum under these circumstances always gives rise to a gurgling sound in manipulation. Symptoms produced by the condition are fecal accumulations and constipation due to kinking of the gut, and local colicky pains which may go on to more or less serious intestinal obstruction.

The Serum Treatment of Puerperal Fever.—Bumm describes the results obtained in sixty-seven cases of postpartum infection treated by means of antistreptococcus serum. The mortality in these cases, which include all types and degrees of puerperal fever, was 11 per cent. Although at present the sera still leave much to be desired, the author is strongly in favor of their employment, and believes that the method can be perfected so as to yield greatly improved results. No serum so far devised has any effect in cutting short or modifying the disease process once it has spread beyond its original site, and the many septic complications produced in this way cannot be influenced, no matter how large the dosage employed. In cases, however, where the streptococci are still localized in the endometrium, or are but sparingly present in the blood, the injection of serum is likely to be advantageous and is to be recommended. The results are better the earlier recourse is had to the treatment, and the serum should be used freely. Intravenous injections are dangerous and should be made with the utmost caution.

Münchener medizinische Wochenschrift, November 1, 1904.

Experiences with Marmorek's Antituberculosis Serum.—Frey considers that Marmorek's serum has not received fair treatment by the medical world. In so serious a question as this is, the merits of the question should be made the subject of a carefully considered, unprejudiced, judicial inquiry, and not be overhastily condemned, as has been done in this instance. The author has made over three hundred and fifty injections of the serum, and considers the results of a nature to deserve further investigation. The detailed histories of nine cases are given, and from these he draws the important conclusion that the serum is well borne, and never gives rise to toxic symptoms. Whatever reaction is produced is local, and of the same nature as that caused by other sera. Urticaria was observed in a few instances, but toleration was established in all cases but one, in which the injections were discontinued on this account. In general it was found that temperature of purely tubercular nature was favorably influenced by the serum. Toxic dyspnœa and diuresis are also said to have been modified for the better, as well as the expectoration, which was first increased, and then diminished in amount. The author recommends that the injections be frequently interrupted by intervals of rest, and that itching, urticaria, or redness about the site of injection, also indicate the necessity of a few days' cessation of the treatment. The author's standpoint is that the unfavorable judugment that has been passed upon the method is premature, and that further observations are necessary to establish its ultimate status.

Inoperable Carcinoma of the Rectum as an Impediment to Delivery.—Moritz describes a case in which a carcinoma of the rectum formed an obstacle to delivery, but did not seriously complicate the labor. The patient, who was a multipara, only thirty-six years old, had four months previously been subjected to colostomy for an inoperable new growth of the rectum. After the labor had progressed thirty-six hours without getting the head to do more than engage, the pains ceased completely. The author was able to deliver the slightly asphyetic child by forceps without much difficulty, and takes the case as a text from which to deduce the doctrine that in cases of carcinoma of the rectum, unless rapid delivery is demanded for other reasons, it is safe to use patience and the ordinary methods of treatment before resorting to so radical a measure as cæsarean section.

The Sacrifice of the Living Child for the Sake of the Mother.—Herff is opposed to craniotomy on living children, but does not go so far as do other recent writers, particularly Veit, who considers that the operation may be entirely dispensed with. These writers attempt to put craniotomy, symphyseotomy and cæsarean section on the same footing as regards material mortality, saying that it is now practically always possible to gain access to a hospital in which to perform them. The author considers that the dangers of these operations are underestimated, and that even if performed in a hospital under perfect conditions, there will still remain the risk of previous infection by midwives and others outside, which is always a serious danger in these protracted cases. In outside work the chances for the mother are much better in craniotomy, and it will probably still require to be done in rare cases, though it should be restricted in its application as much as possible.

Yellow Fever Expedition.—The Liverpool School of Tropical Medicine is about to send a second expedition to the Amazon to discover, if possible, the actual cause of yellow fever.

Book Reviews.

KOMPENDIUM DER RÖNTGEN-THERAPIE. Von Dr. H. E. SCHMIDT, Assistent am Universitäts-Institut für Lichtbehandlung zu Berlin. Berlin: August Hirschwald, 1904.

DR. SCHMIDT, who is associated with Professor Lesser in Berlin, has given us a practical brochure of 62 pages, divided into two parts—physico-technical and therapeutic. The first includes chapters on the cathode and *x*-rays, and instruments; the second reviews development of methods, therapeutic considerations, and indications. The work is too brief to be seriously considered alongside the numerous productions of recent times in Germany and France, as well as at home.

UEBER DIE ANTHROPOLOGISCH-ORTHOPÄDISCHEN MESSMETHODEN DER RÜCKENS. Von Dr. OSKAR V. HOVOSKA, Chefarzt für Orthopädie am Wiener Zanderinstitute. Wien: Sellstveslag der Anthropologischen Gesselschaft, 1904.

THIS is an exhaustive monograph on methods and apparatus for measuring and recording the curvatures of the spine and back in health and disease. It is illustrated with twenty-five outline drawings and half-tones, and is (worthy of remark) provided with a quite complete index. It is a reprint from the latest volume of transactions of the Anthropological Society of Vienna. Orthopedic surgeons will find in it much to interest and instruct.

SAUNDERS' QUESTION COMPENDS: ESSENTIALS OF ANATOMY; including the Anatomy of the Viscera. By CHARLES B. NANCREDE, M.D., Professor of Surgery and Clinical Surgery in the University of Michigan, Ann Arbor. Seventh edition, thoroughly revised. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

NANCREDE'S compend of Anatomy is well known; and this new, seventh edition will be found as serviceable as its predecessors have proved themselves to be in the past. The revision is chiefly confined to the chapter on the Nervous System.

THE MEDICAL EPITOME SERIES. TOXICOLOGY., a Manual for Students and Practitioners. By EDWIN WELLES DWIGHT, M.D., Instructor in Legal Medicine, Harvard University. Series edited by VICTOR COX PEDERSEN, A.M., M.D. Philadelphia and New York: Lea Brothers & Company, 1904.

THIS is a carefully compiled compendium, and contains the main facts belonging to toxicology. After an important introductory chapter, the chief poisons are considered in some detail with regard to properties, toxic dose, symptoms, treatment, post-mortem appearances, tests, and illustrative cases. The book will be useful to students and practitioners.

BERIBERI: Its Symptoms and Symptomatic Treatment. By PERCY NETTERVILLE GERRARD, B.A., B.Ch., B.A.O., M.D. Philadelphia: P. Blakiston's Son & Company, 1904.

THIS is an essay written from the point of view of one to whom beriberi has long been the "burning question." After a discussion of characteristic symptoms, the author enumerates and describes the forms which this disease of surprises may take. He claims that its origin, though still in doubt, is probably bacterial, and that the most successful treatment is symptomatic. The book is accompanied by a smaller one, comprising an epitome of the first, the necessity for which is not apparent, since the original essay is brief enough to be read through at a single sitting.

SAUNDERS' QUESTION COMPENDS: ESSENTIALS OF BACTERIOLOGY. By M. V. BALL, M.D., formerly resident Physician at the German Hospital, Philadelphia. Fifth edition, thoroughly revised. By KARL M. VOGEL, M.D., Assistant Pathologist at the College of Physicians and Surgeons (Columbia University), New York City. With 96 illustrations, some in colors, and six plates. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

THE careful revision to which this book has been subjected in the present edition is noticeable, especially in the sections dealing with Immunity, Tuberculosis, Bacillus Icteroides, Dysentery, and Bubonic Plague. The volume contains, in a condensed form, the present day teachings of bacteriology.

LEHRBUCH DER PHYSIOLOGIE. Von L. HERMANN. Dreizehnte, durchgehends umgearbeitete und vermehrte Auflage. Mit 245 in den Text eingedruckten Abbildungen. Berlin: Verlag von August Hirschwald, 1905.

FORTY-TWO years is a long period of vitality for a textbook on so progressive a branch of medicine as physiology, yet the thirteenth edition of this veteran work is as fresh and modern in spirit as any recent publication. The author has not let the younger workers of the new century outstrip him, but has kept pace with every advance and subjected each innovation to a judicial scrutiny, to which decades of experience have given unusual authoritativeness.

Owing to developments in this accessory science it has been found necessary to introduce a series of chapters on the general principles of physics as they are applied to physiology, and this, together with a similar discussion of physiological chemistry, forms an admirable introduction to the more specific portion of the book which follows. Another radical change consists in the alteration of the arrangement of the chapters which are now disposed so that the animal functions are treated before the vegetative functions, a method that is more in accord with modern courses of instruction. The chief value of the work still consists in the completeness with which everything that is definitely known concerning each subdivision of the subject is given, while what is uncertain or disputed is relegated to the background. If each subsequent edition is to mean as thorough a rejuvenation of the book as this one has been the volume should have an indefinite lease of life still before it.

INTERNATIONAL CLINICS. Edited by A. O. J. KELLY, A.M., M.D., Phila., with the collaboration of Wm. Osler, John Musser, and others. Vol. III. Fourteenth Series, 1904. Philadelphia: J. B. Lippincott Company.

THIS volume has as frontispiece a colored plate of specific roseola, reproduced from Fox's Atlas, which is advertised on a back page. There are some 25 other plates and about the same number of figures. Though some excellent men are found amongst the contributors, the average of interest and importance of the papers and illustrations is behind that of some years ago. Rest Cure in Chronic Constipation, Syphilis and Suicide, Uncertainty as to Syphilitic Inoculation, are some of the titles.

The advertisements, front and back, do not add to the artistic value of the book.

SAUNDERS' QUESTION COMPENDS: ESSENTIALS OF MATERIA MEDICA AND PRESCRIPTION WRITING. By HENRY MORRIS, M.D., College of Physicians, Philadelphia. Sixth edition, thoroughly revised. By W. A. BASTEDO, Ph.G., M.D., Tutor of Materia Medica and Pharmacology at the Columbia University (College of Physicians and Surgeons), New York City. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

THIS compend contains in condensed form the principles of materia medica. The new edition contains the more recent preparations such as adrenalin, stypticin, and the synthetic silver compounds. In its present form the book will be found both trustworthy and up to date.

SAUNDERS' QUESTION COMPENDS: ESSENTIALS OF NERVOUS DISEASES AND INSANITY: their Symptoms and Treatment. By JOHN C. SHAW, M.D., late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School. Fourth edition, thoroughly revised. By SMITH ELY JELLIFFE, Ph.G., M.D., Clinical Assistant, Columbia University, Department of Neurology; Visiting Neurologist, City Hospital, New York. Illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

THIS is a useful little book on nervous diseases and insanity. Within the compass of less than 200 pages will be found all that the medical student needs on these subjects; and in addition there is a brief but serviceable bibliography appended to the chief diseases. The book is well arranged, well written, and well illustrated.

THE ESSENTIALS OF CHEMICAL PHYSIOLOGY, for the use of Students. By W. D. HALLIBURTON, M.D., F.R.S. Fellow of the Royal College of Physicians, Professor of Physiology in King's College, London; Author of "Text-Book of Chemical Physiology and Pathology." Fifth edition. London, New York, and Bombay: Longmans, Green & Company, 1904.

THE chief changes in the new edition of this well-known work are the addition of an introductory chapter on the detection of the elements contained in physiological compounds; the lessons on milk, pancreatic digestion, muscle, and Kjeldahl's method of estimating nitrogen have been rewritten; some new exercises have also been inserted. The book is well abreast of modern scientific advances; it contains all that the title claims for it, namely, the essentials of chemical physiology; and it is written by a recognized authority on the subject.

THE SURGICAL TREATMENT OF BRIGHT'S DISEASE. By GEO. M. EDEBOHLS, A.M., M.D., LL.D. New York: Frank F. Lisiecki, 1904.

THIS subject has been widely discussed since Edebohls, some years ago, first proposed to treat chronic nephritis by removing the capsule of the kidneys, after he had observed the favorable effects on the disease when it was found necessary to do a nephropexy. The claim that decapsulation would be followed by a favorable result more or less permanent in character, has been put to the test by numerous experiments and observations. Many surgeons who have attempted the operation have not been blessed with as favorable results as are reported by Edebohls, and lately Theleman, on the basis of his experiments, comes to the conclusion that the new capsule is formed in a relatively short time from the remnants of the old one left at the time of operation. A transitory improvement takes place, owing to the relaxation of the kidneys, but, as this writer claims, it is very questionable whether a permanent cure can be

obtained. Edebohls acknowledges that a new capsule may be formed after operation, but insists that the new is more succulent than the old capsule and always more vascular. He does not believe that there is any danger from the contraction of the new capsule, but if a return of symptoms justifies a second operation, he does not hesitate to recommend it.

The book under discussion forms one of the most elaborate treatises on this subject thus far presented as the collected experiences of any one writer. The first part of the work comprises the author's contributions to the literature, and previously published in various medical journals. The second part includes the detailed histories of seventy-two cases operated on by the author, and his conclusions. The operation is charged with seven deaths, all in advanced cases, but this number, he claims, is offset by the nine patients who were at death's door when operated upon, whose lives were prolonged, and some of whom are alive at the present day. Of the twenty-two ulterior or remote deaths, none was due to the operation. Thirteen died from the chronic nephritis or its complications, and in six of these the operation had done no good, but the remainder were benefited. Of the seventy-two patients, it seems that thirteen received no benefit from the operation, while fifty-nine experienced amelioration varying all the way from slight or temporary improvement to complete cure. In nine cases the operation proved life saving by rescuing the patient from impending death. In the author's opinion, the evidence submitted in his book not only justifies the surgical treatment of Bright's disease, but establishes surgery as at present, the main, if not the only hope, of sufferers from a hitherto incurable malady. Whether these sanguine expectations will be borne out by the results achieved by other surgeons, is a matter for the future to decide. It may be some time before so large a series of cases can be gathered by any other operator, and final judgment must remain suspended.

La Radiothérapie. Son Application aux Affections Cutanées. Par. Le Docteur J. Belot. Paris: G. Steinheil, 1904.

The author is introduced, as it were, by his chief, Dr. Brocq, in a preface which tells of the work done at the Broca Hospital. His peculiar qualifications, embracing those appertaining to engineering, mechanics, physics, and scientific medicine, have enabled the author to make good use of the time devoted to this newer method at present dominating skin therapy. The work is written in a deeply scientific spirit and still is sufficiently elementery for the beginner to profit. American work has received due recognition and extensive quotations are made from cis-atlantic writers. The bibliography includes many well-known American names. The importance of radiotherapy in general is suggested by the fact of a volume of this size being devoted exclusively to the treatment of skin affections. While this country is not without its excellent works, covering the same field, dermatologists employing the rays will find in M. Belot's book a painstaking résumé of prevailing views and personal experience.

The Nervous Affections of the Heart. Being the Morison Lectures, Delivered Before the Royal College of Physicians of Edinburgh in 1902 and 1903. By George Alexander Gibson, M.D., D.Sc., F.R.C.P., Ed.; F.R.S.E. Honorary Member of the Medico-Chirurgical Society of Norwich; Honorary Corresponding Member of the Therapeutical Society of Paris; Physician to the Royal Infirmary, and Lecturer on Medicine and Clinical Medicine in the Medical School of the Royal Colleges, Edinburgh; Examiner in Medicine in the University of Oxford. Edinburgh and London: Young J. Pentland, 1904.

The author has divided these six lectures into two sections, namely, sensory disturbances and motor disturbances, and discusses in them the symptoms, the possible causes, and the treatment of this ill-defined group of heart irregularities. The subject matter is adapted rather for the advanced student than the beginner, and, as the author states, is rather suggestive than exhaustive. The well-known clinical experience of the writer lends interest to his theoretical explanations, and this work merits a careful perusal by all internists.

Refraction and How to Refract. Including Sections on Optics, the Fitting of Spectacles and Eye-Glasses, etc. By James Thornton, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Member of the American Ophthalmological Society; Fellow of the College of Physicians of Philadelphia, etc. Third edition. Philadelphia: P. Blakiston's Son & Company, 1904.

This very excellent work of 315 pages is now in its third edition, having been first published in 1899. The book contains all that is necessary for the student to know to enable him to correct errors of refraction properly, provided, of course, that he has a good knowledge of the normal and pathological conditions that affect the eye.

The methods advanced by the writer have evidently been carefully tried, and their true value is here given. The chapters on "Muscles," "Cyclopegias," "How to Refract," and "Applied Refraction" presents views that are excellent and that can be followed to the advantage of both patient and physician. The work is fully illustrated. The text is free from verbiage, is clear, and concise. This is one of the best small works on this subject, for the student, in the English language.

Manual of Physiological and Clinical Chemistry. By Elias H. Bartley, B.S., M.D., Ph.G. Professor of Chemistry, Toxicology, and Pediatrics in the Long Island College Hospital; Author of Medical and Pharmaceutical Chemistry. Second edition, revised and enlarged. With 47 illustrations. Philadelphia: P. Blakiston's Son & Company, 1012 Walnut street, 1904.

This little book of less than 200 pages gives all that the medical student and practitioner will require on Physiological and Clinical Chemistry. It is a thoroughly reliable guide to the ordinary chemical examinations of the blood, urine, gastric contents, fæces, and milk. Microscopical work is considered where absolutely necessary; but the book is essentially a work on chemistry, and not on microscopy. At the same time, it is to the practitioner and his wants that the writer appeals, and not to the scientific chemist who has no concern with the clinical side of the question. The chapter on the urine is a model of what the physician needs, and is of more real value than many more pretentious and costly works on the subject; it contains useful sections on the significance of albuminuria, the diagnosis of renal diseases accompanied by albuminuria, the significance of variations in the physical and chemical characters of the urine, and cryoscopy and its uses.

A Manual of Practical Medical Electricity. The Röntgen rays, Finsen light, Radium and its radiations, and High-frequency currents. By Dawson Turner, B.A., M.D., F.R.C.P., Ed., M.R.C.P., Lond. President of the Royal Scottish Society of Arts; Vice-President of the British Electro-Therapeutic Society; Fellow of the Physical Society; Lecturer on Experimental Physics, Surgeon's Hall, Edinburgh; Additional Examiner in Experimental Physics, the Edinburgh University; Medical Officer in charge of the Electrical Department of the Royal Infirmary, Edinburgh. Fourth Edition. Revised and Enlarged. New York: William Wood & Company, 1904.

We have several times in the past made favorable comment upon this handbook. In the present output more attention has been paid to sinusoidal currents. Amongst new matter added is a section on radium and its radiations. High-frequency currents have received more extended consideration, and over thirty illustrations have been added. Part VI. which treats of the *x*-rays, has been enlarged and rearranged and the whole has undergone scrutiny and revision. The author expresses the hope that the renewed interest on the part of regulars in these matters will tend to stem the tide of unqualified electrical practitioners. He likewise deems it derogatory and injurious to the profession and patient alike to call in instrument makers for radiography and nurses and masseurs for electro-therapeutic treatment.

How to Cook for the Sick and Convalescent. Arranged for the Physician, Trained Nurse, and Home Use. By Helena V. Sachse. Second Edition, Revised and Enlarged. Philadelphia: J. B. Lippincott Company, 1904.

The author of this excellent cook-book has the double qualification for her task of being a practical and experienced cook, and a scientifically trained nurse, and not only knows how to prepare food in an appetizing form, but how to prepare it to meet the indications present in the individual case. At the beginning of the book there is, besides the ordinary table of contents, a classification of the recipes, for ready reference, into liquid, semi-solid, and solid foods, foods containing a large percentage of fat, highly nitrogenous foods, those free from starch or cane sugar, those rich in phosphorus, those rich in iron, recipes for farinaceous or starchy foods, etc. The directions for preparing the special dishes are so clear as not to be misunderstood by the stupidest of persons, exact measurements are given of each ingredient, and the precise length of time for cooking is stated. The modest claim for the book is that it teaches how to cook for the sick or convalescent, but happy would be the well man whose food was prepared according to these formulæ, and the physician who gets the book to lend to the nurses of his patients will do well to leave it, when not in use, in some convenient spot where the mistress of his own household may see it. He will find himself looking forward to his homecoming with a keener relish and a better appetite, and his cares will be forgotten as he feasts at the end of the day upon the dainty dishes prepared under Helena Sachse's directions.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Section on Surgery.

Stated Meeting, Held November 4, 1904.

Dr. Robert T. Morris, Chairman.

Carcinoma of the Stomach.—Dr. William S. Bainbridge presented a man, 43 years old, a tailor, who for two years or more prior to last December had complained of a few gastric symptoms, chronic dyspepsia, and had been under treatment at six or eight dispensaries during that time. The symptoms gradually increased, and he lost flesh and strength until he presented himself at the Skin and Cancer Hospital last December. No growth then could be detected in the stomach or abdomen. Only a trace of hydrochloric acid was found in the gastric contents. An exploratory laparotomy was asked for and refused. The patient returned to the hospital last January, stating that he had lost 15 pounds in weight and was vomiting everything taken into the stomach. Pyloric obstruction was diagnosed, and on January 5 he was operated upon in a condition that was anything but promising. During the entire operation the pulse practically could not be felt at the wrist, and the question arose as to whether this was really a proper case for operation. A gastrojejunostomy was performed, a point about sixteen inches below the pylous being taken. A carcinoma was found situated upon the posterior wall of the stomach encroaching upon the pyloric orifice. There was some dilatation of the stomach and carcinomatous nodules were found in the transverse mesocolon and in the great omentum, matting together the viscera. Nodules were also found in the liver. The Fowler-Mayo suture was used in closing the wound. The patient left the hospital in three weeks, having gained three pounds in weight; three weeks later he went to work on part time. He had no vomiting. In May he returned saying that he had some pain and some nausea. He gained in weight steadily, until April, when vomiting again set in and he ceased working. He vomited everything taken. The character of the vomiting was peculiar and he stated that he was unable to empty his stomach unless he pressed upon the lower part of his abdomen. Dr. Bainbridge thought this showed that he not only expelled the stomach contents, but the intestinal as well. On June 4, a second operation was performed, and he found a growth which extended over the anterior wall of the stomach and encroached upon the opening made between the stomach and jejunum at the first operation. The proximal end of the jejunum was found to be dilated as large as the transverse colon. He did a second gastroenterostomy, using the McGraw ligature. The patient had been at work since the end of July. The pathologist's report confirmed the diagnosis of carcinoma. To-day he weighed 140 pounds, ate well, and worked from 8 A.M till 6 P.M.

Dr. Torec thought it was remarkable that a man with such an advanced cancer should be able to eat so well and gain so much weight. It was the custom to refuse operation when the disease was so far advanced. He did not think the McGraw operation as good as the button operation.

Dr. Erdmann said that in cases of carcinoma of the stomach, in which there was a pyloric stenosis, the McGraw ligature was not an acceptable means in making a gastric anastomosis. In one case in which he had used this ligature, expecting it to cut through, the patient died from exhaustion, and the specimen showed perfect cohesion and adhesion of the parts, a sloughing process and not a cutting one, as it was said to be. The McGraw method was a simple one and gave good results, but was not to be advised in cases of pyloric stenosis.

Dr. Willy Meyer had used the McGraw method and could subscribe to all that had been claimed for it by McGraw. No leakage had occurred in his cases and he would continue to use it.

Operation for Neuralgia of the Inferior Dental Nerve.—Dr. A. V. Moschcowitz presented a patient upon whom he had operated for neuralgia of the inferior dental nerve, an operation that had not been very frequently done. The patient had suffered for one and a half years from typical attacks of neuralgia, confined to the cheek and lower jaw; he had had most of his teeth withdrawn, but without relief. The pain was so severe that he could not masticate and he lost in weight. He complained, too, of dryness of the mouth, which was probably due to his continually sucking, so drawing the saliva from the parotid gland. The operation performed was a modification of Velpeau's original one. Velpeau's operation was accompanied by so many cases of palsies on account of the division of so many nerves that he attempted a modification of it. A small incision was made corresponding to the angle of the jaw; this was continued through the masseter muscle and the periosteum. A narrow groove was chiseled in the ramus of the jaw until the nerve was reached. The nerve was resected and the patient was perfectly well. The case was of particular interest because there was no noticeable palsy.

Dr. Collins said that the palsies following the Velpeau operation were not so serious, for no more fibers would be divided than those upon the cheek. He believed the incision demonstrated was a superior one because of the cosmetic effect.

Dr. Robert T. Morris said that in a certain proportion of the cases of inferior dental neuralgia it was well to look for errors of refraction. He said he had had three or four cases in which operation was avoided by so doing.

Dr. Moschcowitz said he had not examined the patient for any errors of refraction.

A Case of Inguinal and Femoral Hernia on the Same Side.—Dr. William A. Downes presented a woman, 36 years old, who gave a history of having had a hernia since childhood, but did not know its type. Six years ago she noticed a swelling in the femoral region and had a truss applied. She had no further trouble until last May, when she noticed another swelling along Poupart's ligament which came on suddenly after lifting. A combined truss failed to give relief, and so she was operated on in the General Memorial Hospital last August. By dissecting out both sacs he was able to reduce a small piece of omentum in the femoral sac. An instrument introduced through the femoral opening came out through the inguinal opening, thus showing the passage between the two. The case was interesting because of its rarity. Dr. Coley had told him that out of 1,400 operations at the Hospital for Ruptured and Crippled, only two instances had been found.

Dr. Erdmann had seen two such cases during the past summer. The method of repair had been the Gordon for the femoral and the Bassini for the inguinal hernia.

Dr. Moschcowitz had seen one such case last summer, as also had Dr. Berg. In looking over the statistics, he learned that Berger of Paris reported on 10,000 cases of hernia, and found 222 cases of femoral and inguinal hernias occurring on the same side.

Dr. Downes said that there was a case at the Hospital for Ruptured and Crippled of a double inguinal, a double femoral, and an umbilical hernia.

Primary Carcinoma of the Omentum with Peritonitis Carcinomatosa.—Dr. Arnold Sturmdorf presented this paper, in which he said that it was not unusual to find the omentum involved in malignant disease by continuity or metastasis from other organs, but it was rare to find it the site of a primary malignant growth. There still existed much confusion in terminology and in fundamental conceptions as to the histogenesis and development of such primary peritoneal cancers. The primary development of an epithelial growth in parts in which epithelium does not normally exist as such is incompatible with advanced conceptions of histogenic and biological processes. As a result,

either the primary nature or the carcinomatous type of such cases had been questioned. This misunderstanding had led to much confusion in the literature of this class of cases. Delafield and Prudden had described endotheliomata as "a group of tumors, closely related on one hand to the sarcomata in genesis and in some cases in appearance, and on the other, resembling some forms of carcinoma so closely as to be difficult of distinction from them." He said that the bizarre nature of the histological criteria in these tumors explained the contradiction as to their prevalence and frequency, and he would leave his case to more advanced doctrine to relegate to its proper category. The history of his case was as follows: Mrs. E. C., 62 years old, married 30 years, widow 8 years. Father died of Bright's disease and mother of pulmonary tuberculosis. She had been normally delivered of three children, all of whom died of tuberculous disease. Menstruation began at 14 and ceased twenty-five years ago, without any climateric abnormalities. With the exception of a traumatism which resulted in the destruction of the left breast twenty-six years ago, her previous history had no bearing on the present condition. For four months she had had increasing tenderness, with recurring pain, and the gradual development of a hard mass occupying the middle of the right half of the abdomen. The mass grew rapidly, while pain, abdominal distention, dyspnœa, and loss of flesh developed to a distressing degree. When examined in August, 1904, she was pale, fairly nourished, with normal pulse and temperature, with slight dyspnœa, evidences of a compensated mitral insufficiency, lungs normal, abdomen symmetrically enlarged and very tense. Abdominal tenderness was most marked in the right half, which contained the greater part of the hard quadrilateral mass, the upper border of which could be defined by a nodular ridge extending across the epigastrium from points continuous with the mamillary lines. The lateral borders of this mass converged towards its lower pole, which seemed to project free into the pelvic cavity. The mass was hard and presented a rough, irregularly nodular surface, and was uninfluenced by respiration, slightly mobile from side to side, and in a less degree in an upward direction. Its lower free pole could be subjected to ballottement in an excessive amount of ascitic accumulation. The presence of intestine between the liver and the upper border of the growth was demonstrated. The spleen was not demonstrable; the genito-urinary organs were intact and free from involvement. There was marked œdema. The urine was normal. The blood showed 60 per cent. hæmoglobin, and no corpuscular changes. On September 14 the specimen of infiltrated omentum, which was exhibited, was removed without unusual difficulties. The parietal peritoneum was studded with countless papillary excrescences, presenting hard, flattened nodules varying in size from miliary dots to a split pea, very hard, yellowish-white in color, and showing a tendency to umbilication. Each papilla presented a small area of inflammation around its base. A painstaking search failed to reveal the presence of a similar neoplastic growth as a possible primary or secondary focus of the disease. Dr. Schnaper furnished positive microscopical evidence of its carcinomatous character. The epithelial cells were varied in shape. The nucleus stained well. The epithelial masses were varied in size and shape, the cells filled the alveoli and were in close relationship to one another. The Van Gieson stain revealed no stroma between the cells. Whether true carcinoma or endothelioma, and if carcinoma, whether primary or secondary, would probably remain an open question for the present. The patient made an uninterrupted recovery, and thus far presented no functional disturbances that might point to a possible involvement of any particular organ. The multiple papillary excrescences studding the parietal peritoneum could not be interpreted as merely passive metastatic deposits, but represented a type of malignant subacute efflorescence, clinically similar to that which was recognized in tuberculous and other infectious processes and productive of profuse serous exudate. Such a form of primary acute miliary carcinosis of the peritoneum had been described by Bauer and Nothnagel. In no other way could the enormous ascitic accumulation in so short a time, in the absence of circulatory obstruction, be explained.

Ten Years' Experience with a Radical Operation for Carcinoma of the Breast.—Dr. Willy Meyer presented this paper, which was read before the New York State Medical Association (see Medical Record, October 22, p. 672).

The following gentlemen discussed Dr. Meyer's paper: Drs. Sturmdorf, Torec, Syms, McWilliams, Hartwell, Moschcowitz, Gibbons, Morris, and Meyer.

Section on Pediatrics.

Stated Meeting, Held November 10, 1904.

Dr. David Bovaird, Jr., Chairman.

Abdominal Tuberculosis. —Dr. J. Finley Bell, of Englewood presented a patient, twenty-two months old, who came under his observation last January. At that time she had indefinite symptoms, peevishness, and febrile attacks, with a dry and persistent cough. The throat was red and the tonsils large, and the cough was supposed to be due to this condition. There was some slight enlargement of the abdomen, which was tympanitic. There was some constipation. The febrile attacks became more frequent, and their intermittent character soon became remittent. The abdomen continued to enlarge until February 20, when there was a sudden rise of temperature to 104°, and then all the signs of a bronchopneumonia appeared. The abdominal enlargement continued and the pneumonia ran its course. The patient was admitted to the Englewood Hospital in March, and was observed for a considerable length of time. She was seen by Dr. Koplik, who thought the case to be one of bronchopneumonia with a sarcoma of some abdominal organ, probably the kidney. After being in the hospital for three weeks, the tympanites subsided. A tumor was then made out, which extended from the umbilicus to the left flank. Clear serum was withdrawn, which showed 2 per cent. albumin (Purdey's test) and small mononuclear leucocytes. The smear stained with precipitated serum showed no tubercle bacilli, but 10 c.c. injected into the abdomen of a guinea-pig caused an enlargement of the inguinal glands, and a general tuberculosis. No further changes occurred in the child's chest after the bronchopneumonia. The abdominal growth was still present, but was constantly diminishing. The treatment employed was plenty of fresh air and guaiacol in moderate and continued doses.

Dr. L. E. LaFetra congratulated Dr. Bell because he had not operated upon the case. He said that the consensus of opinion among those who had the most experience in recent years with such cases, was that it was better to treat cases of tuberculous peritonitis without operation. Those cases that did well with operation were those that did better without operation. He thought the child would eventually make a perfect recovery.

Clinical Experience with Diphtheria Antitoxin.—Dr. Louis Fischer said that the dose of antitoxin required must still be considered empirical, as we could not accurately determine the quantity of toxin in the system, and it was his object to invite discussion as to the relative merits of large and small doses on the strength of accurate statistics kept at the Willard Parker Hospital. In July, 1903, there were treated 135 cases, 107 tonsillar and pharyngeal, with eighteen deaths and 82.3 per cent. recoveries, and thirty-four tube cases, with seventeen deaths and 50 per cent. recoveries. The average dose was 1,500 units of antitoxin. In August, 1903, 132 cases were treated; 103 tonsillar and pharyngeal, with six deaths and 94.5 per cent. recoveries, and nineteen tube cases, with eleven deaths and 42 per cent. recoveries. The average dose of antitoxin was 1,700 units. In September, 1903, there were 104 cases treated; eighty-eight tonsillar and pharyngeal, with ten deaths and 88.7 per cent. recoveries, and sixteen tube

cases, with fourteen deaths and 12.5 per cent. recoveries. The average dose was 2,500 units. In July, 1904, there were treated 134 cases; 100 tonsillar and pharyngeal, with eleven deaths and 89 per cent. recoveries, and thirty-four tube cases, with twenty deaths and 73.5 per cent. recoveries. The average dose was 2,500 units. In August, 1904, there were treated 121 cases; ninety-seven tonsillar and pharyngeal, with six deaths and 93.5 per cent. recoveries, and twenty-four tube cases, with ten deaths and 58 per cent. recoveries. The average dose was 5,000 units. In Septembmer, 1904, there were treated 137 cases; 105 tonsillar and pharyngeal, with seven deaths and 93.3 per cent. recoveries, and thirty-two tube cases, with eleven deaths and 65.6 per cent. recoveries. The average dose was 5,000 to 10,000 units. This showed about 21 per cent. mortality when the small dose was used, and 14 per cent. when the larger doses were used. McCollom of the Boston City Hospital commenced with an initial dose of 4,000 units, repeated in from four to six hours, depending upon the severity of the attack. When the patients had been ill for some time he gave an initial dose of from 8,000 to 12,000 units, and continued to use the antitoxin until there was a marked improvement in the condition of the patient. The shortcomings mostly to be met with were the placing of too much reliance on antitoxin regardless of vital necessities, the failure to stimulate emunctories. Hot saline colonic flushing of 115° to 120° should be administered for this purpose. The heart should be watched and supported by caffeine, sodium benzoate, strychnine, and small tonic doses of quinine.

Rashes usually appeared between the fifth and seventh days after the injection of antitoxin. The size of the dose did not vary the intensity, form, or time of appearance. The average duration of the rash was about three days. In some cases two distinct rashes could be found, which corresponded in time with different injections. Before the appearance of the rash there was usually a sudden rise in temperature, although the rash might appear without any febrile exacerbation. The proper dose of antitoxin was such a one as would inhibit the extension of the pseudomembrane, subdue the fever, and check the progress of the disease in general. For a mild case this was from 2,500 to 5,000 units. If an improvement was not noted within twelve hours this dose should be repeated. If there was a large exudate on the tonsils and pharynx, 5,000 to 10,000 units should be given on the first day, and if improvement was not noted, the same dose should be repeated within twelve hours. This dose should be repeated from day to day until all visible exudate had disappeared, glandular swellings had subsided, and temperature became normal. The condition and not the age of the patient should be the guide to the dosage. He had never seen ill effects from large doses of antitoxin. In cases of laryngeal stenosis, due to diphtheria, the primary dose should be 10,000 units. In some cases the immediate effect of antitoxin on the temperature and pulse was to produce a slight reaction, such as a rise of temperature of from one to two degrees, though in many cases a decided fall was noted after an injection of from 5,000 to 10,000 units. As a rule, the pulse rate was not affected, but in some instances a very rapid pulse, as of 160, had fallen to 140 within twelve hours after the injection. The temperature usually fell after the required dose had been administered. Proper nutrition was highly important. Milk diluted with some cereal decoction was better borne than milk alone. In older children raw eggs might be added to the milk, and concentrated broths administered. Acid fruits seemed to be well borne. Food should be administered about every three hours. When rectal feeding was necessary, one ounce of predigested milk, one ounce of starch water, and one minim of laudanum should be injected slowly through a colon tube after the bowels had been thoroughly cleansed. More than two ounces should not be given at one time, but if well retained the enema should be repeated every four hours. Dr. Fischer never used forced feeding in private practice.

Dr. Henry W. Berg said the question of the dosage of antitoxin was very interesting, and there seemed to be a great difference of opinion regarding it; he accounted for this because the relation between the toxin of diphtheria and the antitoxin, always a quantitive one, was not known. If one could tell definitely just how much toxin was absorbed, then one could tell exactly how much antitoxin was necessary. He believed it was always safer to give more than less of this agent. He said that Dr. McCollom's figures did not compare with those at the Willard Parker Hospital, and he gave enormous doses. Real knowledge of antitoxin in diphtheria had not been reached, and he believed we were still groping in the dark. The question of giving large or small doses of antitoxin depended upon whether the attack was a severe one and the lesion localized. If the lesion was severe and involved the pharynx or nose, the dose should be large, but, in such cases, he did not believe that better results were had from 5,000 than from 3,000 units. He usually started in with 3,000 units; at the end of three hours, another dose of some size was given; sometimes he gave a double dose. He laid a great deal of stress upon the rapidity of the pulse. If the heart beat 140 a minute, and with a temperature of only 100°, showing a toxic myocarditis, he gave large doses of antitoxin; if at the end of twelve or twenty-four hours the pulse was not down, he repeated the dose, sometimes doubling it. The temperature in diphtheria was never very high, and a typical effect of the antitoxin was to reduce it within twelve or twenty-four hours. Increase in the size of the lymph nodes was an important sign, and somewhat of a guide in the giving of antitoxin. The further away from the seat of the lesion were the lymph nodes the more serious was the case, and larger doses of antitoxin were indicated. The enlargement of the glands showed an attempt of the system to prevent the spread of the toxin. The question of what constituted a large or small dose of antitoxin was not answered. Some believed 1,500 units to be a large dose. In giving such doses as 60,000 units the emunctories were overworked; they were trying to get rid of the toxin of diphtheria, and the giving of such large doses placed extra work upon them. The serum introduced was a heterogeneous one, and the emunctories must rid the system of it. The rashes were not due to the antitoxin, but to the presence of a foreign serum. If a horse's serum should be injected into healthy persons, in 25 per cent. of them would rashes occur. The rashes were the conservative expression on the part of the skin in attempting to get rid of foreign material in the blood.

Dr. William H. Park said regarding the relation between the toxin and antitoxin, that if the two were mixed before injection, the exact quantitative relationship might be established; otherwise it would be a very difficult matter to decide. If one should take three guinea-pigs and give all fatal doses of toxins, and then immediately give the antitoxin, the guinea-pigs would be saved. But if one waited four hours, and then gave the same amount, it would not protect the pig; after four hours it would require ten times as much antitoxin. If one waited six or eight hours, it would require one hundred times as much. The question regarding the amount of serum to administer was a very important one. Dr. McCollom had pointed out to him the splendid results he had obtained from the use of very large doses. Dr. Park had experimented with large and small doses, but was unable to state definitely whether the small gave better results than the large doses, but in only three or four instances did the cases seem to do worse under the small doses. In bad cases of diphtheria he believed in giving large doses. The amounts the speaker gave were about as follows: In the mild cases, when seen early or late, involving the pharynx and tonsils, 2,000 units; severe early cases, 4,000; ordinary laryngeal cases, 5,000; in severe malignant tonsillar or nasal cases, 10,000, the dose being repeated at the end of twelve hours unless the patient was distinctly better. He emphasized the fact that antitoxin should be given for the diphtheria, and not for any coexisting pneumonia or other conditions.

Dr. Koester referred to those foul smelling cases of diphtheria, with subnormal temperatures, and said that one was safe in giving 10,000 units at least, and repeating it in tewlve hours; if only 3,000 or 5,000 units were injected, the next day would show the same amount of membrane present in all probability. In some instances, as much as 10,000 or 20,000 units might be given, and the membrane still be present on the following day; but if one would take a swab and wind it over the membrane, the membrane would come away; it had simply been lying there loose. With regard to the rashes, he said that when the first serums were used in 1894, few rashes appeared; but with the use of the more potent serums they appeared. He did not think they were due to the large doses of the antitoxin.

Dr. John Howland said that the statistics regarding the effects of large doses of antitoxin were not at all convincing. He believed it was far preferable to give a large initial dose of antitoxin than several smaller doses, even though they be repeated often, because the toxins in the blood were producing a deleterious effect upon the tissue cells, and unless we were prompt in action, the antitoxin would be powerless to help. With regard to pneumonic patients although the staphylococci, streptococci, and pneumococci were present in the majority of the cases, the Klebs-Löffler bacilli were also present, and an increased amount of diphtheria toxins must be caused by these germs. According to Councilman, in 15 per cent. of the cases of pneumonia following diphtheria, the Klebs-Löffler bacillus alone was the cause. Therefore, Dr. Howland believed that the dose of the antitoxin should be three, four, or five times larger than under ordinary circumstances.

Dr. Matthias Nicoll, Jr., said that personally he did not believe that increasing the dosage of antitoxin serum in diphtheria reduced the death-rate. The statistics of 1903 compared favorably with those of later years.

Dr. Sara Welt-Kakels said that years ago the *Lancet* reported cases of diphtheria treated with antitoxin serum in even larger doses than Dr. McCollom's, the patients receiving from 6,000 to 20,000 units as a single dose. In bad cases the dose was administered intravenously. The largest single dose given was 30,000 units, and the largest total amount given in one case was 82,000 units. Dr. McCollom used in a single case 60,000 units. In the report, the mortality was given as 6 per cent., although there were but fifty cases.

Dr. Scott said that the dose of the antitoxin depended upon the severity of the case, and the severity of the attack depended upon the extent of the lesion. A distinction should be made between a pure and mixed diphtheria infection. The mixed infection was only partially helped by the antitoxin; the pure infection was helped by small doses of antitoxin. He had worked with Dr. McCollom in the Boston City Hospital, and Dr. McCollom had given as high as 90,000 units in a single case. Dr. Scott said the dose of the antitoxin should be according to the lesion, according to the patient's condition, and according to the environment.

Dr. J. Finley Bell thought that the administration of antitoxin to the extent of producing rashes and other systemic effects would undoubtedly seriously modify the progress of diphtheria.

Dr. Louis Fischer expressed the wish that the Health Department would produce antitoxin in larger doses and in one bottle. With regard to the rashes, he said that last summer 500 instances occurred, and then the small doses were being given. With the administration of larger doses he did not think so many rashes would appear. With regard to the dosage, he said that it was his habit to give 2,000 units for the mild, 5,000 for the severe, and 10,000 for the laryngeal cases. He advocated dropping the word "thousand" in speaking of the amount of antitoxin, because so many physicians seemed to be frightened when the suggestion was made that so many "thousand" units should be used. He believed that the larger doses of antitoxin had a better effect than the smaller ones. It certainly would enable physicians to extubate earlier than formerly.

Chicago Pediatric Society.

At a meeting held October 18, 1904, there was a discussion on "Summer Diarrhœas of Children." Dr. A. C. Cotton reviewed the recent literature on summer diarrhœa. Among other things, he stated that Duval and Bassett, at the Wilson Sanatorium, Baltimore, found the bacillus of dysentery in forty-two out of fifty-three cases of diarrhœa examined, and they did not find it in healthy children. Knox found the bacillus in eighteen cases, in which no blood or mucus was found in the stool. The bacillus had been found in winter as well as summer diarrhœa. The New York Hospital found it in 78 per cent. of the cases examined, the New York Health Department found it in 53 per cent., Bellevue Hospital in 51 per cent., Johns Hopkins in 40 per cent., the Boston Floating Hospital in 93½ per cent., and the Philadelphia Children's Hospital in 52½ per cent. Dr. George H. Weaver presented charts showing results of cultural work. In 103 cases taken from the Sanatorium at Lincoln Park during the last summer, 76 were negative and 27 yielded the dystentery bacillus. In the 76 negative cases, 27,050 colonies were made. Of the 27 cases showing the dysentery bacillus, 17 gave the bacillus Y. This distinction had not been made in other reports. The true Shiga bacillus was not found at all. Miller of Toronto examined the intestinal flora after death in fifty cases. In ten of these the bacillus pseudodysenteriæ was found, but it could not be agglutinated by the antidystenteric serum, this being the only difference. Dr. May Michael read a clinical report of 102 cases examined by Dr. Weaver, giving the age, diet, character of stools, range of temperature, complications, and termination of the cases. Mucus and blood were found in all but two of the cases in which the dysentery bacillus was found. The bacillus was not found in any child under six months of age, the largest number being between one and two years of age. Most of the patients were artificially fed. Twenty-seven of the children in whom the dysentery bacillus was found, died, but recovery was the rule. Rickets, pneumonia, bronchitis, marasmus, whooping cough, were the most common complications, but many of the cases were in good physical condition at the outset of the diarrhœa. The antidysenteric serum was used in one case, with no result. Dr. John C. Cook reported 18 cases, in none of which was he able to isolate the dysentery bacillus and none gave a clinical picture of dysentery. He found in cultures from the throat or stools one or more of the following organisms: Diplococcus, lactic acid, pneumococcus, typhoid bacillus, sarcina, yeast, a short thick bacillus, and a long slender bacillus. The clinical symptoms were varied. There were complications of marasmus, brought on by improper feeding at home, and especially pneumonia. Five died, two of pneumonia, one of typhoid fever, in which the Widal test was positive. Antidysenteric serum was used in one case without result. One child recovered, the organisms contained in whose stool injected into a guinea-pig caused its death. Two cases, one the typhoid fever case, and another reported by the nurse as having had two severe hemorrhages from the bowels, showed in culture a pigmenting organism staining the media a red color. The suggestion was advanced that the color in the stool might be due to the action of this organism on the mucus. Most of the deaths were due either to pneumonia or to toxæmia resulting from improper feeding. Dr. William J. Butler reported ten cases from Cook County Hospital, in all of which the antidysenteric serum was used, without results in any case. All these children had blood and mucus in the stools, but in only two was the dysentery bacillus found. Clinically, the cases varied, but the stool was usually green, the temperature high, and the pulse and respirations rapid. One patient improved while using the serum, but the improve-

ment was thought to be due to the use of calomel and whey rather than to the serum. One child on milk and barley water diet showed no change in temperature, pulse, or stool for five days under the serum treatment, but improved in every respect when the didet was changed to albumin water.

Chicago Medical Society.

At a meeting held October 5, Dr. Edward F. Wells read a paper on "Diabetes." This disease, he said, was probably due to insufficiency of the pancreatic internal secretion, and was an important disorder, since it was increasing in prevalence. That diabetes was due to pancreatic disease was rendered probable by the fact that such disease was frequently accompanied by glycosuria; that lesions of the pancreas were found post mortem in a large proportion of diabetics, and that extirpation of the pancreas was regularly followed by diabetes. The most significant lesion in diabetes was pancreatic interacinar inflammation and hyaline degeneration. The symptoms varied with the type of the disease; those which first attracted attention were nocturnal dryness of the mouth and throat, increased frequency of urination, and excessive thirst. The other well-known symptoms followed. Coma, probably due to oxybutyric acidemia, was often the cause of death in severe cases. Glucose in excess, and the presence of morbid acids, combined with bases, were the most important changes in the blood. These were excreted with the urine, and were specific features. Diabetes was, broadly speaking, an incurable disease. The severe cases, especially in the young, died in a few months or years; the mild cases, in middle-aged or older persons, which formed the vast majority of all cases, lived moderately long lives, and died of other affections; all died with, comparatively few died from, diabetes. The treatment was almost exclusively dietetic, and should begin with the "therapeutic diagnosis," which measures the patient's capacity for carbohydrate assimilation. The patient was at once, or gradually, if diacetic acid was present, placed upon a strict anti-diabetic diet, with daily examinations of the twenty-four hours' urine, until sugar disappeared or reached the lowest point to which it could be brought. Carbohydrates, in the form of bread, were now gradually added to the diet until sugar reappeared or increased in the urine. From this a moderate proportion of carbohydrate should be deducted, and this would constitute the appropriate diet for the particular case. Readjustment of the diet should be undertaken two or three times a year. Codeine would but rarely be required. As a rule, the patient might be allowed to choose from a prescribed list those foods which he fancied, but the attendant should satisfy himself that, with such choice, the diet was properly balanced, and that the caloric requirements of the body were more than met. The severe cases would require the most stringent diet, *plus* an amount of carbohydrates, to be carefully estimated in each case, as would reduce the abstraction of glucose from the body tissues to a minimum.

Dr. Alice Hamilton read a paper on "The Invisible Droplets of Sputum Expelled in Coughing." In it she embodied the results of experiments that were carried on in the Memorial Hospital of Infectious Diseases. Recent bacteriological investigations had shown that the streptococcus was invariably present in cases of scarlet fever, yet in many cases it was of low virulence. Scarlet fever might run its course without any streptococcus complications when streptococci were present upon the tonsils. A number of instances were cited in which doctors and nurses contracted streptococcus infections of the throat soon after taking charge of scarlet fever patients. To prove whether the streptococcus was actually disseminated in the air by scarlet fever patients, plates were held before the mouths of children, who coughed or cried, from half a minute to one minute, the expirations being forcible. The colonies on the plates varied from one to seventy-five, and the proportion of streptococci varied also, owing probably to the degree of dryness of the mouth, etc. Of fifty patients, forty-seven were found by cultures made from swabs to have streptococci upon their tonsils; thirty-three expelled streptococci in coughing, crying, or breathing forcibly with the mouth open. In some the number of streptococcal colonies was less than one per cent.; in others it rose to over fifty per cent., an average of twenty per cent. Of thirty-four children who coughed or cried, twenty of them had streptococcus colonies. Of sixteen, who simply breathed heavily, thirteen expelled streptococci. These cases represented almost all varieties of scarlet fever, and the observations and cultures were made during the first three weeks of the disease. The author also called attention to the possibility of infection being transmitted to patients through the unprotected mouths of the surgeons or nurses present at operations or engaged in preparing dressings.

Dr. Alfred C. Crofton discussed the subject of "Newer Conceptions of the Management of Bright's Disease." He said that for most cases at least we had been forced to abandon the older views attributing this disease to a primary lesion of the kidneys, in favor of the idea that the condition was a cardiovascular one, which might even go on to a fatal termination with practically no renal involvement. After considering the possibility that some poison or group of poisons affected simultaneously the heart, the arteries, and the kidneys, the author stated that the other most important signs of Bright's disease were to be attributed to serious impairment of the kidneys, and were the invariable result of any nephritis. Prophylactic and causal treatment must be directed towards the correction of any gastrointestinal perversion, or any hepatic insufficiency that might be present. Next, the chief points of attack must be the cardiovascular apparatus, then the kidneys themselves, and, lastly, much attention should be given to the treatment of the patient's general condition.

Philadelphia County Medical Society.

At a stated meeting, held November 9, Dr. G. Erety Shoemaker read a paper entitled, "Cases of Hysterectomy and Salpingitis." Dr. James Anders read a paper entitled, "The Schott Treatment of Diseases of the Heart and Blood-vessels," in which he pointed out the superiority of physiological means over drugs as curative agencies. The bath-waters contain from 2 to 3 per cent. of sodium chloride, and from 2 to 3 parts of calcium chloride in 1,000, together with a certain amount of iron, and a large amount of carbon dioxide. The baths are of varying strength and duration. Thermal baths are first employed; then thermal effervescing baths; next pure effervescing baths; and finally the so-called flowing effervescing baths. The baths are useful in the treatment especially of cardiac insufficiency of varied origin, bringing about a more vigorous systole, with a diminution in the size of the dilated heart, and a reduction in the pulse rate. The arterial blood paths are opened, and venous stasis is relieved, while at the same time the blood-pressure is raised. In consequence of a freer coronary circulation, the nutrition of the myocardium is improved, the labor of the overburdened heart is greatly diminished, and recuperation is to a like degree assisted. The resistance movements bring into play different groups of muscles, more especially those of the extremities, in orderly succession, without inducing fatigue. They exert a marked influence on both the pulmonary and the general circulation. They tend further to drive the venous blood to the right side of the heart by compression of the veins. The method has proved valuable further in the treatment of chronic valvulitis, cardiovascular degenerations of varied kind, and angina pectoris. It is contraindicated in the presence of fever, advanced arteriosclerosis, far advanced myocarditis, the closing stage of valvulitis, with extreme dilatation of the chambers of the heart, aneurysm of the aorta or its larger trunks, except in the incipient stage, when the blood-pressure is lowered by the treatment, when the blood-pressure is below from 60 to 65 mm.

of mercury, and in cases of chronic bronchitis and asthma.

Dr. Thomas S. Githens read a paper entitled, "The Influence of Hunger and Hemorrhage on the Composition of the Blood-plasma."

Dr. Horatio C. Wood, Jr., read a paper entitled, "The Use of Methylene-Blue in the Treatment of Malarial Fevers." The drug was used in six cases, three of quotidian and three of tertian type. In all there was a cessation of symptoms and a reduction of temperature, although in four there was at least one distinct rise in temperature after commencement of the treatment, but in no case was the rise in temperature equal to that which had been present prior to the administration of the drug. In one case there was more than one paroxysm after the institution of the treatment. The dose generally employed was two or three grains every three hours. None of the patients remained under observation for more than three weeks, so that no positive statement could be made as to the permanency of the cure. In one case only was there any return of the symptoms, and in this case the relapse yielded readily to renewed treatment. The action of quinine was supposed to be expended principally upon the chromatin of the malarial parasite, and thus to affect especially the younger forms, while methylene-blue attacked chiefly the protoplasm, and thus destroyed the adult parasites. Treatment with the latter drug should be continued for a period of several weeks. No ill effects were observed from the drug in the cases reported.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending Nov. 19, 1904:

	Cases.	Deaths.
Measles	83	7
Diphtheria and Croup	323	36
Scarlet Fever	174	15
Small Pox	4	.....
Chicken Pox	114	.....
Tuberculosis	275	147
Typhoid Fever	107	18
Cerebro-Spinal Meningitis	.....	13
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,080	236

The Instrumental Dilatation of the Cervix and Orifice of the Womb During Pregnancy and Labor.—R. de Seigneux, in reviewing the history of the uterine dilator, from the time when Bossi described the instrument which he invented, states that the efforts of the inventors have been directed towards three principal improvements: The attainment of a true pelvic curvature; a simplification of the instrument, so that it would be lighter and more easily susceptible of disinfection; and an enlargement of the surface of the blades or an increase in the number of acting points in order to prevent the risk of rents, which is always possible. It was only after fifteen years of assiduous labor that Bossi succeeded in producing his instrument. Many other models have since been made. The writer explains what is meant by pelvic curvature in an instrument of this kind as follows: The direction of the cervix of a pregnant uterus on the point of delivery being perpendicular or about on the plane of the inlet of the true pelvis, it is not enough to give the instrument a more or less pronounced anteroconcave curvature to make of it a pelvic curvature in the obstetrical sense of the word. This will be really obtained only when the plane, in which the extremities of the blades of the instrument move, is found to be absolutely parallel with the plane of dilatation of the uterine orifice. Then only will it be possible to effect the opening desired without any dislocation and at the very point where the physiological dilatation takes place. But neither does Bossi's instrument nor any of its successors up to this time fulfil this condition. It is to this lack of a pelvic curvature that must be attributed the greatest number of rents made during the use of the instrument. On account of the fact that the position of the blades has been out of keeping with the plane of the opening of the uterine orifice, the result has been that no dilatation was possible without producing dislocation and excessive tension highly prejudicial to the integrity of the orifice. As to increasing the number of acting points, Kaiser and Frommer in their models have overlooked the fact that an increase in the number of points of contact is by no means the same thing as an enlargement of the surface of application. Nowakowski in his model has attached to the extremities of the instrument something resembling a napkin ring, which expands progressively. The idea is ingenious, but it is reasonable to ask if it would be an easy task to withdraw the instrument without causing rents, in cases in which under the influence of labor pains the head is caught in the inside of the napkin ring. The writer then describes his new dilator, and illustrates the description with cuts. This instrument is composed of an elongated handle containing a screw on which two sliding nuts turn inversely, and of four movable blades, the extremities of which are turned up. The handle can be easily taken to pieces for the purpose of cleaning. All the blades move in a plane parallel to the longitudinal axis of the instrument, which is so made that larger or smaller blades can be adapted to the handle as desired. A small spur is attached to the posterior and to the two lateral blades. This prevents them from slipping when inside the uterus. The extremities of the dilating blades all spread out equally from the same central point, and form during the operation a circle, the plane of which is parallel to the longitudinal axis of the instrument. The writer sums up the most important advantages of his instrument as follows: It is possible to adapt to the same handle, according to the progress of dilatation, a succession of blades of wider and wider surface in such a way as to reduce to a minimum the risk of rents. Since the dilatation is effected in a plane paralled to the axis of the instrument, the dilator thus presenting the proper pelvic curvature, it is possible to bring the dilating part of the instrument easily into the plane of the inlet of the true pelvis, without any dislocation of the uterine orifice. Each of the blades can be introduced separately like the branches of a forceps and they can be fixed to the handle when they are in perfect position. Thus much larger blades can be utilized than those in the Bossi instrument. As soon as the dilatation begins, the blades can be withdrawn one after the other, thus preventing the danger arising from not being able to withdraw the instrument easily on account of the descent of the head during the operation. The writer states that his dilator should not without a clearly defined indication be used in the case of a woman not in labor. Dilatation should be followed by the immediate extraction of the fœtus. The writer thinks that it is probable that this method will in time replace the habitual use of the Krause bougies. Except in urgent cases the method should be used only when the cervix is quite obliterated and the dilatation of the external orifice has already begun. In cases in which the dilatation has been brought about only for the purpose of shortening the first stage, it is not at all necessary to bring labor to an end by an operation. It is experiment alone which must determine all of the indications for and against the mechanical method of dilating the uterus. The writer from force of circumstances has employed his dilator in absolutely normal cases. He gives the results of his experiments with this instrument in a few words: This dilator renders the immediate termination of labor possible, with or without narcosis, when the orifice is not yet sufficiently dilated to admit of obstetrical intervention, and when the state of mother or child calls for immediate delivery. It also renders equally possible a rapid termina-

tion of labor in all cases in which the life of the mother is in any danger on account of pregnancy, and when this risk can be avoided only by the extraction of the child at a time when the cervix is still intact.—*Journal of Obstetrics and Gynæcology of the British Empire.*

Reform Costume.—In Europe at least, the advocates of a more rational plan of dress for women are meeting with considerable success in gaining proselytes. One sees many of the modified Empire costumes which the converts affect. On the streets of all the larger continental cities and in Vienna the movement has become so popular that there has been a great slump in the manufacture of corsets, which the Chamber of Commerce attributes in great part to the publication of medical opinion condemning tight lacing.

Pathology vs. Zoology.—At the recent meeting of the British Association Dr. Adamkiewics read a paper upon "Ist der Krebs erblich?" (Is Cancer Hereditary?") Unfortunately the programme had it "erdlich." So the London *Times* next day announced that the doctor had read a paper upon "Is the Crab a Sea or Land Animal?"

Heredity as a Determining Cause of Disease.—R. M. Phelps defines heredity as the transmission from parent to child of mental and physical characteristics. Heredity accounts for the likenesses to parents or type, and also for many of the apparent differences. But for the latter there are three other apparent origins: (1) The "antenatal" causes of temporary character (which become a part of the inheritance); (2) The environment of our growing period; (3) The action of our "will" or volitional power. The writer further elaborates these statements: 1. In general, our whole endowment of form, strength, and passions—all our physical and mental characteristics—are inherited. 2. This endowment includes to a considerable, though vaguely outlined degree, things that seem to us voluntary, and even the quality of the will itself. 3. Antenatal temporary causes acting upon the parents have effect on the child, although to just what degree is rather vaguely known. 4. The environment of the child can change superficially the qualities endowed, but does not wholly uproot any of them. 5. Man's will similarly seems to have power only to modify and repress the endowed qualities of the person, not to uproot any of them. As to the application of these laws to the study of disease, the writer points out that rarely will all the children in a family show exactly the same trend, even in the most strongly marked diseases, such as tuberculosis, insanity, or hereditary chorea. The same rule applies as in inheriting the more normal qualities. There is, however, an unmistakably strong trend toward inheritance. The writer believes that there has been present recently an undue tendency to magnify extrinsic causes, the predisposition and not the disease being said to be inherited. Insanity is probably the most common disease recognized as strongly hereditary. The inheritance in cases of insanity is far greater even than statistics indicate. In the case of tuberculosis, the writer believes that the contagion of the disease is not so great as is often thought. Clear mathematical proof, however, cannot be had for either heredity or infection. It is difficult to bring evidence in the case of tonsillitis and rheumatism. The writer has noted a marked trend in certain families toward tonsillitis; toward rheumatism, more vaguely. Asthma has clearly been noted to be inherited. Gout, cancer, leprosy, and goitre have more vague proof. "Old age" is inherited in the sense that some families age sooner than others. It is known that even in the most contagious of fevers, not all that are exposed catch the disease. Is immunity all chance? The writer believes that it cannot be. It seems within reason that sometimes we may have tests to recognize natural or inherited immunity, and its opposite predisposition, and be able to take steps to prevent the fulfilment of the predisposition, perhaps by producing artificially the immunity that is recognized. It is difficult at present, however, to recognize even the relative power of each.—*The St. Paul Medical Journal.*

The Influence of Slight Traumata on the Localization of Tuberculosis.—Edoardo Salvia has conducted experiments on rabbits with a view to learning whether injuries have a marked effect in localizing foci of tuberculous infection. He produced an injury in the animal and then injected a virulent culture of tubercle bacilli. After some time the animal was killed and an exhaustive histological examination made of the body. He draws the following conclusions: (1) A slow injury of moderate severity and repeated for a short time, predisposes the liver substances to a localized tuberculous infection, and rapid formation of nodules. (2) The location of the lesion is not due to hemorrhage into the tissues after injury, but to marked disturbance of the lymphatic circulation in the liver. (3) On the ribs and flat bones a firm blow produces a localization of tuberculosis—circumscribed, but involving all parts of the bone, periosteum, and pleura. (4) The injury to the ribs extends to the lung substance. (5) On the long bones of the limbs, the articular surfaces and synovial membranes of the knee, slight trauma has no effect to localize tuberculosis. (6) The added action of a small amount of ammonia increases the effect of a slight trauma, producing an extension of the virus into the soft articular tissues.—*Il Policlinico.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended November 19, 1904:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Illinois, East St. Louis	Nov.	5–12	8	1
Michigan, Detroit	Nov.	6–13	3	..
at 50 Places	Oct.	29–Nov. 5	(Present.)	
Missouri, St. Louis	Nov.	5–12	31	1
New York, New York	Nov.	5–12	1	..
Ohio, Cleveland	Nov.	5–12	1	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Oct.	22–29	13	..
Brazil, Bahia	Oct.	8–15	11	3
Para	Oct.	1–21	29	4
France, Lyon	Oct.	22–29	3	..
Great Britain, Leeds	Oct.	22–Nov. 5	4	1
London	Oct.	22–29	1	..
Russia, Moscow	Oct.	15–22	2	..
Turkey, Alexandretta	Oct.	22–29	1	..
Beirut	Oct.	22–29	(Present.)	
Constantinople	Oct.	23–30	..	20

YELLOW FEVER.

Cuba, Santiago, Punta de Sal	Nov.	8	1	..
Mexico, Coatzocoalcos	Oct.	29–Nov. 5	3	2
Venezuela, LaGuayra	Oct.	22	(Present.)	

CHOLERA.

Persia, Tabris	Sept.	27–Oct. 2	..	209
Turkey, Bagdad and vicinity	Sept.	17–Oct. 1	272	216

PLAGUE—INSULAR.

Hawaii, Honolulu	Nov.	11	..	1

PLAGUE—FOREIGN.

Brazil, Bahia	Oct.	8–15	..	3
Egypt, Alexandria	Oct.	8–14	2	1
India, Karachi	Oct.	8–16	9	11
Mauritius	Aug.	5–Sept. 8	31	20

Books Received.

L'Arterite Syphilitique. Par Le Dr. J. Darier. 8vo, 164 pages, illustrated, paper. J. Rueff, Paris.

The Medical Record Visiting List or Physicians' Diary for 1905. New Revised Edition. 16mo. wallet leather. William Wood & Co., New York. Price, $1.00 net.

Manual of Serum Diagnosis.. By Dr. O. Rostoski. Authorized Translation by Dr. Chas. Bolduan. 12mo, 86 pages, muslin. John Wiley & Sons, New York. Price, $1.00.

A Guide to Anæsthetics. By Thomas D. Luke, M.B., F.R.C.S. Second Edition. 8vo, 135 pages, illustrated, muslin. William Green & Sons, Edinburgh and London. Price, 5s. net.

Accidents and Emergencies. A Manual of the Treatment of Surgical and Medical Emergencies in the Absence of a Physician. By Charles W. Dulles, M.D. Sixth Edition. 12mo, 209 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $1.00 net.

A Text-Book of Physiological Chemistry. By Olof Hammarsten. Authorized Translation by John A. Mandel, Sc.D. Fourth Edition. 8vo, 703 pages, muslin. John Wiley & Sons, New York. Price, $4.00.

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THE TREATMENT OF EPILEPSY IN CONNECTION WITH AUTO- AND HETERO-TOXIS.

BY ALLAN McLANE HAMILTON, M.D., F.R.S.E.,
NEW YORK.

THE treatment of epilepsy from remote times has for the most part been empirical, if we may except that of a surgical kind, and even the latter has until the discovery of cerebral localization been largely experimental.* The list of available drugs which have been more or less confidently recommended, is formidable enough, and in its diversity exceedingly curious, as it contains a large number of widely differing substances, some of which have little or no medicinal value under any circumstances. Much of the therapeutic guesswork which has been applied to the treatment of epilepsy is due to an imperfect knowledge of the pathology of a disease which is even to-day explained by many persons in many different ways, with more or less success. Putting aside those forms due to premature ossification of the cranial bones, to prenatal or early cerebral injury or disease, or when the convulsions are the symptoms of the formation of neoplastic or adventitious growths, there is a large number of so-called idiopathic cases which are exceedingly obscure, as it is impossible with any certainty to trace either a cause or an underlying morbid process. These have been of the obstinate and refractory variety that have tried the general practitioner, and even the neurologist, who have learned perhaps to depend to too great a degree upon the routine use of the bromides or other sedative drugs, with the idea of in a way smothering the activity of the excitable cellular elements. We therefore find these advocated, and in general use, and for years they have been given the first place as therapeutic agents in text-books, and in consequence of their indiscriminate use and abuse the attainment of results of a most unsatisfactory character has been the rule. The late E. C. Seguin more than a decade ago, while conceding the importance of the bromides, made an attempt to diminish their use in large quantities by substituting chloral, which was found to some extent to be an efficient substitute,† and in an exceedingly valuable series of lectures in which he declared himself a pessimist as to the curability of idiopathic epilepsy, warned his hearers in regard to the reckless administration of the bromides. "To see a case of epilepsy once and prescribe a bromide treatment is a most reprehensible, careless practice." Not only have Seguin and others found that there is a wide difference in the susceptibility to these drugs, but that where organic cardiac disease, or even a feebleness of circulation, exists, or where there is organic cerebral disease, there is an increased liability to bromism, and more or less serious consequences are to be expected. The writer, whose experience has been extensive, has realized what must have been observed by others—that in a comparatively large number of cases, the attacks are not only undiminished, but are sometimes aggravated by the use of the bromides, even in small doses. When injudiciously given for any length of time the effect is often a general disorder of metabolism, and perhaps intestinal autotoxis which is associated with gastrointestinal disorders primarily through atony of the intestines and impaired peristaltic action, which undoubtedly leads to the causation of attacks. Starr[2] is most pessimistic in regard to the curability of the disease under all circumstances, and this is reasonable enough considering how rarely these patients are rationally treated, and how generally they are the victims of routine medication, and that the malady is an organic one. It too often happens that after indulging in a course of proprietary medicine, or after consulting the advertising quack, they come to the regular physician in a broken-down state, with ruined digestive and cardiac and vascular atony. Even then they are too often "put on bromides," and sent off, to report from time to time, or to use their own judgment in diminishing the dose when they become more or less brominized. Possibly some of this is due to the reputation of the disease for intractibility, and the trial of the physician's patience; and in a certain number of cases the knowledge that the fits may be suppressed by the use of these remedies, leads to their universal employment.

It seems, therefore, that we should study our cases more thoroughly for the purpose of ascertaining if there is not more that may be done.

For some years the writer has been impressed with the facts forced upon him not only as the result of the study of his own cases, but by the accumulated researches of Raymond Petit,[3] Voisin,[4] Smith and Herter[5], Mott and Haliburton,[6] and later by Carlo Besta[7] and other Italian investigators, that toxemia enters much more largely than is generally supposed into the pathogeny of epilepsy, and this is apparent, as Voisin has pointed out, in the general resemblance and mode of occurrence between the epileptic attack and certain ordinary forms of poisoning in which the nervous system is affected. In such cases the element of convulsion and the mental disturbance have features in common, and it would appear that the occurrence of the fit betokens the accumulation in the body of some particular toxic agent, the unwelcome presence of which gives rise to a convulsion when the point of cell-tolerance is reached. This is particularly significant in those cases of epilepsy where the attacks either occur periodically when the toxemia reaches a certain cumulative stage, and there is an explosion, or in others where the paroxysm has no adequate

* B. Sachs says: "I would say, under favorable conditions, and by the methods described in this paper, the surgeon may be able to cure a few cases of epilepsy. He will be able to improve many, but surgeons and neurologists should in future make an earnest effort to *prevent* epilepsy."—*The New York Medical Journal*, February 20, 1892.

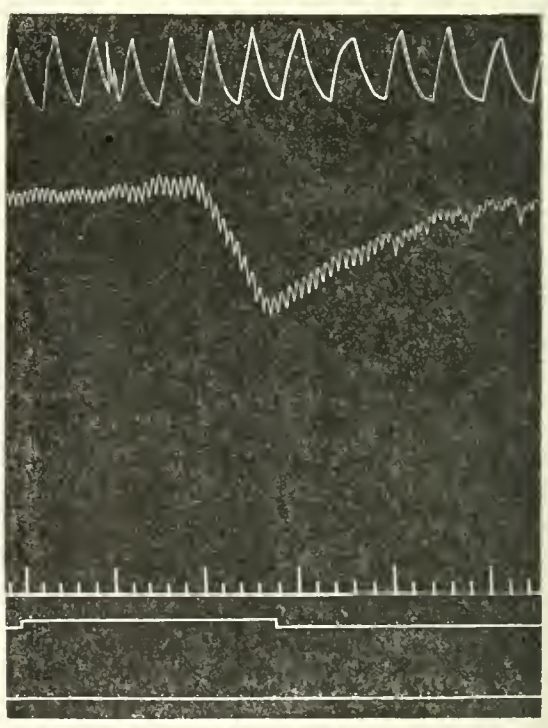
† Wallis (W. R. Reports, Vol. V, 1875) had previously recommended it for the relief it afforded in the status epilepticus.

ascertainable cause. Then, again, the condition of the blood, urine and circulation are those common to many forms of toxemia, and are so constant in the large number of cases observed, as to indicate a definite morbid mechanism. We should therefore devote more attention than we do to the chemical origin of the disease, for the time has come when this, as well as other diseases of the nervous system, bear a direct connection with morbid chemical changes and toxemia both autogenous and heterogeneous. In making this statement the writer takes into account the existence of the familiar predisposing and primary causes, such as heredity, brain injury and coarse disease, and it is their connection with secondary processes which has led to the new consideration of the disease itself, and the time has certainly come for a radical change in the treatment of the affection, which should be followed by decided improvement, if not cure, of this most obstinate of the diseases of the nervous system.

Reference is not alone made to eclamptic conditions and functional epilepsies due to temporary toxemia, but the attention of the reader is directed to cases of long standing, either idiopathic, or as the result of trauma or disease, in which a degeneration of the nervous elements of greater or less degree has been established. The conclusions clinical and chemical of the investigator in this field show that autotoxemia may occur in three different ways, all of which bear some relation to the development of fits, and the selection of appropriate treatment. *First*, in the existence of a toxemia of gastro-intestinal origin which was described originally by Bouchard,[8] and later by Herter and Smith and the writer.[9]

This consists primarily in quantitative changes in the uric acid and xanthin, and by the ethereal combinations of sulphuric acid; by the absorption from the intestines of poisonous substances during digestion, or by toxic materials produced by foreign bacteria which have found their way into the intestines.

Second, by the introduction of certain familiar cocci into the circulation, and in this connection attention may be directed to the researches of Comberale and V. Bué,[10] who found the staphylococci aureii and albii in the blood of epileptic subjects. The *third* division includes a far more important kind of toxemia which absolutely explains the causation of attacks in individuals in whom exists organic disease of the cerebral substance, and undoubtedly accounts not only for the familiar type of general epilepsy, but the Jacksonian and symptomatic forms as well.* The admirable work of Mott and Halliburton, whose experiments and conclusions were presented to the Royal Society in 1901, were the first to indicate the formation of a specific poison which was the result of tissue disorganization. These observers determined beyond question that in the blood of patients suffering from a variety of diseases characterized by breaking down of nerve tissue, it was possible to extract a varying amount of *cholin*, and for this purpose cases of beriberi, disseminated sclerosis, and neuritis were chosen for examination. Mott also found in general paresis that if the cerebrospinal fluid, especially after an epileptiform convulsion was tested there was found a decided accumulation of this toxic material. Pursuing their experiments still further it was demonstrated that when section and disorganization of a nerve trunk occurred that the process of degeneration was attended by the disintegration into lecithin, the liberation of the phosphorized portion of the molecule, and also of cholin. These observers obtained the blood of patients during life by venesection, and the blood from the body of a subject who died of alcoholic neuritis, and by a method to be subsequently described extracted an appreciable amount of this toxic substance. A cat was anæsthetized and the carotid artery of one side was connected with a mercurial kymograph for the registration of the arterial blood pressure. The external jugular vein of the opposite side was exposed, and into this five cubic centimeters of fluid which corresponded to twenty or thirty cubic centimeters of the original blood, was injected. After they had noted the effect of such an injection 0.5 cubic centimeters of an 0.5 per cent. solution of atropin was injected subcutaneously into the cat and a few minutes allowed to elapse. "In order to test whether the animal was fully atropinized the vagus of one side was stimulated or 2.5 cubic centimeters of an 0.2 per cent. solution of cholin-hydrochloride was injected into the jugular vein. When inhibition of the heart by vagus stimulation was not obtained, or when cholin-hydrochloride failed to produce its usual fall of arterial pressure (or this was replaced by a rise) the experiment was continued. The second part of the physiological test was then performed and consisted in again injecting the saline solution from the blood suspected to contain cholin. If the injection now produced no fall of arterial pressure, or this fall was replaced by a rise, the identification of cholin by physiological means was completed." In the several cases experimented upon, it was found that there was a decided fall of pressure, and a tracing is appended which shows the respiration, carotid blood pressure, the chronographic record and the period of injection. No cholin was detected in the urine, nor was any effect produced upon respiration. My own observations lead me to believe that it is possible to obtain cholin



1. Respiration; 2. Carotid blood pressure; 3. Chronographic tracing in seconds; 4. Signal line indicating time of injection; 5. Abscissa of the blood pressure.—(Mott and Halliburton.)

*"As the pathology in the convulsive affections approaches nearly an organic basis, in which parenchymatous and interstitial changes play the chief rôle, we must seek their principle of pathogenesis in an initial toxin or autointoxication."—L. Pierce Clark. *The Medical News*, July 18, 1903.

at most times in those cases when there is any reason to believe that there is an extensive granular degeneration of the cortical cells, and there is augmentation before and after the attack itself.

Among the earlier contributions of Hughlings Jackson[11] to the study of epilepsy he made the statement that in the epileptic brain nutrition is carried on on a lower level, and that there is assimilation of nitrogen instead of phosphorus. "There are," he says, "two ways in which nutrition may be imperfect—in quantity and quality. I believe that nerve tissue in discharging lesions is over-nourished in the former sense and worse nourished in the latter. I believe that the highly unstable nervous matter of disease (the discharging lesion) differs in composition, but not in constitution, from the comparatively stable gray matter of health." This certainly has a bearing upon Mott's later discovery of that form of chemical change to which reference has been made.

The clinical study of a large number of cases of epilepsy reveals a striking and more or less uniform change in the circulation which is indicated by a lowering of arterial tension before the attacks and an increase which occurs at the commencement of the tonic stage, and lasts until the period of recovery. With this there is an acceleration of the pulse which is very constant. There seems to be some conflict of opinion between the French writers about the consistency of these phenomena, Féré[12] holding that the arterial tension is increased before and during the epileptic attack, and falls when the crisis is over. Voisin and Petit, on the contrary, take the view which I believe to be correct, that there is an initial lowering of pressure, and they detail eighteen cases in which they found by careful measurement that there was a decrease before the attack, and a decided increase during the stertor and afterward. The rapidity of the pulse in some of these patients was almost doubled, and in all it was accelerated. My personal experience shows that in all old epileptics there is diminished arterial tension in the inter-paroxysmal state with variations which are more or less significant, and I have learned to look upon a soft, rapid pulse with considerable apprehension, for in many subjects its presence often precedes the development of an attack or series of attacks. In a recent case which was carefully watched where the tension was decidedly diminished, the attacks occurred with notable frequency so long as the pulse rate was 100 or more, but when digitalis was administered there was resulting augmentation of tension and lowering of the pulse rate to 80, and the patient went several weeks without any paroxysm. We should therefore connect the state of the circulation not only with continued strain and resulting weakness of the vascular walls, but with some existing toxic influence, and be prepared to use appropriate treatment.

Urine.—In the epileptic patient the condition of the urine certainly bears out the supposition that a general toxemia may exist, and Delore[13] has found in eclampsia that the urine was decidedly toxic, a condition observed by Voisin, Herter and Smith, and myself. The hypertoxicity of the urine is not only found after the attack, but is occasionally a warning of its imminence. The writer has for several years systematically examined the urine of numerous patients, and has found especially in those where the attacks were connected with gastrointestinal disturbance that at periods corresponding both with the beginning and subsidence of the epileptic state, there was a greatly increased amount of indican, indicating that form of intestinal disturbance in which there is a disproportion in the ratio of the preformed and aromatic sulphates. Herter[14] says: "Normally the amount of indican in the urine is small, but in disease it may become greatly increased. The increase is most striking in mechanical obstruction of the gut, but a great increase is often observed in catarrhal enteritis, and in errors of diet consisting of the excessive use of proteid food. We cannot state whether the absorption of indol gives rise to specific symptoms. Sometimes the pathologic increase coincides with the appearance of urticaria, sometimes with depression and headache and sometimes with *grand mal* seizures of epilepsy."

Blood.—Examination of the blood in epilepsy has often been made, and more particularly by the Italians. It cannot be denied that here again the condition of this fluid is distinctly suggestive of a toxemic state, for its tendency to coagulate immediately, its dark color, and sluggishness of flow are characteristic, and common to various forms of poisoning and infection.

Hénocque[15] has found that after an epileptic attack the activity in the reduction of oxyhemoglobin was diminished, and there was a diminution in the number of red corpuscles (Voisin).

Although Petit and other observers lay great stress upon the presence of certain bacteria, the writer is convinced that these have not so much to do with the pathogeny of the disease as the generation of cholin to which reference has before been made, and it is probable that the convulsions are actually due to the chemical processes that take place incident to the slow splitting up of nervous tissue incident to pathological changes. Mott and Halliburton in their search for cholin mixed the blood with six or eight times its volume of absolute alcohol and filtered and evaporated it to dryness at 40 degrees C., the residue being treated with absolute alcohol. After repeated evaporations to dryness, the residue was divided into two parts (A and B), one of which was used for chemical examination and the other for the physiological test. The subsequent process is detailed by them as follows: "To Part A, platinum chloride dissolved in alcohol was added, and the precipitate that formed was allowed to settle, and washed by decantation with absolute alcohol. It was then dissolved in 15 per cent. alcohol. It did not all dissolve, so the platinum chloride must have precipitated substances other than cholin. The solution was freed from the insoluble residue by filtration, and then evaporated in a watch glass to dryness at 40 C. Microscopical examination of the watch glass with a low power showed whether or not the octahedral crystals were present, and a rough quantitative estimation of the cholin was made by noting whether or not the crystals were abundant." Part B was evaporated to dryness and dissolved in physiological saline solution. The result was a neutral fluid slightly opalescent from contained lecithin.

Therapeutic Suggestions.—It has been my custom to determine if possible the existence of removable causes and to follow the ordinary hygienic rules for the management of these patients which are familiar enough to most of us, and need hardly be detailed. They consist in the use of hydrotherapy, carbonic-acid baths, friction, passive exercise, as well as walking and gymnastics, and other means that favor the elimination of waste or toxic products, proper mental occupation and avoidance of stress and strain. The influence of exciting causes that suddenly and profoundly change the cerebral blood pressure should not be minimized, and this must

be familiar to those who have watched the occurrence of attacks where organic disease has been localized. There is always a vascular instability which has been so well described by Fothergill[16]—a likelihood in ordinary anæmic brains of flushings and local congestions to take place, especially about a focus of disease. Under these circumstances there must in all probability be the chemical change due to excited disorganization, and ultimately cholin formation. The regulation of the diet is perhaps a matter of the greatest importance, and idiosyncrasies of the individual, for often enough it is exceedingly difficult even if he is willing to lay down hard and fast rules,* yet we should be alert to discover bad habits of long standing. The writer has recently treated a man who took daily the concentrated decoction from three pounds of coffee and had done this for many years. It is unnecessary to say that no treatment did any good whatever until this habit had been broken off. In this connection a word of warning is in order in regard to the use of coffee which so often interferes with general metabolism. I have no reason to change my opinion, advanced nearly thirty years ago, and which has been shared by some others, that an excessive nitrogenous diet is apt to aggravate the disease, and therefore advise that the quantity of animal proteids especially should be reduced to the minimum. Merson, adopting the idea of Hughlings Jackson that it is the nitrogen that leads to explosiveness and instability, conducted a series of experiments at the West Riding Asylum which showed that a meat diet not only produced a dull, languid condition with an increased temperature, but that the attacks were more frequent. On the contrary, the mental condition of the epileptic was vastly improved when he was confined to a farinaceous diet, and the frequency and severity of the fits was reduced. It is usually no hardship for patients to do without their meat, and there are numerous instances in which persons have gone for years with little or none without discomfort. Small and repeated meals from which are eliminated all articles likely to produce indigestion are preferable to others of a more hearty nature and separated by long periods. Every form of indigestion undoubtedly plays a part in the autotoxemia underlying certain epilepsies, so that it is impossible to fix an arbitrary diet for all. Fats and cod liver oil, which enjoy the approval of neurologists generally, may at certain times be active agents of mischief, when their imperfect assimilation leads to the excretion of abnormal amounts of ammonium in the urine. The ingested carbohydrates may also be factors of intestinal indigestion, undergoing fermentation and usually gas. Indeed, the connection of extreme flatulence is often a feature of an epileptiform attack. It will be seen, therefore, that the rational connection of gastrointestinal troubles, with appropriate remedies, is of far more importance than the mere giving of antispasmodic and the old-fashioned alteratives.

When the tendency to gastrointestinal torpidity exists, the use of hot water before eating, and perhaps the administration of *small doses* of nux vomica or strychnine at the same time will help the patient. When, however, there is reason to believe that the disinfecting action of the bile is diminished, it may be well, in a routine way, to give small repeated doses of calomel or to use one of the familiar intestinal antiseptics of synethic formation, coated with keratin, so that its action is limited to the lower digestive apparatus.

The efficacy of boracic acid in many cases is, after all, undoubtedly due to its value as an intestinal antiseptic, and it may be used in comparatively large quantities despite the unfounded prejudice which exists in regard to it. If bromides are prescribed at all it is better to employ them in quantities where they will have but a mild sedative effect, relying upon other agents to improve the circulation and establish the equilibrium of arterial tension, which should be preserved by careful watching and variation in dosage. The administration of drugs of a depressing nature should be attended by the greatest caution and moderation. If the bromides be given the dosage should be light and the salt be well diluted before the expected attack, if there is any regularity in the recurrence. If not, repeated doses, combined with some cardiac or vascular stimulant, is advisable. In some cases chloral, or, better still, veronal, may be used, but the latter should invariably be dissolved in hot water. The popular idea that bromides should be given to the point of producing anæsthesia of the fauces, or that a crop of acne should appear to signal saturation is, I am convinced, a mistake. With this degree of bromic toxicity there is necessarily a depraved condition, with a vascular hypotonus that can only invite attacks and an interference with the ordinary processes of digestion. In some cases the withdrawal of a certain amount of blood, with coincident intravenus or subdermal injection of saline solution, is attended by prompt results of a gratifying character; especially is this the case in those subjects where there is a series of repeated attacks, or when the status epilepticus exists. In one patient the loss of blood during a severe operation was undoubtedly attended by a lessening in the number and violence of subsequent paroxysms. Sometimes the injection of the saline solution of Leclerc, where the fits are heavy or frequent, will be of signal service. While the length of this article prevents me from presenting any tabulated statistics, it may be stated that my opportunities for observation have been sufficient to lead to the conclusion that the general unfavorable opinion which is held in regard to the prognosis of epilepsy of all kinds is fully justified under the old method of treatment; but my results have been so encouraging since I have treated my cases upon the lines indicated in this article that I believe many apparently hopeless epileptics can be greatly benefited if not cured.

To summarize the treatment:

1. We should, besides every measure that will favor elimination, regulate the dietary so that the idiosyncrasies of the individual shall be taken into account, but nitrogenous food shall be interdicted as far as possible. No large quantity of food shall be taken at any one time.

2. If intestinal autotoxis exists, cholagogues and appropriate ferments, as well as antiseptics, shall be prescribed.

3. Everything should be done to prevent the lighting up of gross intracerebral pathological processes, and the resulting formation of cholin. The equilibrium of the arterial pressure should be everywhere maintained.

4. The bromide should be given only in doses sufficient to diminish the activity of the cortical motor cells.

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TACHYCARDIA AND ITS RELATION TO INJURIES.

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Among the medical sequelæ of injury or shock to the body surface, especially about the chest and neck, which are interesting to the surgeon as well as the physician, are certain derangements in the heart action. It is not the purpose of this paper to treat of injuries transmitted directly to the heart, or of indirect laceration of the cardiac tissue, e.g., rupture of the heart, but more especially to consider those disturbances of heart action classed under the general term of cardiac neuroses and more especially as tachycardia. Considerable difficulty has been experienced in getting data of this kind, although this symptom must be more common than this paper would lead me to think. The relation of myocarditis following trauma to cardiac neurosis is so close in some cases that it has been thought advisable to include a few notes concerning that condition of which cardiac neuroses may be only a precursor. A list of five cases cited by Pleasant in the Johns Hopkins Bulletin for May, 1903, in an article on cardiac traumatism, under the subhead of Traumatic Myocarditis, has therefore been included. The causal relation of injury to the myocardium seemed proved in more than one case. It would be interesting, therefore, to have cases of persistent tachycardia watched over a period of years.

Etiology.—The accidents which have been instrumental in bringing on this condition of rapid heart have been varied in character: severe blows in the left axilla, crushing of the chest against a wall, severe contusions of the chest, precardial contusions, compression by tight bands about chest and neck and blows over the cervical region. All of these have been severe enough to be accompanied by some degree of shock, and this in itself holds some causal relation to the symptoms which followed.

Such disturbances are due to changes within the heart in either its muscle fibers or ganglia; the nerves leading to the heart; the centers in the medulla or to a derangement of the nervous system as a whole such as is seen in neurasthenia and hysteria. Inasmuch as symptoms of pain and general neurasthenia often remain for a long time following accidents, it seems open to belief that a rapid action of the heart may be the only symptom of that disturbed nervous state. Of course the fact of a so-called physiological rapid heart in some individuals must not be overlooked, a pulse of 120 having been maintained for years, and there are many individuals in whom the pulse is never below 100.

In deciding as to what class a case of tachycardia belongs, and to understand the pathological state, a knowledge of the conditions which produce an increased action of the heart is imperative. It will, therefore, not be amiss perhaps to state as fully as possible the etiological factors in the production of a rapid heart, for in any case there may be complicating factors, e.g., fever, alcohol, cardiac strain, etc., which are to some extent responsible for increased heart action.

Acting upon the heart directly we find: pyrexia; poisons of the type of alcohol, belladonna, and tobacco; toxins, as of influenza, diphtheria, tuberculosis, and rheumatoid arthritis (the above also acting probably upon the centers in the medulla); physical exertion; cardiac strain as seen in the irritable heart of soldiers; cardiac inflammation as seen in endocarditis, myocarditis and pericarditis.

Acting upon the nerves leading to the heart: (*a*) upon the pneumogastric; compression at the origin from the medulla by thickening of the meninges; growths from bone or aneurism of vertebral artery; punctured or gunshot wounds; acute neuritis following diphtheria, rheumatism or a part of a general neuritis. (*b*) Upon the sympathetic system; compression of nerves or ganglia in cervical region by tumors or bone; irritation or overstimulation in shock.

Acting within the central nervous system: (*a*) Centers in the medulla; mental emotion; organic secretion, e.g., thyroid (W. H. Thompson in his work on "Graves' Disease" is inclined to regard poison generated within the intestinal tract and not increased thyroid secretion as responsible for tachycardia); hemorrhage into the medulla; local softening; slow degeneration of the nerve center. (*b*) Spinal cord; reflex influence, e.g., renal mobility; locomtor ataxia in some cases; concussion of the lower cervical spine.

Acting by derangement of more or less of the whole nervous mechanism, the so-called functional neuroses.

Physiology.—A very brief account of the physiology of heart action may be helpful in appreciating how simple a matter it is for local irritation to cause a disturbance in the normal rate of heart action. The wonder on considering the delicacy of the machinery is not that the heart should be disturbed but that it should escape demoralization with so many of the etiological factors present in many cases, where nothing but the most temporary changes take place.

"Cardiac movements," according to Gibson,[2] "were originally considered by Haller to be automatic and due to an inherent power of contraction belonging to the heart itself: this view was also held by Senæ, although he modified it in regard to the external sources of interference. When Remak discovered the ganglion at the junction of the sinus and of the auricle, Bidder those between the auricle and the ventricle, and Ludwig those between the

two ventricles, other views prevailed, and Rosenthal formulated the theory that the heart's beat was due to an automatic action on the part of the intrinsic ganglia of the heart and not to the muscle itself. With the progress of time these views were modified. The observations of Eckhard and Foster and Dew Smith upon the various effects produced by experiments on the ganglion fore apex and the further investigation of Bowditch and Merunowicz on the same part with nutrient fluids altered our concepts. The result of these observations was the theory that continuous impulses flowed from the ganglia in the sinus and produced rhythmic action of the heart. Gaskell's experiment showed that each part of the heart has a rhythm of its own and that the special rhythm of each part is due to a morphological difference in structure. Engelman found the ganglion fore veins to be the starting-point of the cardiac movement, and we have, therefore, come back once more to the conception that the movements of the heart are due to its own inherent automatic peculiarities. But we know that these movements of the heart are under the domination of the nervous system from outside. These very ganglia that have been referred to are now known to be simply the outlying or peripheral ganglia of the efferent cardiac fibers of the vagus nerve. They can interfere with the cardiac action in various ways, but never originate it."

Hoppe[3] in his article states that Kroneker's center in the intermuscular septum of the heart was regarded by him as controlling the vasomotor nerve of the coronary arteries. This he thought seemed to indicate that the cause of the irregularity in nervous patients might be due to some vasomotor disturbance of the coronary circulation. The most frequent cause of arrhythmia is thought to be a diseased condition of the coronary artery or myocarditis. Less frequent it occurs as a functional derangement. Marked arrhythmia to the point of intermittency is considered always pathological. The nervous ganglia and nerves of the heart are thought to be purely sensory, and therefore we have pain in addition to other disturbances of sensation. The site of this pain and the reason for its apparent superficial distribution is well explained and illustrated in Gibson's lectures.

Pathology.—Of the pathological states secondary to accidents found directly within the heart and acting as irritants in producing tachycardia, the chief are pericarditis, endocarditis, and myocarditis. And this is with or without any direct injury to the muscle. They occur as sequelæ to blows upon the chest not necessarily over the cardiac region. Of these three pathological conditions myocarditis seems to be most important in the consideration of persistent tachycardia. Pleasant[1] has shown that following accidents there may occur hemorrhage into the heart muscle, contusion, or laceration, or even rupture. The muscle fibers thus destroyed are replaced in the process of repair almost entirely by connective tissue. He writes, "Unless the extent of the injury is great or there is subsequent infection of the contused area, the development of progressive myocardial disease seems unlikely in the case of a previously sound heart. Yet this sometimes does occur. If, however, we are dealing with a heart already the seat of myocardial disease, or one in which the reserve resistance is lowered by pre-existing hypertrophy, the liability to serious myocardial changes following injury is increased. That so few cases of traumatic myocarditis are reported is probably to be explained in the following way: (*a*) In severe lacerations of the heart muscle death usually results; (*b*) In injuries of moderate severity in a normal heart, repair without ill effects probably occurs in the majority of cases, while, if myocardial changes do take place, they are in association with serious endocardial or pericardial disease, and are obscured for a time by them; (*c*) If, however, we are dealing with a previously diseased heart, even if the relation between trauma and myocarditis seems close, we feel that we should be cautious in necessarily assuming a causal relation." At the conclusion of his article he thus sums up: "From an examination of the foregoing cases, and a study of autopsy reports it can scarcely be doubted that myocarditis occasionally develops as the result of contusions of the chest. From the scarcity of reported cases, myocarditis of traumatic origin cannot be common, although the traumatic origin of some cases is probably overlooked. As in other traumatic affections of the heart, the evidences of external injury probably bear but little relation to the severity of the cardiac injury. Myocarditis may thus develop in a heart previously sound, but the susceptibility of diseased heart muscle must certainly be greater. Disturbances in the nutrition of the heart by interference with the blood supply, or by actual destruction of the muscle-substance are probably the usual form of injury. In the case here reported (Case I.) there was an infarct of the myocardium. The left ventricle is probably the one most frequently injured. Symptoms may develop immediately after or come on gradually, after the injury. Traumatic endocarditis may be associated with traumatic inflammation of the pericardium and endocardium. That serious myocarditis can develop as the result of the direct extension of traumatic pericarditis as asserted by Bamberger and Friedrich seems quite probable. In other respects myocarditis of traumatic origin does not seem to differ from the non-traumatic forms. . . . It seems established that not only may pre-existing disease of the heart be aggravated by trauma, but that in a heart previously sound, pericarditis, endocarditis, myocarditis may develop as the result of cardiac injury produced by contusions about the thorax, often without any external evidence of trauma."

Nature by position of the pneumogastric and cervical sympathetic nerves has protected them from some forms of damage, although the extensive course of the former renders it liable to suffer from many causes. Acute neuritus of the vagus from cold or rheumatism, according to Starr,[4] is not known to occur, but it may add the fatal touch to a general multiple neuritis or be affected by the toxins of diphtheria. At its origin from the medulla pressure by thickening of the meninges (and this is the usual site of syphilitic affections), by growths of bones or aneurisms of vertebral artery may produce symptoms referrable to the vagus nerve. Clinically, injury to one vagus nerve, by inclusion in ligature about the carotid vessels or division in stab wounds has not seemed to produce much effect upon heart action, although experiments on animals would

seem to indicate that division of the left vagus nerve should be attended by a very rapid heart and by a slowing of respiration. (Starr.) Wounds of the vagus nerve, without accompanying injury to the great vessels, must be of very rare occurrence if it ever occurs. The only possible method would be in the course of an operation after the artery and vein had been separated posteriorly from the common sheath. An occasional paralysis of the vagus nerve has occurred as a complication of locomotor ataxia.

Not much is to be found concerning the pathological state of the sympathetic nerves following injury and its relation to the increased rapidity of the heart. Tillmanns[5] makes the statement that there may be irritation of the sympathetics by one or the other of the fragments in a fractured clavicle. Boise[6] mentions as his belief that the tetanoid condition of the heart and peripheral arteries in shock is due to an irritation of the entire sympathetic system. This would, however, disappear in the majority of cases with the cessation of the symptoms of shock. However, shock may hold a very important position among the factors which go toward upsetting the nervous mechanism as a whole and the production of that state of irritability which seems to be present in every case of so-called cardiac neurosis. Until we know why the normal impulse traveling over the vagus nerve should hold the heart's action down to 72 per minute or thereabouts, we are hardly likely to do more than name the condition in which there is a disturbance of that control. The fact that tachycardia may occur as a normal (?) state throughout life, demonstrates the difficulty in discovering the anatomical, physiological, pathological, or chemical reasons for such a condition. The relation of the pneumogastric nerve and the sympathetic system is thus described by Starr,[4] and explains in a way why shock may be the responsible agent for upsetting the normal state of heart action and heart control. "The connection of the sympathetic system with the brain is made by the great vagus or pneumogastric nerve. The action of the sympathetic system in regulating the vegetative functions and the acts of the heart, bloodvessels and lungs is usually automatic and unconscious; but this activity may be reflected upon consciousness in an indefinite manner, and cause changes in the emotional state and in the general feelings of comfort. Head, who has made a careful study of this subject, affirms that exaltation or depression of spirits, hallucinations, a state of suspicion, and a change of character may be induced by the reflected pains of visceral disease. He ascribes many of the symptoms which we term hysterical to such sources. It is also a fact that unusual states of consciousness, expectant attention and condition of the mind and brain induced by hypnotic suggestion, may in turn produce physical changes in the vascular and vegetative organs. These can be explained only by admitting a control by the brain of these organs through sympathetic channels, but in an unconscious and involuntary manner. Very little is known concerning the diseases of the sympathetic system, and nothing is known of its pathology."

The nucleus of the tenth nerve undergoes degeneration in the course of bulbar paralysis, and may also be the site of hemorrhage, or softening, but pathologically it is never found apart from similar involvement of the ninth nerve. The close proximity of the nuclei of these two nerves beneath the floor of the fourth ventricle provides a reason for their mutual involvement in any disease affecting that part of the medulla.

"Krehl raises the question," to quote from Hoppe,[3] "whether nervous affections can produce changes in the size of the heart. If so, how often and to what extent, and can it produce hypertrophy or dilatation? We might answer at once that when hypertrophy and dilatation are present there is an organic heart lesion, a diseased condition of the muscle itself. At present, however, there can be no certainty upon this subject, principally because autopsies on nervous subjects are exceedingly rare. Krehl says he has seen dilatation of the heart especially in masturbators, and that with a cessation of the habit the dilatation has disappeared. He has also seen dilatation occur in ordinary neurasthenic paroxysm and disappear with the cessation of the attack. Theoretically the explanation is very plausible. It is well known that an irritation of the vagus nerve has marked influence on the tone of the heart muscle. Why should not psychic influence have the same effect, the dilatation being the result of diminished tone. Krehl is not so positive about the recurrence of hypertrophy; he thinks that he has seen it, but does not wish to place himself on record, because of the difficulty of diagnosing small degrees of hypertrophy. Before the diagnosis of dilatation or hypertrophy can be made in neuroses of the heart, we must carefully exclude all organic lesions, and must likewise bear in mind that we may have at the same time both an organic lesion and a neurosis. It is well to remember, however, that we may have as a result of simple neuroses of the heart undoubted dilatation and perhaps hypertrophy."

Such disturbances of the heart action as can be classed under the term of neuroses occur following concussion in which there may or may not be actual thoracic injury. It may follow mere mental shock. The symptoms of increased rapidity of the heart action, sometimes even irregularity, come on immediately after the shock or at varying intervals, and are often associated with symptoms of hysteria or neurasthenia. This condition must be differentiated from traumatic myocarditis. Pleasant[1] says, "The condition is a purely functional one as in the case of other traumatic neuroses, and is not due to any special injury of the nervous mechanism of the heart." Hoppe[3] thinks that "the neuroses of the heart are, as a rule, found in those forms of neurasthenia in which the vasomotor disturbances are common. It is not difficult to understand that if the arteries and veins surrounding the cardiac plexus are in the same state of passive distention and sluggish activity, how readily all the neuroses of the heart can be explained on the ground of a deficient nutrition, producing a changed activity of the cardiac ganglia."

Diagnosis.—The diagnosis of tachycardia as a simple neurosis from myocarditis or paralysis of the vagus nerve or affection of the nuclei is not a matter of ease in all cases. Those which in the early part of the history might be classed as a neurosis later develop symptoms of myocarditis. Some authors claim that the intermittence of myocarditis occurs

with great irregularity, that the arrythmia of nervous origin sometimes disappears under excitement, while bodily exercises invariably increase the irregularity in myocarditis. Myocarditis, as a rule, is associated either with hypertrophy or dilatation, whereas it is the exception in the nervous derangement.

The diagnosis of vagus paralysis can be made when the recurrent branches of the nerve are affected and disturbances in respiration and in the voice develop, or when there is a distinct anæsthesia of the palate or paralysis of the tongue. "Rapidity of the heart," Starr[4] says, "is not a sufficient sign to warrant a diagnosis, and there are no lung, gastric, or visceral symptoms that are characteristic of the disease, the majority of the statements made in books being purely theoretical and not based upon clinical facts or pathological findings." Tillmanns[5] says that the so-called cardiac asthma characterized by a very much accelerated pulse, rapid respirations, and cyanosis, is caused by irritation of the terminal fibers of the pneumogastric in the lungs and paralysis of those in the heart.

The diagnosis of tachycardia from irritation of the sympathetic nerves is made from the association of rapid heart action with dilatation of one or the other pupil, according to the side irritated. Seeligmüller says it is present to some degree in all fractures of the clavicle. Oppenheim is the authority for the additional symptoms of wide separation of the eyeballs, pallor and reduction of temperature of the face. "Fraentzel says that tachycardia due to irritation of the sympathetic can be cut short by morphia, and that produced by vagus affections by pressure on the vagus." (Hoppe.)

In bulbar paralysis, the nuclei of the nerve are affected and paralysis of the æsophagus and of the pharynx and larnyx are the result. It is not possible to distinguish between symptoms due to the lesions of the ninth and tenth nerves. When the vagus nucleus is thus disturbed it no longer exercises the normal control over breathing and heart action, hence, Cheyne Stokes' respiration and intermittent or very rapid heart action are supposed to be due to this disturbance.

The symptoms of pure cardiac neuroses as gathered from the cases cited, are few and must be supplemented by observation over a long period of time before a positive conclusion can be arrived at. Subjectively there may or may not be consciousness of heart action. The heart is irritable, however, and can be easily forced up twenty or thirty beats. Its action is often over 100 per minute and remains so for some months after the accident, gradually falling to normal or thereabouts. In some cases it is associated with the symptoms of general neurasthenia or hysteria, but this is not always so as in the cases here reported. The heart, according to Krehl, may be dilated, but again may not show any increase in the area of cardiac dulness. The prognosis must be a guarded one, as a few years may show the development of a typical myocarditis.

Cases.—The cases here tabulated are grouped according to the general scheme followed throughout this article: those due to changes within the heart muscle; those due to disturbances in the nerves; those due to lesions in the nuclei; and lastly pure neuroses. I have been unable to find any case to be grouped under Class III. as following injury; and in Class II. there is one straightforward case, and Gibson's case, which seems to be a possible example of irritation of the sympathetic. Of Class IV. three fairly typical cases are cited.

Cases referable to disturbances within the heart.[1]

1. *Pleasant's Case.*—The patient, 55 years old, known to have had an enlarged heart a year and a half before injury, but had not previously shown acute symptoms of a diseased myocardium. Two days before admission he had been struck a severe blow in the left axilla with a piece of scantling, as it was being pushed through a partition by a fellow workman. Immediately following the injury gallop rhythm, rapid pulse, and other signs of defective heart action were noted. These symptoms continued for four weeks, when he died. Autopsy showed a recent infarct of the myocardium in addition to a fresh adherent pericardium. The whole picture microscopically was that of a recent necrosis of the myocardium with commencing connective tissue formation.

2. *Mendelssohn's Case.*—Strong and healthy man, 20 years of age. Previous examination of heart negative. He was first examined three weeks after his chest had been crushed against a wall by a vicious horse. He was rendered breathless by the injury, but did not become unconscious. There was considerable pain about the chest, with weakness and shortness of breath. On examination three weeks after injury he was found to be short of breath and cyanotic. Pulse small, rapid and irregular. Heart distinctly enlarged, especially to the right. There was no murmur. His condition gradually grew worse and œdema developed, which yielded to digitalis. Eight months after the injury his condition was reported as serious with marked symptoms of myocarditis.

3. *Stern's Case I.*—Man, 19 years old, sustained a severe contusion of the chest without evidence of external injury. Examination of the heart after the injury, absolutely normal. Two days after the accident traumatic pneumonia and pleurisy developed. With the clearing up of the pulmonary condition, rapid pulse and cyanosis persisted, but there were no murmurs and the heart dulness was not increased. For several months attempts to work were followed by shortness of breath. An examination eleven months after injury showed increased heart dulness, persistent small weak pulse, but no heart murmur. Three years later typical signs of myocarditis were present, marked cyanosis, dyspnœa, small irregular pulse, and pulsation of vessels of the neck. There was great increase in the heart dulness, especially to the right, and at the apex and tricuspid area a soft systolic murmur.

4. *Stern's Case II.*—This second case is somewhat similar to the last, but the symptoms of myocarditis did not develop as rapidly after injury, so that a causal relation is not as certain as in the last case. As in the last case, the signs of myocarditis were typical. There were also associated nervous disturbances of the heart action.

5. *Riegel's Case.*—Here there seemed to be a little doubt of the relation between a severe precardial contusion and cardiac symptoms which set in immediately afterwards, in the case of a man, 44 years old, who was kicked by a horse. The condition gradually

became worse, symptoms of myocarditis and mitral stenosis developing and resulting in death four years later. At autopsy, in addition to mitral stenosis, there was extensive fibro myocarditis of the left ventricle, especially in the anterior wall near the apex.

Cases due to disturbances of the nerves.

6. *Hirsch's*[6] *Case.*—He reports a mixed traumatic injury of the hypoglossal, vagus and sympathetic nerves, the patient being a laborer who accidentally shot himself, the bullet passing through the roof of the mouth and lodging at the left of the fourth cervical vertebra, where it was afterwards found in the sterno cleido mastoid muscle and removed. As a consequence of the injury there were paralysis of the left velum palati, paralysis of the left vocal cord with loss of voice, paralysis of one side of the tongue. There was pronounced secretion of saliva, which accumulated under the left side of the tongue. The left pupil was diminished in size, with slow reaction to artificial stimulation. There was no loss of taste. Paresis of the muscles of the left half of the thorax was found; an increase in the rapidity of the heart's action took place, the count averaging 108; but there was at times a decided tachycardia.

7. *Gibson's Case.*—A patient who was first seen under the care of Dr. Elder in the Lutheran Hospital and afterwards by Dr. Gibson in the Royal Infirmary. He had, so far as could be made out, a concussion of the lower cervical and upper dorsal region, and there was such a state of irritability when he walked a few steps that he had a tremulous acceleration of the rate of the heart.

Cases of pure cardiac neuroses following accidents.

8. *Knight's*[7] *Case.*—A young man thrown violently while getting into a car, striking the chest over the region of the heart. Rapid action of the heart ensued for some time after. According to the testimony of his friends, whenever he was examined there was rapid action of the heart. On examination there was found a slight systolic murmur over the pulmonic area.

9. *Mulhall's Case.*—Miss Carrie W., school teacher, 26 years of age. Heart examined twice previous to accident, and at both times perfectly normal. In a collision of trolley cars she was thrown forward and sustained several superficial incised wounds of the face. On examination she seemed anxious and frightened, not, as she explained, because of the slight cuts, but because of a sensation in the region of the heart which she had never before experienced. It was at times that of a fluttering bird; again a sense of weight or constriction, and was accompanied by sobbing respiration, but no true dyspnœa. She was of a highly emotional temperament. There was in this case no contusion of the chest, nor did she remember any concussion of the chest wall. No thrill or palpitation, the impulse was feeble and the apex beat not displaced. Pulse was small, feeble, irregular, and, after patient had rested fifteen minutes, still 90 to the minute. In the mitral area the first sound was feeble and accompanied with a loud murmur. It bore characteristics of a hæmic murmur, but was of much greater intensity. Rest and treatment with Tinct. Strophantus allowed her to partially resume work in a week. At the end of three months there were no subjective symptoms, the murmur was less intense. At the end of fifteen months there were no abnormal physical signs or symptoms. In discussing the case, Dr. Mulhall said, "My opinion was that not only was there a general traumatic neurasthenia, incident to railway collision without discoverable marks of violence, but that this unstable nervous condition might be confined to one organ as, for example, the heart. The murmur in this case can hardly be explained on any other hypothesis than that there existed dilatation of the left ventricle and consequent non-approximation of the mitral segments, the result of a functional paralysis of certain cardial motor nerves."

10. *Author's Case.*—Henry C., 21 years of age, brass worker. While at work on March 19, his jacket was caught in the back by a rapidly revolving wheel and the buttons of the coat torn off except the upper one, which held. In this way the coat tightly gripped him about the neck and axilla, and, being used as a sling, he was hurled around until the throwing out of a cog stopped the machinery. When cut down, his face and neck were seen to be black-blue in color, the conjunctiva intensely congested, and presenting an appearance well depicted in the illustration to be found in the Annals of Surgery[8] for April, 1904. The man did not lose consciousness at all during the accident. Examination on admission to the service of Dr. J. W. Wright at the Bridgeport Hospital showed both feet crushed with a compound fracture of the lower end of both bones in each leg. In addition to the discoloration of face and neck there were a few scalp wounds, not deep in character. He had also sustained a fracture of the eighth and ninth ribs of the right side, at the angle. As soon as the man had rallied some from the immediate shock, he was taken to the operating room, and as there was absolutely no pulsation in the arteries of either foot both legs were amputated at the lower third. The fractured ribs were treated by strapping. The patient was only lightly anæsthetized by chloroform and ether, but during the operation his pulse varied from 144 to 175. He was delirious, off and on, for over a week, and his pulse remained 150 without let up. For a few days he complained of difficulty in breathing and severe pain over the site of fracture. The respirations were thirty. For the first week his temperature was around 104° F., falling by lysis to 99° F., and then irregularly about 101° F.

The second week showed P. 120-148; R. 22-28.

The third week showed P. 124-238; R. 20-24.

The fourth week showed P. 108-138; R. 20-24.

The fifth week showed P. 112-120; R. 20-24.

The sixth week a secondary operation upon the flaps was performed and with anæsthesia his pulse rose from 130 to 180 and after operation remained about 150.

The seventh week showed P. 116-140; R. 24.

On discharge, pulse was 112; R. 24.

Examination of the heart at different times while in the hospital failed to show any murmurs or any abnormal signs except the rapidity and a slightly accentuated aortic second sound. Examination at his home the week following his discharge from the hospital showed the heart action, while sitting in a chair, to be 115, of good quality and without irregularity. No increase in cardiac dulness was made out, the apex being located in the fifth space within

the nipple line. After exercise with the arms the heart was not observed to increase its rate out of proportion. The patient claimed, however, that any sudden start would make him conscious of palpitation. He seemed to think that this tendency he had always had, and that perhaps his heart had been rapid before the accident. His family physician, however, assured me that just preceding his present illness he had examined him, and while he had not the actual count was sure that it was not higher than 80.

The persistence of the increased rate of heart action and its somewhat slow improvement eight weeks after injury with no signs of valvular lesion, or cardiac enlargement, leads me to place this case under the head of pure cardiac neuroses following injury to the neck and chest. Just what factor is responsible for upsetting the control of the heart action is not plain. Gibson writes, "Tachycardia depends for the most part upon a reduction of the diastolic phase. There can be but little doubt that this increased frequency in tachycardia is probably produced as was suggested by Mackenzie and shown by Wenckebach and Cushing, by a stimulus which comes to the sinus or auricle before its right time; that is to say that there is either a condition of irritability or of diminution of control which allows the normal stimulation of the heart to occur too soon.

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TWO CASES OF HENOCH'S PURPURA;

WITH REMARKS UPON THE GASTROINTESTINAL LESION.

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Case I.—Earl Reckliffe, aged 9 years, American. Family history negative; has had measles, diphtheria and malaria, all without sequelæ.

On April 29, 1903, the patient was struck on the abdomen while playing at school. No immediate symptoms followed. Two days later purpuric spots appeared on the legs and abdomen. Five days later the patient became nauseated, and the stomach rejected nourishment. On the same day convulsions occurred, followed by severe abdominal pains. The urine now became decidedly albuminous, and contained blood, the purpura becoming general. The above history was furnished by Dr. E. O. Elmer, the family physician, to whom the credit of a correct diagnosis is due.

The patient was admitted to the Hartford Hospital, May 15, two weeks following the onset of symptoms. At this time he presented the following appearance and conditions. Body pale; face and extremities œdematous; legs flexed on thighs, and thighs on abdomen; fading purpuric spots over the body. Examination of chest was negative. The abdomen was very rigid and tender throughout, but not distended; there was no localization of the pain; there was slight dulness in the flanks and a suggestion of fluctuation in the abdominal cavity. The blood count gave 14,000 leucocytes. Examination of the urine showed 20 per cent. albumin by volume, no blood at this time and no casts. Temperature 101.2°, pulse 126, respiration 30. There was persistent vomiting with apparent intestinal obstruction. The following day the abdomen was opened by low median incision. A small amount (from 100 to 200 c. c.) of turbid fluid escaped. The small intestines were collapsed, showing petechial and ecchymotic spots throughout their entire length. The large intestines were also collapsed, presenting fewer ecchymoses. The peritoneal cavity was flushed with salt solution. The intestines were lifted up and douched, and the abdomen was closed with as much normal saline solution as it would hold.

The following day the pain in the abdomen continued, and the patient was nourished by the rectum with albumin water. On May 18, two days after the laparotomy, there was less abdominal tenderness; the bowels resumed their peristalic action, and a movement occurred. On May 20 the patient was given beef juice by the mouth, which was retained. The gastrointestinal symptoms gradually abated from then on.

On June 10, the renal conditions became grave; the albumin increased to 30 per cent.; the patient became more œdematous; convulsions reappeared and the child gradually became semi-comatose. As a last resort decapsulation of both kidneys was performed, but without apparent relief.

The patient lived four days after this, being comatose most of the time.

Case II.—Dominick Santoll, aged 16 years, Italian laborer, entered Hartford Hospital June 17, 1903. The man spoke no English, and a history was hard to obtain. An indefinite history of injury to abdomen by a falling barrel led us to believe the symptoms were due to trauma. The patient had been feeling bad for two weeks, and for the past three days had become much worse, suffering from severe pain in the abdomen; he had vomited and had watery stools. The maximum amount of pain was in the region of the umbilicus.

At the time of entry the patient was poorly nourished and developed. The facies was that of one acutely ill. Examination of the heart and lungs was negative. Examination of the abdomen revealed muscle spasm on both sides; there was no dulness. Temperature 97.4°, pulse 80, respiration 28. There were purpuric spots over the abdomen and also the extensor surfaces of the right elbow, thigh, both lower legs, and left thumb. The movement of the right elbow was somewhat restricted by pain in joint. Leucocytosis 14,000. Urine albuminous. Without development of high temperature or other evidences of inflammatory trouble, the patient continued to vomit. No action of the intestines could be induced.

The vomitus contained blood. An exploratory laparotomy was deemed advisable, and was done through a low median incision. The intestines were found collapsed, and the visceral peritoneum studded with small ecchymotic spots. Many feet of the intestines were perfectly flat, except at the side of the mesenteric attachment, where a continuous hard pencil-sized roll could be felt. This appearance was proven to be due to lumbricoid worms which lay on the mesenteric side of the bowels.

The intestines were drawn up and douched with warm normal salt solution; the abdomen was filled with the same and closed.

The following day the patient was doing well; vomiting ceased, but he was fed by the rectum. Two days later the bowels moved in response to an enema. On June 24, the wound had healed by primary union, the patient now being fed by the mouth. He continued to improve, but had occasional slight rises of temperature without apparent cause. The purpuric spots gradually faded. He was discharged cured, July 15, four weeks following the laparotomy.

In both of these cases we were led at first to believe that the patients were suffering from the effects of abdominal trauma, and the ecchymotic spots over the abdomen lent color to this theory, but in the light of later developments and more complete histories, it is evident that neither was traumatic, but that both were cases of Henoch's purpura with marked gastrointestinal symptoms.

The first report of a case of this unusual form of purpura was made by Robert Wilan in 1808. Four cases were reported by Henoch in 1874, and in a recent article on the "Hemorrhagic Diasthesis," which has been translated from the German for me by Dr. Paul H. Waterman, of Bellevue Hospital, four more cases are added to the first series. In 1876, a number of cases were reported by Couty. Osler published a series of eleven cases in the *American Journal of the Medical Sciences,* in 1895, a second series of seven cases in the Jacobi "Festschrift" and the *British Journal of Dermatology* in 1900, and a third series of eleven cases in the January number of the *American Journal of Medical Sciences.*

These authorities agree in their description of the clinical picture, symptoms and progress of this disease, that in addition to the pain and swelling of the joints of purpura rheumatica, and the petechiæ and ecchymoses of the skin, there occurs vomiting, intestinal hemorrhages, colic, albuminuria and hæmaturia. There may be convulsions and general œdema. Death may occur from either the renal condition, or lesions in the gastrointestinal canal.

It is distinctly a disease of young life, and is about evenly divided between males and females. Osler says the seriousness of this condition is attested in the occurrence of seven deaths of his twenty-nine cases, or a mortality of twenty-four per cent. He further says one of the most constant features in this group, occurring in twenty-five cases, is the recurring attacks of colic, sometimes with vomiting, and sometimes with diarrhœa, occasionally with the passage of blood. The colic in Osler's cases he reports as severe, the attacks persisting for one or more hours and requiring morphine for relief. In fourteen of the twenty-nine cases there existed an acute nephritis, with albumin and casts. He says that "as a rule this comes on at the height of the skin lesion, or it may follow within one or several weeks later."

In the January, 1904, number of the *British Journal of Children's Diseases,* Mr. Harold Barrows reports a case of a boy aged eleven years, who developed intestinal intussusception. He had been feeling bad for ten days when the abdominal symptoms suddenly became violent. Ecchymoses were found on the intestine as in the case which I have reported, but the purpura of the skin was not observed until the day following the operation.

In the same journal, Dr. G. A. Sutherland reports two cases, both in children suffering from purpura, in whom laparotomy was performed. The first case was that of a boy of five years, who was seized with sudden vomiting and pain in the abdomen. The symptoms abated after four days, and recurred after a two days' remission. The abdominal symptoms then became very grave; there were severe colic, distention, blood-stained stools, and apparent obstruction. The abdomen was opened with the anticipation of finding an intussusception, but instead they found a portion of the small bowel, dark in color from extravasated blood, and with thickened walls. The article says the boy reacted well, but it does not state how soon the colic and vomiting abated, and normal peristalsis resumed. The skin eruption and albuminuria did not appear until after the operation.

In Dr. Sutherland's second case, a girl of seven who had been suffering for some time with abdominal pain, vomiting of blood, melæna, albuminuria, and hæmaturia, gradually recovered from this attack, and three months later was seized with a recurrence, and died in convulsions. Autopsy showed general peritonitis and intussusception of the cæcum and part of the ileum into the colon. Dr. Sutherland concludes, and Professor Osler agrees with him, "that the fatal attack was induced by hemorrhages into the wall of the colon, leading to paralysis of the effected part, and to increased muscular contraction with colic in the adjoining part of the bowel. As a result of these strong muscular contractions the sound part of the intestine became invaginated into the paralyzed and hemorrhagic portion.

Silberman reported a case in 1890, which is quoted in Osler's article in the *American Journal of the Medical Sciences,* in 1895. The patient, a child of ten years, suffered from purpura rheumatica, in December, 1887. Colic and hemorrhages from the stomach and kidneys were present. The attack subsided in a few days, to recur with increased intensity on the 20th of January. Peritonitis developed, of which the child died. Autopsy revealed a perforation at the fundus of the stomach. The mucosa of the intestines was swollen and congested. There were necrotic foci in the stomach and intestines, and thrombi were found in some of the blood vessels.

In Dr. Osler's article in the May number of the *American Journal of the Medical Sciences,* he cites a case of a girl of seventeen, who suffered with recurring attacks of abdominal pain, accompanied by slightly swollen and tender joints. There was obstinate constipation and persistent vomiting, but with no skin eruption. Following an unusually severe attack, an exploratory laparotomy was performed, but further than to state that the stomach, gall blad-

der and intestines appeared normal, the findings at the exploration are not given. In calling attention to this case, Dr. Osler remarks upon the likelihood of mistaking these visceral crises which are associated with this form of purpura, for various grave abdominal lesions, such as appendicitis, intussusception or obstruction from some other cause.

It would seem to me that with the history of two fatal cases from intussusception, and one from perforation of the stomach, which have occurred in this condition, as result of the pathological changes in the intestinal and stomach walls, an exploratory laparotomy in cases presenting grave abdominal symptoms, even though there does exist purpura at the time, would be not only permissible, but decidedly indicated, and the chief point I wish to make is that this disease, known at present as Henoch's purpura, is not to be regarded as entirely a medical disease, but that the intra-abdominal conditions sometimes call for exploration, and for further operative procedures when lesions are discovered.

The most important fact, to my mind, in the two cases which I have reported, is that filling the abdomen with salt solution was followed within a few hours by a resumption of intestinal peristalsis, and a cessation of the vomiting, which had become alarming in both cases. The intestines were emptied and collapsed, and whatever peristalsis there was, prior to opening the abdomen, was in the reverse direction, as the vomitus proved.

It is not difficult to understand that the absorption of so much saline solution into the intestine by process of endosmosis stimulated normal peristalsis, and intercepted the train of morbid developments.

I wish to acknowledge my indebtedness to Dr. Walter R. Steiner, pathologist at the Hartford Hospital, and Dr. H. F. Stoll, resident physician, for their valuable assistance in securing references to the literature of the subject. To Dr. Stoll is due the credit of a correct diagnosis in the second case.

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A FEW REMARKS ON INFANT FEEDING; WITH A SIMPLE AND SAFE METHOD FOR THE GENERAL PRACTITIONER.

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Infant feeding is one of the most important subjects with which the general practitioner has to deal, and the one which he is most apt to overlook and give entirely too little attention. Every physician should be well informed on this subject, and at least be able to recognize symptoms which point to faulty feeding, and know what to do when they appear, otherwise, in a very short time, irreparable harm is done and another life sacrificed unnecessarily. According to reliable statistics, "of all children born one-third die within three months." The rate of mortality for the third year of life exceeds any other year up to the eightieth, and over 80 per cent. of the deaths in this first year are the direct result of ignorant or improper feeding, 50 per cent. of which occur during the first month.

These statements are startling, but the figures are facts,—and it is up to the general practitioner to reduce this alarming mortality. There are few subjects upon which more time has been spent than upon artificial or substitute infant feeding. It has been almost the life work of many famous physicians, and every worker among children in the world has experimented more or less along this line, trying to find the best and safest substitute for mother's milk, with the result that there have been innumerable theories and methods advanced which are, as a rule, most confusing and difficult to follow, yet our technique has been vastly improved by these efforts, and though we are still confronted by many of the same evils which confronted our predecessors, we are much better equipped to deal with this subject.

It is upon the family doctor that everything depends, for the specialist is seldom called until he is in trouble. His responsibility begins as soon as the baby is born. An important and often neglected part of every confinement is to at once investigate the condition of the mother's breast, and ascertain how the baby is to be fed. If, for any reason, the mother is prevented from nursing her child, see to it that a proper food is prescribed, and watch with greatest care the early weeks of such feeding. It is by no means an uncommon occurrence for this important matter to be left entirely to an inexperienced woman, or nurse, and the greatest harm is done when a wrong start is made. The alimentary tract of an infant can be damaged beyond repair in a very few days, and before you know it you have a severe pathological condition to deal with, which complicates matters seriously. There is but one perfect food for the newborn infant, namely, mother's milk. Every child should get the first secretion of the mother's breast, or the colostrum. This plays a most important part in the development of the digestive apparatus, and fortunately it is not often necessary for us to wean at birth, for it is a difficult matter, even for the expert, to find a satisfactory substitute for this most necessary part of lactation. This, I think, helps to explain the high mortality during the first month of life in bottle-fed infants, especially among the poorer classes and those ignorant of the importance of this subject.

Proteid is the nitrogenous constituent of milk. Proteid is necessary, therefore, for growth and development. The proteid of mother's milk is albumin and casein. Albumin is easily absorbable and is not coagulated by the gastric juice, while casein is not digestible for the infant, and is coagulated into tough curds by the gastric juice. Cow's milk also contains proteid in these two forms, but the percentage of albumin in mother's milk is about 1.25 per cent., as against 0.50 per cent. in the cow's milk, while the casein in mother's milk is about 0.50 per cent., to almost 3 per cent. in cow's milk, or, mother's milk contains about 4 per cent. fat, 7 per cent. sugar, 1.75 per cent. proteid, most of the proteid being easily absorbable albumin; cow's milk about 4 per cent. fat, 4 per cent. sugar, 4 per cent. proteid, most of the proteid being indigestible casein.

I will call your attention for a moment to the formula of colostrum, which is 5.50 per cent. proteid, 2.50 per cent. fat, 4 per cent. sugar. Now, colostrum, as mother's milk, contains little or no casein (the insoluble proteid), but has a high per cent. of albumin, higher than at any other time

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during lactation, which is readily absorbed by the young infant, and is essential for proper development at this stage of life.

It must be remembered that during the early days of life, digestion is really an absorption, but in about two weeks colostrum has gradually changed to milk, which contains less easily absorbed proteid, and true digestion begins; so, as the child grows older, and its power to digest casein increases, the more easily can we substitute a suitable food, if it becomes necessary.

Dr. Chapin, in a recent article, calls the attention of the profession to the functions of maternal milk in developing the stomach. He says: "During the colostrum period there is little secretion in the stomach, and colostrum is especially fitted for intestinal digestion. In the change from colostrum to milk, the mother alters the character of the proteid supplied, and the infant's digestive secretions change at the same time for a specific purpose. In artificial feeding, it is essential to supply as much fat and carbohydrates as are found in breast milk, to serve as fuel for the body, and as much proteid and mineral matter to build up a strong body, or anæmia, rickets, or malnutrition will follow. But it is also essential that a portion of the proteid shall be of a form that will develop the stomach, as the lack of such food will profoundly affect the general nutrition."

The temptations to wean are becoming greater every day. In all classes we find women so busy with social affairs and other equally important occupations that she is only too willing to accept anything as an excuse to wean her baby. The anxious young mother, because her baby has a few green stools, or an attack of colic, thinks her milk is not rich enough, or that she is not strong enough to successfully nurse her baby, and so without knowing the harm she may be doing and the risk she is running, puts it on some food which some kind friend has recommended, without (and sometimes with) the knowledge of her physician, when with a little attention to her own diet the disorder could have been corrected in a few days, and the dangers and trouble of bottle feeding avoided. As the number of artificially fed babies is increasing, so the responsibility of the family doctor is increasing, and he should, first, insist upon the mother nursing her baby as long as is wise; second, prepare himself to meet this necessary evil in as safe and as simple a way as possible.

I claim no originality for the method of feeding which follows. I have had the opportunity of directly caring for, and experimenting with, over one hundred and fifty bottle babies of the Speedwell Society of New York City during the last twenty months, sent here from the various hospitals and tenement districts of New York City, most, if not all, of them coming with a diagnosis of malnutrition or gastro-enteritis, victims of improper or ignorant feeding. I am greatly indebted to Dr. Henry D. Chapin, the medical director of this society, for his great help to me. I have been guided almost entirely by his method, which, I believe, will soon be, if it has not already been, universally accepted as the best method of artificial infant feeding. The object of this paper is to freshen your minds and call to your attention the importance of this subject, presenting to you some phases of bottle feeding in a simple manner, so that they can be more practicable, without learning complex methods and consulting formulæ.

All writers on this subject agree that modified cow's milk is the best substitute for mother's milk, though there are differences as to how it should be done. It is of great importance to have a clean, pure milk. There should be nothing present foreign to milk. Great care should be exercised, therefore, in recommending and choosing the milkman. You should know that the cows are clean and well kept, and the milking should be done by clean hands, and especial attention paid to the udders of the cow, for there is great danger from the bacteria which are found on these. The bottle method of keeping and delivering milk is the best. After bottling, it must be kept on ice or in cool water, temperature 60° F. or less. Quart bottles being used, the milk should be allowed to stand until the cream has separated (centrifugal cream should not be used). A good average milk thus prepared contains in the top nine ounces, about 12 per cent. fat, 4 per cent. proteid, 4 per cent. sugar. The top sixteen ounces contains about 8 per cent. fat, 4 per cent. proteid, 4 per cent. sugar. Or the top nine ounces contains about three times as much fat as proteid, and the top sixteen ounces about twice as much fat as proteid. This relation of fat to proteid in these amounts is constant, no matter whether the milk is richer or poorer. Dr. Chapin has found, therefore, that the top nine ounces of a quart is best adapted to the young infant, or those under three and one-half months, while the top sixteen ounces is best for older infants, using any part of either, according to the strength required. The Chapin dipper, with which you are all familiar, holds just one ounce, and will go into the neck of the ordinary quart bottle, simplifying the preparation of the food greatly. As the sugar is reduced by dilution, it is necessary to add a little, best in the form of sugar of milk; a good rule is to add about one-twenty-fifth of the amount of food prepared, or one ounce of sugar to every twenty-five ounces of food. Of great importance in modifying milk is the diluent used, as mentioned before. About 1-6 per cent. of the proteid of cow's milk is soluble, and capable of being easily digested. "When milk is diluted," says Dr. Chapin, "the quantity of this easily absorbed proteid becomes so small that the infant actually gets a proteid which is not digestible, and forms curds in the stomach, making a good culture medium for the bacteria which may be present. Diluting with water does not prevent the formation of these curds, but diluting with pre-digested cereals breaks up these curds and, furthermore, adds a readily absorbed nutriment." The cereal, after being prepared, should be dextrinized with one of the diastase preparations, made at home from malted barley grains, or it may be more convenient to use one of the commercial preparations. They should be used as follows: After your barley or other gruel has been made, allow it to cool, so as to taste, then add one teaspoonful of cereo for every quart of gruel, stir until the gruel becomes thin and watery. With your gruel for dilution prepared as above, and remembering that the top nine ounces of an average milk contains about 12 per cent. fat, 4 per cent. proteid, and 4 per cent. sugar, and the top sixteen ounces 8 per cent. fat, 4 per cent. proteid, and 4 per cent sugar, and that food prepared from the former is better for children under three months, and the latter over three months, any per cent. of fat, proteid and sugar can be obtained in a very simple manner, and you have an easily digested and a nourishing food.

Example I.—For a child under three months, take off the top nine ounces of a quart of milk which has stood a few hours, or until the cream can be seen on top. Of this take six ounces. Add sugar of milk one and one-half ounces, and barley gruel twenty-four ounces. We have diluted six ounces of

milk, containing 12 per cent. fat, and 4 per cent. proteid, with twenty-four ounces of barley water, a dilution of five, or 12 per cent. and 4 per cent. divided by five equals fat 2.4 per cent, sugar 6 per cent., and proteid 0.8 per cent. By using more or less of the nine-ounce milk we can make the food any strength we please, viz.:—

A. 5 oz. top, 9 oz. + 24 oz. gruel + 1½ oz. milk S. = F. 2.1%, S. 6%, P. 7% (Dil. 5.8%).
B. 6 oz. top, 9 oz. + 24 oz. gruel + 1½ oz. milk S. = F. 2.4%, S. 6%, P. 8% (Dil. 5%).
C. 7 oz. top, 9 oz. + 24 oz. gruel + 1½ oz. milk S. = F. 2.7%, S. 6%, P. 9% (Dil. 4%).
D. 8 oz. top, 9 oz. + 24 oz. gruel + 1½ oz. milk S. = F. 3%, S. 6%, P. 1% (Dil. 4%).
E. 9 oz. top, 9 oz. + 24 oz. gruel + 1½ oz. milk S. = F. 3.33%, S. 6%, P. 1.1% (Dil. 3.66%).

Example II.—For an older child, take the top sixteen ounces of a quart of milk; of this take ten ounces, add milk sugar and twenty-four ounces of barley water as before. Now we have ten ounces of milk containing 8 per cent. fat and 4 per cent. proteid, diluted with twenty-four ounces of gruel, a dilution of 3.4, or 8 per cent. fat and 4 per cent. proteid divided by 3.4 equals 2.35 per cent. fat, 6 per cent. sugar, and 1.2 per cent, proteid. (By adding one ounce of sugar to every twenty-five ounces of food, the sugar is always 6 per cent., which is a good average amount.) So, as before, by using more or less of the top sixteen ounces of milk, we can get any percentage of fat and proteid desirable, viz:—

A. 10 oz. top, 16 oz. + 24 oz. gruel + 1½ oz. milk sugar = F. 2.35%, S. 6%, P. 1.2% (Dil. 3.4%).
B. 11 oz. top, 16 oz. + 24 oz. gruel + 1½ oz. milk sugar = F. 2.5%, S. 6%, P. 1.25% (Dil. 3.2%).
C. 12 oz. top, 16 oz. + 24 oz. gruel + 1½ oz. milk sugar = F. 2.66%, S. 6%, P. 1.33% (Dil. 3%).
D. 13 oz. top, 16 oz. + 24 oz. gruel + 1½ oz. milk sugar = F. 2.9%, S. 6%, P. 1.4% (Dil. 2.9%).
E. 14 oz. top, 16 oz. + 24 oz. gruel + 1½ oz. milk sugar = F. 3%, S. 6%, P. 1.5% (Dil. 2.6%).

In figuring out a formula of modified cow's milk for a case, you should always begin with one considerably weaker than that of a breast fed baby at the same age.

Now, you see from these tables that, as I mentioned before, the percentage of fat in formulas under No. 1, or from the top nine ounces, is three times the percentage of the proteid, and in those under No. 2, from the top sixteen ounces, twice; and this relation is constant, whether the milk be richer or poorer. For example, take a poorer milk, one containing in the top nine ounces 10 per cent. fat instead of 12 per cent. Our formula for the top nine ounces of this milk would read about 10 per per cent. fat, 4 per cent. sugar, 3.5 per cent. proteid. So, by taking five, six, seven, or more ounces of the top nine ounces of milk of this strength, we have formulas reading:—

A. 5 oz. top, 9 oz. of (10% F.) milk + 24 oz. barley gruel + 1½ milk sugar = 1.72% F., 6% S., .57% P. (Dil. 5.8.)
B. 6 oz. top, 9 oz. of (10% F.) milk + 24 oz. barley gruel + 1½ milk sugar = 2%F., 6% S., .67% P. (Dil. 5.)
C. 7 oz. top, 9 oz. of (10% F.) milk + 24 oz. barley gruel + 1½ milk sugar = 2.3% F., 6% S., .77% P. (Dil. 4.4.)

It can be seen now that the relation of fat to proteid is three to one, or the same as in the formulas prepared from the 12 per cent. milk, the only difference being that these are a little weaker. (B) here being equal to (A) in the other. The same is true of the top sixteen ounces, only the relation is two to one. So, by this method, no matter whether you have a rich or poor milk, your relations are always the same; and this is the important point, all you have to remember is the top nine ounces for young babies, the top sixteen ounces for older, increasing or diminishing the amount used according to the effect.

It is convenient to prepare the whole amount of food for twenty-four hours at once, so if you have not enough to last this length of time, double all the ingredients. In choosing a formula for a given case, it is best to begin with a weak one and gradually increase it, being guided by the effect it has on the child. If the child does not seem to get enough, it is best to increase the quantity a little, then increase the strength. If there is vomiting more than ordinarily occurs in a normal breast-fed baby, immediately after the nursing, your baby is getting too much food, so reduce the quantity. If the vomiting occurs half an hour or so after feeding, and is sour and curdled, stop your milk for twenty-four hours, feeding the gruel alone, and begin again with a food containing a lower percentage of fat. By watching these conditions of the stomach carefully and acting promptly, there is seldom any disturbance in the bowels, providing your milk is pure and sweet. If, however, you should get thin, watery, green stools, your food contains too much sugar. If there are curds, and colic is present, your food is not diluted enough; to correct, use an ounce or two less milk, in other words, a weaker formula. Severe diarrhœa with vomiting indicates harmful changes in the food and a catarrhal condition of the bowels, the former being due to bacteria, the latter to the actions of bacteria or persistent feeding with a food containing too much insoluble proteid, or fat and proteid out of correct relations.

Before closing, I want to say a word about an infant food which is largely used by mothers, and by many physicians, and though condemned by a large majority of specialists, certainly is deserving of a place among infant foods. I am speaking of condensed milk. In certain cases, especially in those in which the infant, owing to careless or ignorant feeding, does not seem to tolerate fresh cow's milk in any form, condensed milk often works like a charm. I have used it in a great many cases which have been given up as hopeless, and improvement is almost immediate. The child gains in weight and strength and the bowels rapidly become natural, and when well there is seldom any trouble in changing to fresh milk again, on which the child thrives as if it had never had any trouble. This is explained by the fact that the vacuum process of condensing milk seems to make the curd more assimilable to certain infants, or it becomes more friable. The difficulty in prescribing condensed milk is to get the percentage of fat and proteid in correct relation to each other. The percentage of fat is much too low; this can be overcome by adding top milk or cream to the condensed milk. An easy rule to remember is to add as much cream or top milk as condensed milk.

I claim for this method of substitute feeding, that by carefully watching every case at the beginning, any infant over one month can be weaned without experiencing any difficulty, and the physician has little to tax his memory. To sum up:

(1) A pure, sweet, quart bottle of milk on which the cream has risen.

(2) Top nine ounces for young babies, top sixteen ounces for older.

(3) Twenty-four ounces of predigested gruel.

(4) One and one-half ounces of milk sugar.

(5) Begin with weak mixtures, increasing according to the demand. In infants under one month this does not apply; in other words, during the colostrum period of lactation, before true digestion

is established; here we need a lower per cent. of fat and a very high per cent. of proteid. I should recommend for these cases food prepared from the top two ounces of a quart, which contains about 20 per cent. of fat, diluting with eight times as much predigested gruel for the first two weeks, and six times as much for the last two. The formulas for such food, prepared from an average milk, are:—

(A) 2.75 per cent. fat, 0.50 per cent. proteid.

(B) 3.66 per cent. fat, 0.66 per cent. proteid.

Don't add any sugar the first two weeks, as colostrum contains only 4 per cent. sugar. The per cent. of proteid here is far from corresponding to the amount of proteid in colostrum. It is, as said before, impossible to modify cow's milk in such a way as to obtain as high a per cent. of soluble proteid (or albumin) as is found in colostrum; therefore, the only thing to do is to reduce the insoluble proteid (casein) of cow's milk to a figure corresponding to the same in mother's milk.

106 South Street.

PHYSICAL EXAMINATION, THERAPEUTICS, AND RESULTS OF MODERN MEDICINE. A Plea for More Accurate Physical Diagnosis.*

By WARREN SCHOONOVER, Jr., M.D.,
NEW YORK.

NSTRUCTOR IN MEDICINE AND THERAPEUTICS AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; ATTENDING PHYSICIAN TO THE NORTH EASTERN DISPENSARY, DISEASES OF THE HEART AND LUNGS.

The competition thrust upon us by grandmas, nostrum agents, prescribing druggists, patent medicine makers, quack physicians, the patient himself, and, in short, everyone, should make us alive to the thought that something is radically wrong with the laity's opinion of our skill, and this itself leads to the depression of our finances. I had almost forgotten to mention what thrives in the large cities, the ten, twenty-five and fifty-cent doctor. With all these we must compete, not forgetting the hospitals, clinics, and free dispensaries, which are numerous and attract crowds, notwithstanding the efforts to keep out all but the worthy poor, which are, in the main, futile.

Now what makes all this obtain? We will say, careless examinations of patients by the physician, not that any of us would intentionally be guilty of any such breach of contract with our clients—but cursory examinations make poor diagnosis and prognosis and furnish a bad standard on which to exhibit any therapeutic measures for the relief or cure of disease. This is the reason why people wander from hospital to hospital, clinic to clinic, dispensary to dispensary, and physician to physician, seeking in vain for aid for their ills, and it is the prime cause for the physicians losing patients and fees.

We will instance what is meant by careless examination—the patient goes to see a physician, giving a history of the case, and the physician inquires into the condition of the bowels, sees the tongue, takes the pulse and temperature, inquires about the sleep, and takes the fee, and if luck attends the medical man the patient, perhaps, gets well. This, to a great extent, has been heard from patients whom we all see, and we see the great field for patent medicines which, when taken by the dozens of bottles, are supposed to work marvelous cures. Maybe through improper teaching, unknown normal characteristics and signs the physician is to prescribe in exactly the above way, and many a patient has run to different medical men with the same result until meeting the expert diagnostican; then, and then only, by proper therapeutic methods, has been relieved or cured.

The cause of cursory examination is the improper teaching of physical diagnosis in our medical schools, more especially in undergraduate colleges, although there are exceptions to this as to every rule. The student is not given ample acquaintance with normal signs and sounds, especially those of the breast and lungs, and this being true, how can he be expected to differentiate from them diseased conditions? An instance of this is afforded in the following: A physician, freshly graduated, came to one of our post-graduate institutions to take a course in general medicine; in course of time he was given a perfectly normal case to examine and the suggestion made to pay particular attention to the heart, the result of his examination gave every pathological cardiac condition possible, except rupture of that organ. Again, I myself have had students tell me that they have felt, seen, and heard, conditions that were positively present, although it was plain to me that they did not—they were too modest to follow the old motto "If at first you don't succeed, try, try again."

All this ought to be changed, and the student should be taught thoroughly the normal physical signs, those of the organs not only of the chest, but also of the abdomen and pelvis, and they should use instruments of precision. The physician, who has been carelessly taught physical diagnosis, should endeavor to teach himself or be taught normal physical diagnosis, and when expertness in that subject has been reached, then, and only then, start in and study and learn pathological physical diagnosis. This, in my opinion, is the way that the physical examination of the patient should be taught in all our medical colleges; but is it so at present?

During our visit with the patient I believe that, following the subjective examination of the case, we should also make a careful objective one, going through a systematic routine of the suspected field: (1) Inspection, (2) palpation, (3) percussion, (4) auscultation, and (5) any other means necessary to afford an exact diagnosis, such as mensuration, urine testing, both microscopical and chemical, the use of the sphymograph, etc., and should not diagnosticate a condition on the subjective examination only plus the five cardinal points of pulse, temperature, bowels, sleep, and tongue.

In inspection, the examiner should not, as we have times without number noticed, stand in front of the patient and inspect only the anterior surface, but he should survey the body from all points noticing every minute sign. And on palpation, nothing is gained by laying on of the hands heavily, as we have seen done.

Percussion seems to be one of the bugbears of the medical man, and the method of percussing from the whole arm, as I have often seen, is to be deplored, for the only rational and resonant tone is produced by striking from the wrist alone. We be-

* Read before the Mt. Vernon Medical Society.

lieve the use of pleximeter and percussion hammer to be far superior in most hands to the system of using one hand as the hammer and the other as a pleximeter.

Auscultation by some having a very acute ear can be practised to a great extent by that organ alone, but even here the use of a first-class stethoscope, phonendoscope, and other instruments of that type with well-adapted ear-pieces, serves the purpose far better for most of us than the human organ of hearing alone.

By means of instruments of exactness the expert can make the diagnosis of pulmonary tuberculosis from one to six months before the *x*-ray has shown the evidences of the disease. Sometimes we get vague histories, incomplete, and maybe no history at all in cases—as when the foreigner seeks our aid and he speaks not our tongue, neither do we his—and in such class of cases we have to depend on physical examination alone as a basis of diagnosis, prognosis, and treatment. The following case is cited: A man, about 45, born in Turkey, no history obtainable. Inspection: Chest emaciated, breathing difficult; chest moves as one piece, barrel-shaped, myodœma. Palpation: Increased vocal fremitus. Percussion: High-pitched and short percussion note. Auscultation: Prolonged inspiration and expiration, high-pitched crepitant râles, rough in character; increased vocal resonance. Taking all these signs, we diagnose his case as one of emphysema, and also make a prognosis.

Now what are the indications for treatment, and how are they best met? Improve breathing by gymnastics and massage; remove mucus by expectorants; to remove thickened tissues use iodides; to build up the body give food; as regards climate, moderate elevation is best. I have cited this case to show how important is physical examination, not only in diagnosis but also in prognosis and treatment.

Now as to therapeutics. Numerous as are our cases and troubles, none is worse than the agent who fills our waste baskets with literature and our offices with samples. Some of these compounds, no doubt are good and are being used and deservedly, but in the long run, diet, exercise, and the use of old and tried remedies of the Pharmacopœia, in short, intelligent therapeutics, with a few grains of common sense are far better for your patients and we know why we attain results. The materia medica of the Pharmacopœia has not been tried and always found wanting, therefore let us not get the craze of wading in the sea of nostrums, but stick to the old manner of writing prescriptions, and thereby knowing what our patients are using, until something infinitely better attains; when it does we may use it. The reason for the popularity of the nostrum is that it is more pleasant to take, pleases the æsthetic eye, the druggist or chemist does the thinking, etc., but we can meet those demands by a little more careful prescribing and addition of aromatics.

In giving directions to patients, be clear, and it seems to me better not only to explain why you are using certain methods, but also instead of telling them to take a medicine so many times a day or at intervals of so many hours, to indicate the exact times it should be taken. If you do so, the patient will aid you very materially. Do not do, as a friend of mine did in explaining to a lady about chlorosis and after a thorough explanation told her, "Madame, you want to get blood," whereupon she exclaimed, as she suddenly left him, "But, doctor, I could never drink that." Another time, a near relative of mine, while attending a clinic for rheumatic conditions, was consulted by an old Irish lady, who was rather dull of comprehension, and she was told after he had prescribed for her and handed her the prescription to rub this on the painful joint thoroughly. About one hour after, upon leaving, he noticed her still there and inquired of her the cause; when she told him that she had rubbed the knee thoroughly with the paper with no result whatever.

These are simply brought forward to show how very important it is to have the patient thoroughly understand what should be done and how to do it, in the line of exhibiting not only medicines, but also all therapeutic aids which may obtain in the particular case, and you yourself should be sure that he thoroughly understands everything that you have explained and told him to do just as well as you know your indications and how to meet them.

Some years back cardiac diseases were a cause of great worry and fright to the laity as well as to the profession, but at present they are handled so successfully by the physician that the patients live on under proper therapeutics until the end of the term of their natural life, without much difficulty from the diseased organ. Sir Andrew Clark had numerous patients with heart disease which lived to green old age without any particular disability. In the practise of an esteemed colleague and teacher was a case of aortic stenosis, which was under the care of his grandfather from 1830 to 1856, his uncle from 1856 to 1882, and himself from 1882 to 1893, when the patient died at the age of 93, having been under the care of the first physician for twenty-six years, the second for twenty-six years, and the third for eleven years; a total period of 63 years.

This has been brought about by careful experimentation and study of those conditions, the indication for and means of combating them, and the same is true in all other departments of medicine at the present day. The percentage of deaths is being brought down in most all diseases, and this because more careful examinations are being made and proper therapeutic treatment instituted, so that at the present writing we find that in pneumonia under the creosote treatment the percentage of deaths is from five to eight. But physicians do not want to see a death rate in all diseases of nil, because if there was no fear of dying, we would be in fear of starving; nevertheless, it is our duty to study out all diseased conditions not only from the preventive side, but also for the purpose of curing every one we possibly can.

My deeply respected colleague was invited to read a paper on typhoid fever at an occasion of this kind, and in it brought forward that he had 2 per cent. of deaths; when in the discussion that followed it came out that in a county of 13,000 people, according to the statements of the different physicians practising there, every man, woman, and child had had typhoid during the year at least three times each and none of them had died.

None of us probably is as lucky in results as that, but in time to come we may be, and it all rests on the basis of exact physical examination and exact therapeutics, and as we gain that goal, fellow-students of medicine, then will our results shine as the stars in the firmament and our profession will move onward to reach the height of an exact science.

I have not dwelt any upon the results of modern medicine, for that had be left to each of us to add his quota and to take an active part in producing better results than we are doing. Then, and only then, will our newspapers, fences, walls, and houses be bare of medical advertisements. In conclusion, knowing that diagnosis, prognosis, and treatment depend mainly on physical diagnosis, let me register a plea for the better teaching and more expert practice of physical examination.

116 East Fifty-Fourth Street.

ACUTE APPENDICITIS OCCURRING ON THE EIGHTH DAY OF A TYPHOID FEVER. OPERATION. RECOVERY.

By GEO. HERBERT WILLIAMS, M.D., M.R.C.S., ENG., L.R.C.P., EDIN.

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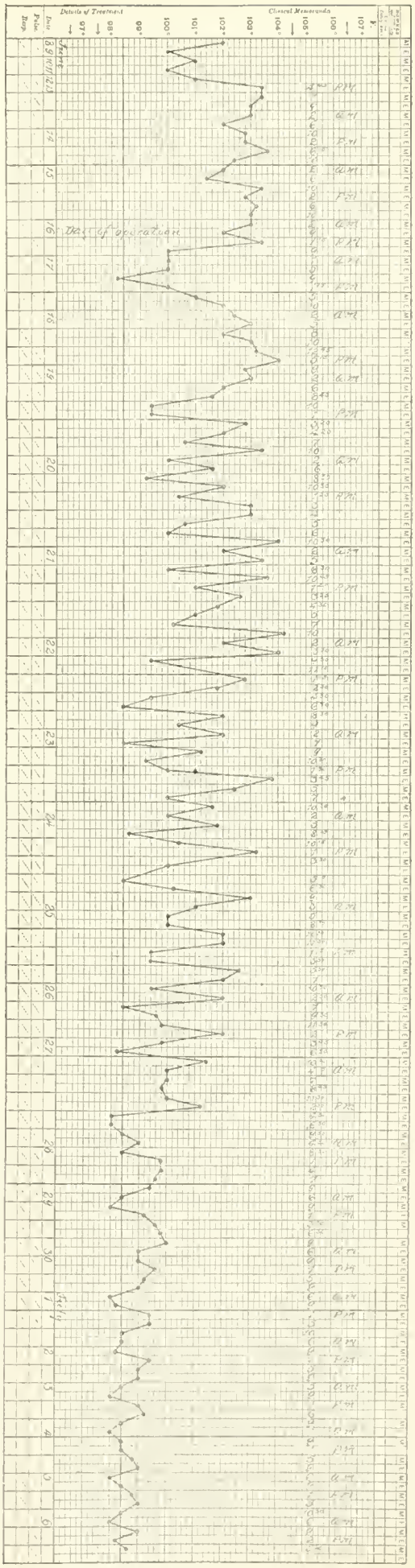
VISITING SURGEON TO HIGHLAND HOSPITAL, MATTEAWAN, N. Y.

On June 8, 1904, I was called to see Miss D. F., a well-nourished girl. She gave a history of having been sick for four days previously. The patient complained of severe headache and neckache, the pulse was 110, and the temperature 102°. The bowels were constipated, the tongue was coated, and one or two suspicious spots were to be seen on the right side of the abdomen. The patient was given twenty one-tenth grain doses of calomel at fifteen minute intervals, followed in two hours by an aperient. Then two grains of bisulphate of quinine every two hours. A strict milk diet was enjoined. At my morning visit the following day, the temperature had fallen to 100°, several movements of the bowels had been obtained, the pulse was 92. Headache and backache were unrelieved. Quinine was continued. On June 10 the temperature was 101°, the other symptoms were the same.

On June 11, the temperature was 100°, and a few additional spots were found on the abdomen. The patient still complained of severe headache and backache. On June 13, the temperature was 103°. On examining the abdomen, the spots were still evident, and two or three more were present on the lower part of the chest. For the first time the patient complained of pain in the right side of abdomen, and pressure over McBurney's point elicited a good deal of distress. I advised that the patient be removed to Highland Hospital for more careful observation. On her arrival, the temperature had risen to 103.4°. Medicine and diet were continued as before, and an ice-bag was applied over the appendical region. During the next three days the temperature varied between 102° and 103.4°, there was increased pain on pressure over McBurney's point, a slight increase in number of spots. The patient had an anxious and distressed look, but retained her flesh well. The pulse was rapid, but of fairly good volume. On the twelfth day of the fever, at my evening visit, I found the temperature 103.4°, more pain on pressure, and some decided rigidity of the right rectus muscle. I



advised operating. With the assistance of my colleagues, Drs. Doughty and McClintock, the operation was done on the thirteenth day of the fever. After the peritoneum was incised and the cæcum drawn up and out of the wound, the appendix presented itself, standing up in the wound like an inflated rubber finger cot. It was quite congested and enlarged in caliber, and about 4½ inches long. The omentum was sutured and the appendix amputated, the wound being closed in the usual manner. The appendix was carefully examined, and cut up on a director; the mucous coat was soft and broken down, and the outer two inches contained a considerable amount of pus. The operation was done on the afternoon of June 16, and the temperature during the night fell to 100°, and at my morning visit on June 17, at 9 o'clock, it was 98.2°. During that day it rose again, and at 5 o'clock on the morning of June 18 it was again 103°. Going up during the day, it reached 104° at 5 p. m. From this time on, as the chart will show, there was a more or less regular typhoid run of fever, with its usual smyptoms. Quinine was given every four hours, and strychnine sulphate (1-50 gr.) every four hours. Surgically, nothing of interest occurred, the superficial stitches were removed on the seventh day, and a good, strong, healthy wound was found. On the twenty-fifth day the temperature went twice to the normal point, and after that, during convalescence, did not vary much.

I have thought the case worthy of record, as I have never seen or known of the two diseases occurring together, and I think the coincidence must be very rare.

Why the temperature went to subnormal even for a few hours, the day after the operation, I am at a loss to understand, unless is was that the appendix was so large an additional focus of infection, and its removal so relieved the system that the fall occurred for a short time.

The patient left the Hospital on July 20, entirely recovered.

Broncholithiasis.—D. Braden Kyle reports a case of this unusual condition, his patient being a woman of thirty-eight years, who, for the five years before coming under observation, had had a hacking cough with a sensitive spot on the left side of the chest, in the second space slightly to the left of the parasternal line. Coughing came on in paroxysms, during which a lancinating pain was felt in the sore spot. There was no hæmoptysis and no dyspnœa, except at the coughing spells. No tuberculosis could be made out. In one of the attacks a hard, irregularly formed, oblong body, about .5 x .8 cm. in size, and bony in appearance was expelled. The surface was uneven, with four small crests and one deep excavation. The analysis showed its composition to be calcium and magnesium phosphate, combined with a small quantity of calcium carbonate and organic matter, which are the most usual elements found in bronchial concretions. The attacks of cough and the chest tenderness did not occur after the stone was expelled.—*The Laryngoscope.*

Abdominal Myomectomy.—V. Cocq declares that the treatment of uterine fibromata has given rise in the last fifteen years to many diverse opinions. At one time, conservative gynecologists thought that they had found in electrotherapy a powerful aid. But the results of this treatment were not what had been hoped for. Those at the present time who are advocates of the expectant treatment are in the minority. The greater number of gynecologists agree that it is better to operate when the conditions are good than to wait till they are changed, till the patient is anæmic. The treatment of fibromata is essentially surgical, and the necessity for operation is realized more and more. Total or partial hysterectomy has more advocates than have other methods. The benign character of fibromata seems incontestable if one considers the origin, structure, and etiology of the tumor. The writer believes that the indications for myomectomy are very limited. Myomectomy is really indicated only when the fibrous nodules are few in number, small, and when the patient is still far from the menopause. This last condition is rare. Statistics show that fibromata are far less frequent in young subjects. It can be seen that it is only in very rare cases in which conditions are favorable for enucleation of the tumor without extirpation of the uterus, that the operation under consideration would be the method of choice. The operation when undertaken is conducted like an ordinary laparotomy.—*Gazette de Gynécologie.*

Decrease of Population in France.—It appears that it is not alone the question of race suicide that is troubling the sanitarians of France, but also the terrible increase in the death rate. According to *The London Telegraph,* Dr. Lowenthal, who is a member of the commission which is investigating the causes of the shrinkage in census returns is not exaggerating when he says in a recent article that, "alcoholism alone is killing France." Tuberculosis, he continues, which of all diseases is the most easily avoided, is raging in France with more violence than in any other country in the world. Every year it kills more than 150,000 victims, and contaminates more than half a million more. Then typhoid, typhus, dysentery, scarlatina, and other diseases and infectious maladies, which are decreasing in England, Germany, Switzerland, Belgium, Holland, Sweden and Norway, the United States, and even in Italy, are, on the other hand, remaining at a very high average in France, some even displaying a marked tendency to develop. Smallpox, which has nearly disappeared from every civilized land, continues to make thousands of victims in France, and hecatombs in her colonies. Such is the gist of Dr. Lowenthal's article, and it cannot be said that he is inclined to be unduly pessimistic.

Alcoholism in German Schools.—How widespread is the consumption of alcoholic beverages throughout Germany is well shown in a recent paper by Dr. Goldfeld, which is quoted in *Harper's Weekly.* Its subject is the prevalence of alcoholism among the school children of Germany, and the author believes that the situation is serious and should be brought to the attention of the parents by means of addresses at meetings and by the distribution of essays on the evil effects of alcohol. The investigator is medical officer of the public schools of Schöneberg, a suburb of Berlin, and his examination included 967 children, 470 of whom were in a boys' school and 497 in a girls' school. Of these, 496, or 51.3 per cent., were accustomed to drink from one to two glasses of beer daily, while 299, or 30.9 per cent., took spirits more or less frequently. The favorite beverage was malt beer, but all kinds of beer and various kinds of spirits were taken, the sweeter liquors being preferred by the girls. Dr. Goldfeld was informed by the teachers that the children addicted to the use of spirits were especially lazy, absent-minded and inclined to lying. Neither children nor parents heeded Dr. Goldfeld's warning.

Manufacture of Vodka in Russia.—Measures adopted by the paternal forms of government sometimes lead to curious results. According to *London Tit-Bits,* a remarkable scene was witnessed a few years ago, when the tsar of Russia ordered that the private manufacture of vodka (the national drink) should cease, and that the business should be taken over by the state and conducted on temperance lines. The new state monopoly was inaugurated in a remarkable way. Priests attended at all the drinking shops by official command, and conducted special services. The public houses were dedicated to God and prayers offered that under the new régime drunkenness might be abolished and the spiritual welfare of the people improved.

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THE SANITARY BACKSLIDING OF CUBA.

There have been for some time persistent rumors of the reappearance of yellow fever in several of the Cuban towns, and three cases have been officially reported within the past month by the U. S. Public Health and Marine Hospital Service. These three cases were not imported from Mexico, but are said to have originated at Punta de Sal in Santiago Province. If this is true—and a despatch from Havana says that Dr. Finlay, chief of the Cuban Board of Health, admits that at least one case originated on the island—it is a matter of grave importance. The disease cannot arise *de novo*, and if one case has originated at Punta de Sal there must have been a previous case, and possibly, even probably, a series of cases. This fact, taken with the known filthy condition of Santiago and other towns in the eastern end of the island, is one to cause concern to this country. According to the report of the U. S. Chargé d'Affaires in Cuba, the streets of Santiago are in such a condition as to be most favorable to the breeding of disease germs, and particularly those of yellow fever. It is stated that there is practically no drainage, and that water is allowed to stand in the streets for days at a time. The press of Havana confirm these reports, one paper, the *Discusión*, stating that it is an undoubted fact that sanitation in nearly all the towns of the island is at such a low level that the public health is in danger. The paper declares that this condition of affairs is a blot on the republic and a shame to the Cuban people.

In consequence of these reports, the State Department at Washington has called the attention of the Cuban Government to the necessity of rigid sanitary control of the situation in the island. This action of our government finds warrant in the sanitary article of the "Platt Amendment," which provides that "the Government of Cuba will execute and as far as necessary extend the plans already devised, or other plans to be mutually agreed upon, for the sanitation of the cities of the island, to the end that a recurrence of epidemic and infectious diseases may be prevented, thereby assuring protection to the people and commerce of Cuba, as well as to the commerce of the Southern ports of the United States and the people residing therein."

Perhaps this reminder from Washington and the near approach of the annual meeting of the Public Health Association in Havana will give the needed jog to the Cuban health authorities, who are thoroughly capable but have to struggle against the unsanitary traditions of Spanish officialdom.

TROPICAL ABSCESS OF THE LIVER.

Abscess of the liver being rare in northern latitudes, the text books contain only meager accounts of it. This leads Dr. E. W. Pinkham to give, in the *Journal of the Association of Military Surgeons* for October, his experience as operating surgeon at the Department Hospital at Iloilo during a year from May, 1900. In that time sixteen cases of liver abscess were seen, mostly accompanying or following amœbic dysentery. This series gave seven recoveries and nine deaths. Eight autopsies revealed conditions not discovered beforehand which rendered death certain. In some cases operation gave a measure of relief to symptoms, but could do no more. Considering the emaciated and weak condition of the patients, the tendency of the dysentery to recur, and of the suppurative process to spread, it may safely be assumed that without surgical procedures all the patients would have died. Not more than six entered hospital with a correct diagnosis, the condition being regarded as appendicitis, malaria, acute pleurisy, acute pneumonia, peritonitis, empyema, convalescence from typhoid fever, and delirium tremens with pain in the side. After the surgeons became more familiar with this common complication of amœbic dysentery and were on the lookout for it, the diagnosis was made more readily. The errors in diagnosis, and the total failure to recognize the disease early, account for the high rate of mortality. In the only two cases where a blood count was possible, no leucocytosis existed, but anæmia was present. In the majority of cases dysentery coexisted. In all the cases without dysentery, recovery took place. In all cases emaciation and debility existed, as the results of the dysentery, the unrecognized abscess, and the climate; and were important factors in determining the fatal issue. In thirty-two autopsies on dysentery cases, liver abscess was found in five. These so-called abscesses are not true abscesses, but rather areas of necrosis, and their contents are liver cells in all stages of degeneration and disintegration, free fat particles, and more or less blood corpuscles and serum. They do not contain pus. Amœbæ were found in eight cases, in some only when scrapings of the abscess wall were examined. In all cases with concomitant dysentery, amœbæ were found in the stools.

In diagnosis the previous history is of the utmost importance. With a history of dysentery of tropical or amœbic type, and an indefinite pain or sensitiveness over the liver on compressing the ribs on the right side, with chills or chilliness, and fever more or less similar in type to that of septic infection, liver abscess may be suspected whether or not the liver is enlarged. If with the above symptoms, dysentery coexists, abscess is almost certain. Aspiration may aid, but it is by no means certain, as many punctures may fail where subsequent operation discloses abscess. Finding the abscess is thus a good deal a matter of luck. It is, however, a good plan, just before operating, to try to locate the abscess by aspiration, as success gives a good guide, and in case of failure no harm is done.

The diagnosis once made, immediate operation is demanded. Whether bulging or not, the abscess should never be evacuated by the trocar and cannula, on account of the danger of infecting the serous cavities. No one can be sure whether adhesions exist or not; most likely they do not. Operation by in-

cision is, therefore, surer and safer. One interesting result brought out by the author's operative experience was the demonstration of the freedom with which one may search through the liver tissue without dangerous hemorrhage. The search should be made with the finger, which seems to slip over the large blood vessels without rupturing them, and not with any sharp instrument. In all cases except the first, the walls of the abscess were curetted carefully with a sharp curette before packing, to remove as much infected tissue as possible.

In two cases with dysentery the colon was entered and irrigated. In Pinkham's opinion this is the best method of treating those obstinate cases of recurrent dysentery which so often baffle medical skill. The most practicable way to accomplish the end is to perform right inguinal colotomy, as recommended by Bolton. It is his belief that a large number of lives might have been saved in the Philippines during the late war had this surgical treatment been adopted. As it was, the antagonism of the great majority of our medical men to the introduction of surgical methods in the treatment of a disease which had hitherto been considered as belonging especially to the province of the physician was too strong to be overcome.

The general cyanosis, regarded by Osler as a symptom of liver abscess, was seen in so many poorly nourished soldiers, suffering from a variety of diseases, especially recurrent dysentery with or without abscess, that it did not seem specially diagnostic of abscess. The swelling at the costal border which he speaks of was present in only a few of Pinkham's cases, generally those of the single abscess type without chills, which almost invariably recovered.

Pernicious Activity in the Consular Service.

Those who are in a position to know tell us that the personnel of the American consular service has greatly improved of late years, and that the "Yankee Consul" is no longer a type of our commercial representatives abroad, even of those vegetating in the fruit ports on the Caribbean Sea. This is well, and as good citizens we are pleased to think that the traveling American need no longer heed the impulse to turn down the first side street when his eye lights on the flag of his country flying over the consulate in some foreign port. At the same time the Secretary of Commerce and Labor would do well not to let the consuls, in their zeal to be doing something, fill their reports with misinformation on matters of health and hygiene. We recently commented on the peculiar report of our consul at Frankfort-on-the-Main concerning the alleged innocence of the oyster in the transmission of typhoid bacilli. This report was published widely under headlines asserting that the oyster could not transmit typhoid fever. Now comes another report, this time from the American consul at Nottingham, of the discovery, by Dr. Stephen Smith, of London, of a means of curing errors of refraction by "manipulation of the eye." The treatment is described as gentle and gradual, a few minutes daily, causing no pain and having no injurious effect of any sort. "Some patients are cured in a week, and in all cases improvement is rapid. Thirty patients who previously had to wear spectacles have so far been treated by Dr. Smith, and with one exception, it is stated, all have discarded glasses and can now read, at either long or short distances, as easily as people who have never needed glasses." The groundlessness of Dr. Smith's claims have been most fully disclosed by the medical press in London. He consented, it was said, to a demonstration of his method under the inspection of competent opthalmologists, but, when the proposal was about to be acted upon, put forward so many conditions and limitations that the investigation, if undertaken, would have been of necessity inconclusive. Yet doubtless many quacks will be prompted by this report of our consul to undertake massage of the eyeballs, and many foolish myopes and presbyopes will submit their eyes to this dangerous manipulation in the hope of thereby being able to discard their glasses. Why an American consul in Nottingham should feel called upon to boom a therapeutic measure advocated by a London oculist, which has never received the approval of any ophthalmologist of note, but has, on the contrary, been condemned by nearly all, we fail to comprehend.

About a quarter of a century ago a British consul in Philadelphia read of an alleged case of trichinosis in Illinois, and hastened to inform his government that the American hog was infected with trichinæ. The hog growers of France and Germany learned of this report and used it to such advantage that laws were passed excluding American swine products from those countries; these laws were effective for many years and resulted in the loss of many millions of dollars to American farmers. This is cited only as an instance of what harm a consul may do by writing about something of which he has no personal knowledge. If our consuls must report on medical matters they should be warned to get their facts from trustworthy sources, and not from the pages of yellow journals.

The Hot Bath in the Treatment of Appendicitis.

Lieutenant Enrico Castelli, writing on the treatment of appendicitis in the August number of the *Journal of the Association of Military Surgeons of the United States*, in the course of his remarks descants on the value of warm balneation in the symptomatic treatment of appendicitis. The warm bath, according to the author, produces a general tonic sedative effect on the nervous system in all states of asthenia; it equilibrates thermogenesis; it decongests the internal organs, and relieves all pains of a colicky type; besides, it has an antitoxic effect, since it increases the reactive processes of metabolism, produces free exudation, also relieves the ischuria paradoxa—a symptom not uncommon in all infectious diseases. In appendicitis, the author prescribes the bath at any period of the attack, and during it the other symptomatic and causal treatments are producing their effect, because it not only does not interfere with their action, but, on the contrary, becomes to them a useful adjunct. The temperature of the water should vary from 81° to 95° F. During the bath small doses of cold champagne are administered. Pain and the general condition of the patient form the only guide to the use and length of balneation, as well as to its repetition as often as may be thought necessary.

Lieutenant Castelli does not claim that the hot bath relieves pain; on the contrary, it may increase the pain to the highest degree, but such a recrudescence must constitute a warning for the physician, showing, as it does, the presence of pus in the region of the appendix. In other words, an increase of pain in such a case is the clinical equivalent of suppuration. As an adjunct to the relief of coprostasis, Castelli administers at the beginning of the attack an enema of about a pint of 5 per cent.

saline solution at a temperature of 65° to 75° F. to be injected at low pressure. This enema is to be repeated every twelve hours, equal parts of sulphate of sodium being added to the chloride of sodium, and thus continuing until the watery discharge becomes colorless.

In Lighter Vein.

The annual burlesque supplement of the *Münchener medizinische Wochenschrift* is always a source of joy to the discerning, and this year's number is just as amusing as its predecessors have been. The ofttimes pedantic ponderousness of the Teutonic scientific communication lends itself admirably to caricature, and that there are not wanting in the Fatherland unregenerate spirits quick to put the thumb of derision to the nose of scorn is attested by the contents of this *Scherznummer*. A pompous dissertation on general anæsthesia elucidates the author's discovery that the active narcotizing principle of ethyl chloride resides in its refrigerating powers, and after numerous costly experiments it was found that champagne formed the most satisfactory vehicle for administration. By spraying the bottles with ethyl chloride the active principle of cold was imparted to the contents and it was found that complete anæsthesia could be pleasantly produced by taking the anæsthetic by the mouth, though the after-effects, consisting in a tendency to somnolence and cephalalgia, were somewhat disagreeable. An admirably executed *x*-ray picture, consisting of an absolutely uniform rectangle of printer's ink, serves as a text for an enthusiastic description of a new type of fracture of a metacarpal bone, and the fonetik orthografists receive recognition in an essay on "Kiuretaszh of the serviks," in which such writers as Hauard Kelli and Pastöhr are quoted.

The most important contribution in point of length is a novelette setting forth the fall from grace and subsequent expiation of Eosinophila, a beautiful but wayward leucocyte, remarkable for the charming delicacy of her nuclear network and the grace of her pseudopodia, who falls in love with a bold, bad epithelial cell in the cornea and thus acquires dangerously socialistic tendencies. An excursion to the pyramids (in the cortical zone) serves only to inflame her rebellious spirit, but she finally dies a glorious death in a pitched battle against the cohorts of the gonococcus, and having been expelled from the urethra in a drop of pus, her dead body may be seen beautifuly stained red and blue in a mausoleum of balsam on a microscopic slide. Quotations from Faust throw a medical sidelight on many passages usually considered innocent of any esoteric meaning, and a newly-discovered fragment of the Odyssey describes in faultless hexameters the reward of Dakryokrates, a worthy Attic opthalmologist. After he had cured the eye of Polyphemus, wounded by the sage Ulysses, Poseidon, in gratitude, commanded the west wind to bear his high-prowed ship to the land of the Ophthalmodonts, a paradise for oculists, where all the inhabitants have thirty-two eyes and only two teeth. In consequence they eat but little, and owing to the sharpness of their vision all but dentists acquire huge wealth. The king of the land had cataract in every eye, his lovely daughter was a sufferer from strabismus to an equal degree, and the subjects were correspondingly afflicted, so that the happy Dakryokrates had his work cut out for him.

Other original articles, society reports, book reviews, and advertisements in abundance hold the mirror up to medical nature, and in good-humored satire point out some of the foibles of our calling.

News of the Week.

Changes in Management of the State Hospitals.—It is stated that Governor-elect Higgins is not in accord with Governor Odell as regards the management of the State hospitals, and it is announced that he will recommend, in his first message to the Legislature, the reestablishment of the local boards of managers for State hospitals for the insane, and transferring from the State Commission in Lunacy to such local boards all the administrative powers and responsibilities which they had when abolished, except those strictly financial. Under the old law the local boards had the right to say how the patients should be fed, how clothed and cared for, and who should feed, clothe, and care for them. He would also make the State Prison Commission an unsalaried board, as contemplated by the Constitution, and a board of philanthropic expert men and women, having full powers of inspection and recommendation. He would make a State reformatory out of the State institution at Napanoch, which would then have its own local board of managers. The institution is now under control of the State prison department. Finally, Mr. Higgins is said to favor increased appropriations for the enlargement of State institutions for idiots and feeble-minded, and securing the removal of all this unfortunate class from the county almshouses.

Fourth Pan-American Medical Congress.—Dr. Rudolph Matas, of New Orleans, secretary of the Section of General Surgery for the United States, writes that a United Fruit Company steamer will leave New Orleans for Colon on Wednesday, December 28, 1904, at 10 A.M. (instead of Friday, December 30, as previously announced) which will reach Colon (Panama) on Monday, January 2, 1905, the opening day of the Congress. Those who intend to go this way are requested to write to Dr. R. Matas, No. 2,255 St. Charles avenue, New Orleans, La., not later than December 22, 1904. The routes to Panama are gradually narrowing down to a select few as more advantageous rates are offered. Those who go only to the Pan-American Medical Congress will probably go and return by the way of New York or New Orleans. From the former starting point $100 will be charged for the round trip; from the latter $50. The Di Giorgio S.S. Line, of Baltimore, Md., offers a special ship for the exclusive use of the party, including meals and berth at sea and in ports, to Colon, Havana, and return, visiting Kingston and Port Antonio, Jamaica, for $130, providing fifty persons take passage. The Athos will leave Baltimore December 27, arriving at Colon January 2 or 3; leave Colon January 7, and arrive in Havana January 9; leave Havana for Jamaica January 14, and arrive at Baltimore January 18. The members of the party can live on board when in port if they desire, thus saving hotel expenses. Lunch and dinner will be served on deck when in smooth waters. Physicians can bring members of their families and friends at the same rates. All arrangements must be closed ten days before sailing date. The number of passengers is limited to seventy. Applications for reservation of staterooms, berths, etc., should be made to Ralph F. Nolley, 103 Park avenue, Baltimore, Md.

A Filtration Plant for Manhattan and The Bronx.—Work on the Jerome Park reservoir has been suspended by the Aqueduct Commission pending a consideration of the advisability of building a filtration plant. Plans and estimates for the plant are now being prepared by Chief Engineer J. Waldo Smith. The cost has not yet been figured out, but a similar system of filtration beds for the cleansing of

the inflow to the Philadelphia reservoirs cost about $22,000,000.

No Canteen Legislation.—Mr. Hull, chairman of the House Committee on Military Affairs, is reported as stating that there will be no legislation in Congress this session looking to the reëstablishment of the army canteen. He thinks the present system has not been running long enough to permit of a decision for or against its practicability.

German Tuberculosis Commission.—The imperial commission appointed to investigate the relations between human and bovine tuberculosis met on November 25. Dr. Weber, one of the members of the commission, reported that the investigations made showed that human and bovine bacilli were absolutely distinct biologically, and that one never develops or changes into the other. Several cases of mixed infection with both organisms in man were reported and the commission urges the exercise of all possible precautions to prevent infection with the bovine bacillus.

The Inauguration of Dr. Charles W. Dabney as president of the Cincinnati University was celebrated on Tuesday and Wednesday of last week. On Tuesday evening Dr. Dabney was given a public reception at the University buildings. The inauguration ceremony took place at Music Hall Wednesday morning and was preceded by a parade of the student's alumni and faculty of all departments with visiting officers of other universities, numbering in all 2,000 persons. President Jones, of the University Board, presided and introduced Dr. Dabney. Judge Thompson, of the United States Court, administered the oath of office. Addresses of welcome were then made by Mayor Fleischman of Cincinnati, Governor Herrick, and Dean Joseph Edward Harry, on behalf of the faculty. Drs. Wm. L. Dudley, of the Medical Department, Vanderbilt University, and Wm. O. Thompson, president of Ohio State University, made congratulatory speeches. Dr. Dabney then delivered his inaugural address. Other addresses were delivered by Dr. Wm. H. Welch of Baltimore, Judge Rufus B. Smith of Cincinnati, President H. F. Pritchett, and the presidents of Cornell and the College of the City of New York. In the evening a large banquet was given, with addresses by many prominent men.

Civil Service Examinations for Physicians.—The fight of the medical profession against the establishment of civil service examinations for physicians seeking appointment on the Cook County Hospital staff, Chicago, came to a partial climax November 25, when the County Board decided to rescind its action of October 31, placing the medical staff under the control of an examining board. The president of the Board, Mr. Foreman, vetoed the rescinding vote, but whether the veto will be effective is a question which may call for a judicial decision. Those who fought against the plan for placing the members of the County Hospital staff under civil service alleged as their chief argument that the examining board, as appointed, was dominated by Rush Medical College, which is affiliated with the University of Chicago, and that applicants for positions on the staff, graduates of other colleges, might be discriminated against.

Cincinnati Society for Medical Research.—At a meeting of this society, held at the Cincinnati Hospital November 17, the following papers were read: Dr. J. H. Schroeder spoke of a new method of his for locating the greater curvature of the stomach. He had the patient swallow the stomach-tube, into the end of which an electromagnet was fastened, and then located the magnet in the greater curvature by means of a magnetic needle in front of the abdominal wall. Dr. A. Faller read a paper on the Widal reaction, and reported twelve cases with a positive reaction when typhoid fever was absent. Dr. M. L. Heidingsfeld demonstrated lantern slides from a case of porokeratosis. He said that after careful study he considered this a symptom of several diseases, and not a distinct disease in itself.

Cincinnati Academy of Medicine.—At a meeting of the Academy, November 7, Dr. C. R. Holmes, of the new City Hospital Commission, read a paper on Hospital Construction, with special reference to the needs of Cincinnati. He favored the pavilion plan of hospital and showed photographs of many hospitals built on this plan at home and abroad, notably Eppendorf Hospital, at Hamburg. He also spoke of the advantages of having the hospital located outside of the city, or at least outside of the crowded part of the city. The new site purchased by the committee is near the geographical center of Cincinnati, but out of the crowded portion and on an eminence overlooking the business portion of the city.

National Association for the Study of Epilepsy.—At the fourth annual meeting of this society, held in Boston, November 22, the following officers were elected for the coming year: *President,* Dr. W. P. Spratling, of Sonyea, N. Y.; *Vice-Presidents,* Hon. W. P. Letchworth, LL.D., of Portage, N. Y., and Dr. Max Mailhouse, of New Haven, Conn; *Secretary and Treasurer,* Dr. Everett Flood, of Palmer, Mass.; *Chairman of the Executive Committee,* Dr. Wm. N. Bullard, of Boston. The next meeting will be held in New York City in November, 1905.

A Convalescents' Home for England.—An English newspaper says Andrew Carnegie has purchased, or is about to purchase, for $3,750,000, Lea Park, the late Whitaker Wright's estate in Surrey, with the object of establishing a national convalescent home. If this report is true it would seem to indicate a change of heart in the donor, who has hitherto been supposed not to favor the giving of money for hospital purposes, his large gifts being chiefly to promote educational objects, if one may so characterize free libraries.

Ohio State Laboratory.—The Ohio State Board of Health will soon throw open its laboratory, chemical and bacteriological, at Columbus, to all the certified physicians of the State. Now only samples submitted through the health boards are accepted and worked out by the department. There is some apprehension that the laboratory may be overwhelmed with work, but if such proves to be the case, the Legislature will probably provide means for a larger force.

The Prevention of Smallpox.—Dr. Benjamin Lee, secretary of the Pennsylvania State Board of Health, points out in his annual report, just submitted, that during the year ended November 1, there were reported in the State 5,172 cases of smallpox, with 521 deaths, which is in marked contrast with the experience of the German army, in which, since vaccination and revaccination were made compulsory, thirty years ago, there has not been a single death from smallpox. In the city of Philadelphia, as a result of an active vaccination crusade, the number of cases of smallpox has been reduced from 396 in December, 1903, to 26 in June, 1904, and in Pittsburg from 537 cases in October, 1903, to 15 in March, 1904. At the present time there are only 42 cases throughout the entire State.

Attempt to Victimize a Physician.—A Brooklyn physician received a call last week from a well dressed young man who said he had come to await

his father who had met with an accident and would arrive in a few minutes. He was shown into a waiting-room while the doctor attended to another patient, but when the latter had departed the young man could not be found, until the doctor with his servants searched the house and discovered him in a bedroom on the second floor. After he had been taken in custody it was discovered that he had first made an ineffectual attempt to play the same trick in the office of a near-by dentist. The police reports show that twenty-four physicians and dentists in the Bergen street precinct have been robbed in the last month by a young man using similar tactics.

West Side Free Bath Opened.—The new free public bath in West Forty-first street, near Ninth avenue, was formally opened last week. The building, which cost about $110,000, contains 101 shower baths, of which 29 are for women, and ten tubs devoted exclusively to the use of the aged and infirm of both sexes. There are eight male and eight female attendants. This institution is the second of its kind to be opened in this borough, the other free public bath being in Rivington street. Besides these there are others under construction in 109th street, near Second avenue; in Allen street, near Rivington; in West Sixtieth, in East Seventy-sixth, in East Eleventh, near Avenue B, and in East Twenty-third street at the East River. Appropriations for three more have been granted, but the sites have not yet been determined upon. In the baths in West Sixtieth and East Twenty-third streets there will be swimming pools for both men and women.

The Samuel D. Gross Prize of the value of twelve hundred dollars will be awarded on January 1, 1905, "to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations." The competitor who receives the prize shall publish his essay in book form, and shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery; on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essay, written by a single author, an American citizen, in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 South Thirteenth street, Philadelphia," on or before January 1, 1905. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize. The trustees are Drs. John B. Roberts, William L. Rodman and William J. Taylor.

The Ninth District, Ohio, Medical Society held its annual meeting at Portsmouth on November 3, under the presidency of Dr. O. C. Andre, of Waverly. The society is composed of members of the societies of Lawrence, Jackson, Gallia, Pike, Meigs, Hocking, Vinton, and Scioto counties. The following officers were elected: *President,* Dr. Lester Geller, of Ironton; *Secretary and Treasurer,* Dr. J. S. Rardin, of Portsmouth; *Censors,* Drs. O. C. Andre, of Waverly; L. F. Roush, of Pomeroy, and W. R. Moore, of Orland. The next place of annual meeting will be Gallipolis.

Dr. B. Sachs has resigned his position as Professor of Neurology in the New York Polyclinic Medical School.

Dr. H. Newton Heineman will deliver a lecture at the New York Polyclinic Medical School and Hospital on Monday, December 5, at 2:30 P. M., on "The Nauheim Treatment of Heart Disease."

Dr. Wm. H. Welch, of Johns Hopkins University, who went to Cincinnati to attend the inauguration of President Dabney, of the University, addressed the students of all colleges at the Cincinnati Hospital on one of the days of his visit. On another afternoon he was given a reception by his host, Dr. Ransohoff.

Dr. Vietor C. Vaughan, of the University of Michigan, will address the Philadelphia Pathological Society on December 8, at the College of Physicians, on the Relation of Food Adulteration to the Public Health. A reception will be tendered to Dr. Vaughan immediately after the meeting.

The Eastern Medical Society.—At a meeting of the Genito-urinary Section of this Society, in Clinton Hall, on December 6, at 8:30 P. M., there will be a discussion on "Syphilis as Observed in General Practice." At the annual meeting of the Society, on December 9, an address will be delivered by Dr. A. Jacobi.

New York City Sanatorium Barred from Sullivan County.—The Sullivan County Board of Supervisors has denied New York City's application for permission to locate a sanatorium for consumptives in Mamakating. Several days ago the Assistant Corporation Counsel made the application and the Health Commissioner of New York City also appeared before the board and urged favorable action.

Chicago Orthopedic Society.—At the November meeting of this Society, the following officers were elected: *President,* Dr. John Ridlon; *Vice-President,* Dr. John Lincoln Porter; *Secretary and Treasurer,* Dr. Arthur B. Hosmer.

Gift of $100,000 to a New Hospital.—Mr. Otto Young has donated this amount toward the building fund of the McCormick Memorial Institute for Infectious Diseases in Chicago.

Milk Dealers Punished for Adulteration.—Thirty-two Brooklyn milk dealers were arraigned in the Court of Special Sessions in that borough one day last week, on a charge of selling impure and adulterated milk. One man was sent to jail for ten days—the milk he sold was found to be 66 per cent. water. Others were fined from $5 to $100.

Hospital for South Brooklyn.—Steps are being taken by the Brooklyn Samaritan Hospital Association to commence work on a new hospital building for South Brooklyn. It was found that the demands on the dispensary in the basement of the Fifteenth Street Baptist Church, which has been operated by the association for about four years, were so great that it has been decided to start a new hospital.

Appointment from a Rajah.—According to the newspapers a Pennsylvania physician is to remove to India in order to accept the post of private physician to the Rajah Tipe Sahib. Eleven years ago the doctor, while at the World's Fair in Chicago, was instrumental in saving the foot of a young Indian who had been trampled on by a camel, and the young man, who is the new Rajah, takes this means of honoring his benefactor.

Smallpox in Pennsylvania.—An outbreak of smallpox is reported from Morris Run, Penn., where there are said to be over 150 cases of the disease.

Yellow Fever Subsiding in Mexico.—Apparently the recent cold weather on the Gulf Coast has caused a falling off in the number of cases of yellow fever reported from Merida and other points. The Superior Board of Health of Mexico states that the situation is much improved and that there are no cases at Vera Cruz.

Scarlet Fever on Staten Island.—The Board of Health of Concord, S. I., has closed the public school at that place owing to a case of scarlet fever in one of the 650 pupils.

The Plague in Chile.—A despatch from Lima, Peru, states that, while the prevalence of bubonic plague has not been officially declared in Chile, it is asserted that there are cases that the Chilean Government daily conceals in order that steamers may not omit touching at ports at which there are no sanitary regulations. This alleged action is considered a great peril to the Peruvian coast, Panama, and the entire country bordering on the South Pacific Ocean.

Obituary Notes.—Dr. Nelson L. North, of Brooklyn, died suddenly, from pulmonary hemorrhage, on November 23. He was born at Elba, N. Y., 74 years ago, and was a graduate of the College of Physicians and Surgeons in this city, in the class of 1854. He was surgeon to the old metropolitan police from 1861 to 1869. He was a member of the American Medical Association, the New York State Medical Association, and the Kings County Medical Society. He was consulting surgeon to the Methodist Episcopal Hospital. He is survived by a son, Dr. Nelson L. North, Jr.

Dr. Henry M. Lyman, of Chicago, died on November 21 in an attack of angina pectoris. He was born at Hilo, Hawaiian Islands, November 26, 1835. He was a graduate in arts of Williams College in 1858, and in medicine of the College of Physicians and Surgeons in this city in 1861. He served on the Bellevue house staff until the spring of 1862, when he was appointed acting assistant surgeon in the Union Army. At the end of a year a severe attack of malarial fever compelled his resignation from the army, and he then went to Chicago and established himself in practice. He was connected during nearly his entire residence in Chicago with the Rush Medical College, holding successively the chairs of chemistry, physiology, nervous diseases, and theory and practice of medicine, and serving for a time as dean. He was also for several years professor of the theory and practice of medicine in the Woman's Medical College of Chicago. He was president of the Association of American Physicians in 1891-2, and of the American Neurological Association in 1892-3. He wrote a number of works, including "Artificial Anæsthesia and Anæsthetics," "Insomnia and The Disorders of Sleep," "Treatise on the Theory and Practice of Medicine," and was the author of the article on Gout in the Twentieth Century Practice of Medicine. He was for many years visiting physician to the Cook County Hospital and to the Presbyterian Hospital.

Dr. W. L. Newell died at Millville, N. J., on November 27. He was graduated from Jefferson Medical College in the class of 1859. He was a surgeon in the United States Army during the Civil War and for many years surgeon to the Pennsylvania Railroad Co.

Dr. W. L. Coleman died on November 28 in Houston, Tex., at the age of seventy-one years. He was well known for his active labors in several yellow fever epidemics, and received the Howard medal for services rendered during one of these epidemics.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SANITARIANS IN CONFERENCE—REBUILDING OF BART'S—FILARIÆ AND MALARIAL PARASITES TOGETHER—TO COMPARE TISSUES—LYMPHÆMIA—KING'S FUND COMMITTEE OF INQUIRY—BIRTHDAY HONORS—OBITUARY.

London, November 11, 1904.

Yesterday delegates from the public health authorities of England and Wales, to the number of 209, met in London to confer on measures for preventing the spread of infectious diseases by vagrants. There was a good deal of unanimity displayed as to the necessity of greater restriction on the movements of tramps, for the law as it stands is found to be utterly inadequate for the protection of the public. The conference agreed that further powers should be obtained, such as the right of compulsory vaccination on reasonable suspicion of exposure to infection, the right of detention and isolation, the establishment of bureaus for distributing information to authorities through whose areas suspected persons may be likely to pass. The medical officers of health have so often traced fatal outbreaks to tramps that the conference had no doubt that stringent measures were justified and called for. But the speakers recognized the distinction that ought to be drawn between habitual tramps, who never work if they can help it, and honest workmen who only become vagrants in order to procure work. The former are only pests, the latter should have every assistance, and the conference passed a resolution to the effect that the local government board should promote legislation for the establishment of labor intelligence bureaus similar to those at work in some countries. At present our tramp wards herd together honest workmen and lazy tramps, and it is time the distinction was duly enforced. A motion to make the cleansing of persons act compulsory, instead of permissive, was lost, after one delegate had expressed a fear about the Habeas Corpus Act, and that people would begin to think they were inspected too much. He would rely on the spread of education, which appears to me to be the panacea of every obstructive. I quite agree with another delegate, who held that every tramp should be inspected, have a warm bath, have his clothes disinfected, and then be put to work to make some return for the benefits he had received. Why should tramps live in idleness at the expense of honest citizens? Further, why should they train up children in the same evil ways? As to this last question, a resolution was agreed to that the State which takes over the parental rights of paupers should extend the same benefits to vagrants. To object that this is to infringe personal liberty is not worth serious discussion. The Home Office and the Local Government Board asked to have a copy of the proceedings supplied, so perhaps the government may wake up.

The controversy about the scheme for rebuilding St. Bartholomew's Hospital has been revived by the resignation of the treasurer and secretary. Those who so strongly opposed reconstruction on the present site, chiefly on account of its enormous value, though silenced for a time by the report of the Lord Mayor's committee, and the decision of the governors to adopt it and appeal to the public for funds, have again protested. Early in the year the governors sold securities for about a quarter of a million and asked the public to contribute a further half million. The appeal can scarcely be called a success. Only some £40,000 has been received at present, which, with £40,000 promised in advance, seems a very inadequate response to an appeal endorsed by the Lord Mayor and the committee. The authorities of the hospital, however, set about their reconstruction with a light heart, and the new out-patients' department is being erected at a cost of about £120,000. This is a sum which to many hospital reformers will appear an unjustifiable extravagance, but it is to be increased by another £100,000, for a new nurses' home. No wonder that many people are saying that hospital managers throw about their hundreds of thousands as carelessly as other public bodies pile up the debts of the rate-payers.

The governors have applied to the King's Hospital Fund for assistance, but any contribution from that source cannot amount to enough to extricate them from their difficulty. Then, it is remarked that the secretary of that fund all along opposed the present scheme and he exercises great —perhaps too great—influence in apportioning the distribution. Again, the resignation of the treasurer and secretary was thought to indicate dissatisfaction, or worse, and so much was made of this by the opponents to the scheme that Sir Trevor Lawrence (treasurer) has replied. He says the governors are not discouraged, that they are well satisfied with the response to the appeal, which

has reached £84,000, and that the first part of the new building will be finished by the summer of 1906. It is not probable that we have heard the last of the controversy.

The presence of filariæ in the blood, together with malarial parasites, must be a rare circumstance. At any rate, the coincidence was not reported until the last meetnig of the Pathological Society, on the 1st inst., when Dr. C. F. Selons exhibited a lantern slide establishing the occurrence. The patient from whom the film was taken had contracted malaria in India in 1899, and subsequently had many recurrences. He was admitted to St. Thomas's Hospital in an attack. The spleen was enlarged. He had never had any symptoms suggestive of filariæ. Blood films stained by Leishman's method showed numerous parasites of the benign tertian type; at one spot a filaria was also found. No eosinophilia. In filariasis pyrexial attacks ("Elephantoid fever") occur which simulate ague. The question whether the simultaneous presence of the two organisms may explain such attacks is, therefore, of interest. Dr. Graham Forbes asked whether the filaria found was *F. perstans* or *F. sanguinis hominis*. He said that in negroes filariæ were present in about twelve per cent. In three per cent. of these the variety was *F. sanguinis hominis;* in the other nine per cent. *F. perstans,* and the latter gave rise to no symptoms. Dr. Selons replied that the specimen was probably *F. perstans,* but his patient had only been in India where that variety had not been found.

Afterwards Dr. Selons and Mr. Shattuck showed sections illustrating two methods for comparing normal with abnormal tissues under the microscope. They are well adapted for class purposes and especially applicable for studying bone marrow, the central nervous system, and the blood. One plan is to mount a normal section directly under the diseased one without the intervention of a second cover glass, so that by merely altering the focus the two can be examined in rapid succession. There is a microscopic interval between the two, due to a thin layer of the medium. One section is fixed to the slide, the other to the cover glass. In the case of blood two cover glasses are mounted in opposition and then fixed to the slide.

The other plan is by what was called a composite block, *i.e.* a block composed of two, a broad face of tissue being first exposed in each of two blocks, which are then cemented togther in paraffin. Sections are then to be cut at right angles to the plane of opposition, so that by placing them with the line of junction across the field both are visible at the same time.

Mr. L. S. Dudgeon read a full account of a case of acute lymphæmia in a man of thirty-seven, admitted after a month's illness. He was intensely anæmic, with enlarged spleen and liver. Several speakers expressed different views of the case. One commented on the difficulty of determining the nature of the myelocytes by the staining of the granules, and thought perhaps the case was one of myelogenous leucocythæmia. Another referred to the presence of streptococci in the blood in a case which he attributed to terminal infection. Another observed that many such cases were septic. Another held that there was no difficulty in distinguishing between myelogenous and acute lymphatic leukæmia and denied that these cases were septic. Tow others maintained that it is by no means easy to differentiate the two conditions.

The anti-vivisectionists are a little jubilant. They have worried the King's Hospital Fund into appointing a committee to inquire into their allegations against the managers of those charities. The most pertinent of their accusations is that the hospitals divert money subscribed by the public for the support of the wards to the medical schools, and thereby encourage the "torture of animals." This is by no means the only accusation—others too shameful and too obviously false for most of the public, are continually insinuated by the less scrupulous of the antis. It would not matter so much if their statements did not inflame still further the hysterical sentimentalists of both sects.

Howbeit, the inquiry has been entrusted to a committee of three—a lord, a lawyer, and a bishop. All three have the confidence of the public and they will no doubt discharge their duty faithfully. That the opportunity will be seized to repeat all the old calumnies is to be expected. In this respect it would seem to most persons inadvisable for officials of the King's fund to concern themselves, and, so far the chairman's request to Mr. Stephen Coleridge to supply him with particulars might well have been omitted. The committee are to inquire how far the medical schools directly or indirectly benefit their hospitals, and in case they do, whether the return thus made by the schools equals any sum contributed by the hospitals directly or indirectly. Whatever conclusion may be reached you may be sure it will not satisfy the fanatics who see torpedoes in every hypodermic syringe.

Four doctors are included in the birthday honors, each getting a knighthood, viz., Shirley Murphy, M.O.H. for the County Council, Professor Wm. Sinclair, C. H. Marriott, surgeon to Leicester Infirmary, and Major A. Perry, R.A.M.C.

Herbert W. Allingham, F.R.C.S., died on the 4th inst., in his forty-third year. He was on his way to Egypt for the benefit of his health, but succumbed at Marseilles. He lost his wife in January last. He was surgeon to the household of the King, senior assistant surgeon to St. George's Hospital, and lecturer on operative surgery in the school. He had been formerly on the staff of St. Mark's and of the great Central Hospital. He was considered one of the most brilliant of our younger operating surgeons and was certainly one of the most successful. He edited and largely rewrote his father's work on rectal disease. His father, Wm. Allingham, survives him, but has been retired for some time.

The death is also announced of Dr. Vintras, senior physician to the French Hospital, aged seventy-five; also of Dr. B. C. Chandler, aged ninety-two.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

TRYPANOSOMIASIS—FISH POISONING IN SWITZERLAND—SUCCESS OF URETERAL CATHETERIZATION—THE READING HORSE—HARNACK AND HIS MAGNETIC POWER—DEATH OF ABRAHAM AND OF BARTELS.

Berlin, November 1, 1904.

The season opened well for the Medicinische Gesellschaft, for Robert Koch, who has hitherto held aloof, last Wednesday for the first time read a paper before this society. The whole medical world of Berlin listened with great attention for an hour and a half to his discussion of the trypanosome sickness. He said that the importance of infectious protozoa in etiology has but recently been recognized. They are transmitted from one patient to another by means of insects, as, for example, in malaria by anopheles, in Texas-fever by ticks, and in the tsetse fly disease by this insect. Koch described in detail the trypanosome with its flagellum anteriorly, and centrosome posteriorly. The trypanosome causes very different types of disease in different animals. The trypanosomiasis of rats can be communicated only to rats. The rat trypanosome is readily distinguished from the cow trypanosome by its sharp and tapering posterior extremity, that of the latter being more rounded and uneven. The cow trypanosome is also infectious to goats and sheep. In opposition to many other investigators, chiefly French, Koch believes that the tsetse disease of African cows, the surra disease in Asia, and the mal de cadeiras in South America are not in reality different diseases. The clinical picture in these three affections is the same. The animals begin to have fever, grow thin, show a decrease in the red blood cells, present glandular and splenic enlargement, and die. In men this protozoan was first found in the cerebrospinal fluid. Although in the beginning but little importance was attached to this discovery, later it was recognized that in it the cause of sleeping sickness had been found. When the trypanosome is present in the cerebrospinal fluid, the disease is fatal, for no such specific is known for trypanosomiasis of man as quinine for malaria. The German government, Koch maintained, should provide ample opportunity for studying this disease, because of the great losses through the tsetse disease among the cattle of the African colonies. Immunizing experiments have not yet been successful, so those affected must be killed or strictly isolated.

Professor Leyland opened the first meeting of the Verein für Innere Medicin with the announcement of many deaths, among them those of Wiegert and Finsen. He then told of a case of intoxication due to fish which he had observed at his summer home in Pontresina. This is a rare occurrence in Switzerland, because foreigners there avoid eating fish, which must necessarily suffer in its transportation from Ostend and Schweningen, and its inspection is as important as is that of meat.

Casper read a paper on the diagnosis and therapeutics of renal tuberculosis. After enumerating the symptoms, he spoke at length in regard to the diagnosis, referring to sixty cases of his own, and considering especially catheterization of the ureters. Three of the sixty cases required no operation, the disease having lasted four to eight years, and giving no symptoms, and but slight suppuration. But operation is the rule when pus has been found, and in fifteen cases the process proved to be advanced. Operation is contraindicated in general tuberculosis. Neither low vitality nor fever is a contraindication, when the kidney alone is affected. In the case of one young man, for instance, after extirpation of one epididymis and one kidney, the temperature became normal, and the weight increased, even though one lung was affected at the apex. Diabetes is, however, a contraindication, one patient of Casper's dying two months after operation. Weakness of the heart can be combated by saline injections. Tuberculosis of the bladder usually disappears after removal of

the affected kidney. The most important question is in regard to the condition of the second kidney. For this reason a comparison of cases before and after the introduction of catheterization of the ureters is very interesting. Without catheterization in one hundred and twenty-five cases of four operators, there were twenty-six deaths; with catheterization, in one hundred and forty-three cases of six operators, there were fifteen deaths. Before ureteral catheterization, the mortality was 21 per cent., and there were five cases of insufficiency of the second kidney; since its use, the mortality has been 10 per cent., with one case of insufficiency of the second kidney. This shows the effect of better diagnosis, and it is to be hoped that there will be even better results with more general application of ureteral catheterization.

A Berlin institution, which has recently celebrated its twenty-fifth anniversary, can boast of a remarkable development. In 1880 the newly founded Verein für haüsliche Gesundheitspflege sent one hundred and eight weak pupils to grow strong in the country, and by the sea. The Emperor and Empress Frederick were in favor of this organization, as was also the whole Berlin population, for it proved to be the most popular of all charitable institutions. This year a committee of two hundred and forty-six, with the help of two hundred and fifty-three physicians, chose nearly five thousand of the most suitable children, from the twelve to fourteen thousand who made application. Since the resources were not sufficient to provide a whole summer for all, arrangements were made by which children were taken for a day or an afternoon, and their food furnished them. In this way sixty thousand poor children have had a summer vacation in the last twenty-five years.

In the Psychological Society a member requested a paper on the reading horse, which has already been referred to in the Medical Record, and if possible to have it from the owner himself. The president, Dr. Moll, told of having seen this horse in 1903, and of having made some experiments with him, but these were successful only in the presence of the owner. Moll believes that the horse is governed by signals. Two letters which he had written to the owner asking for experiments under certain conditions had remained unanswered.

The time seems to be favorable for mysterious events, for the reports in the daily papers concerning Harnack and his magnetic power are endless. Harnack, professor of physiology at Halle, turns the magnetic needle by rubbing the glass cover of its box. With an empty stomach and after an exhausting speech, he can turn the needle but a little, while after dining and rest the effect is more marked. Harnack claims to have a magnetic power in his body, and thinks that a certain number of persons can in this way influence the needle by rubbing glass or caoutchouc.

Two of Berlin's oldest physicians died recently, both of whom were distinguished members of the Berlin Medical Society. The one, Adolph Abraham, was for many years vice-president of the Medicinische Gesellschaft, and the other, Max Bartels, was its treasurer. The latter is well known through his anthropological studies, and especially through his editing of "Die Medicin der Naturvölker," and "Das Weib in der Natur und Volkerkunde."

OUR VIENNA LETTER.

(From Our Special Correspondent.)

INFLUENCE OF COLOR ON SENSE PERCEPTION—CASE OF NEPHROLITHIASIS ON A GONORRHŒAL BASIS—SCHUH'S FIRST ASPIRATION OF THE PERICARDIUM—DEATH OF A WELL-KNOWN CHARACTER IN THE VIENNA CLINIC—RADIUM BROMIDE IN THE TREATMENT OF TELANGIECTASIS.

Vienna, October 25, 1904.

In the Gesellschaft der Aerzte, Professor Urbantschitsch gave an interesting address in regard to the "Influence of Color Perception on the Sense Function." On looking at a colored surface or through colored glass, changes frequently occur in the different sensations, and these are increased or diminished by the influence of colors singly or together. Many of the people examined, he said, experienced through certain colors an increase, and through others a decrease, of the sense function; while, again, many colors were without influence. When only one eye was exposed to a color, the changes in sensation usually occurred on the corresponding side of the body; but, in examinations otherwise similar, it frequently happened that the greater changes were on the opposite side of the body. The speaker examined the influence of different colors on the sense of hearing, equilibrium, taste, smell, touch, and temperature. By the influence of red, yellow, green, blue, and violet, the hearing was made more acute—the qualitative hearing, the localization of tone, and subjective hearing. What effect color perception has on the sense of equilibrium shows itself as a disturbance of equilibrium. The sense of taste influenced by color shows now an increase, now a decrease; the kinds of taste, sweet, salt, sour, and bitter, being for the most part affected equally. In many cases, certain colors cause a change of taste; for instance, sweet becomes salt or bitter. In addition to changes in taste itself, sensations as of tickling, scratching, or pricking may be felt on a tongue stimulated by colors. A similar examination of other senses shows a corresponding condition in regard to the influence of the single colors. None of the colors red, green, yellow, blue, and violet can be spoken of as always increasing or decreasing the sense function; so, for example, red often causes weakening and blue strengthening of the sense function. A number of persons examined he found indicated the colors which increased the sense function as their favorite colors, while those which decreased it were unpleasant. Subjective colors have an influence similar to those objectively perceived, as Urbantschitsch showed in other experiments. In the case of excitable persons, it is sometimes possible to influence sensation by rays of colored light thrown on a portion of the skin, as that of the hands, neck, or face. Urbantschitsch called attention to one person who had been examined who, under the influence of the color green, tasted sugar as bitter. Whenever green light fell upon the neck or the side of the head, the same phenomenon occurred, so that, with the eyes carefully closed and covered, the tongue having been sprinkled with sugar, this person could recognize the presence of the green light by the intensely bitter taste. Urbantschitsch finally made evident that a change in sense perception, especially an increase, can be brought about without the influence of color through alterations in body position, as lifting the arms or the feet, bending the trunk, or, again, through compression of the vessels of the neck, and therefore the experiment with colors should be carried on with the patient physically at rest.

Dr. Königstein, in the Gesellschaft der Aerzte, demonstrated a calculus of the pelvis of the kidney, which was of special interest, in that it was passed spontaneously, and that it occurred on a gonorrhœal basis. It was about the size of a hazel nut, dark reddish-brown, and had to a certain extent the form of the kidney pelvis. The chemical and microscopical examination showed a mixture of pus, mucus, and some phosphate and carbonate of lime. The patient was a 22-year-old woman, who had been married seven months, and was infected by her husband, who had had, at the time of the marriage, an acute ascending gonorrhœa. She also showed on examination the condition of an acute ascending gonorrhœa—urethritis, cystitis, endometritis, and left salpingo-oöphoritis. A fluctuating tumor, about the size of two fists, very tender to the touch, corresponding in position to the left kidney, led to the diagnosis of a pyelonephrosis on a gonorrhœal basis. Since the general condition of the patient was very bad, and the temperature high, an operation was considered, and Königstein had her admitted to a sanatorium. Under conservative treatment, her condition did not improve, an operation was determined upon, and the preliminary steps taken. During the manipulation incident to the preparation, accompanied by an attack of renal colic the stone passed spontaneously, and a large amount of pus followed through the bladder. Immediately the picture changed. The temperature fell to normal, the general condition was correspondingly bettered, and the kidney tumor disappeared. The opinion expressed that this was a case of two coexisting disease processes, on the one hand ascending gonorrhœa, on the other nephrolithiasis, was later disproved by the examination of the stone. For the rest, the patient is at present on the road to perfect recovery.

On October 17, the hundredth birthday of the founder of scientific surgery in Austria, Dr. Franz Schuh, was celebrated. This noted surgeon in 1840 was the first to aspirate the pericardium. In the department for lung and heart disease there was a woman, 24 years old, who was very ill, had a high-grade of dyspnœa, and could neither lie down nor sleep. Schuh's colleague, Professor Skoda, who was head of the department, was convinced that fluid had collected in the pericardium to such an extent that its pressure threatened to overwhelm the heart. Schuh immediately agreed to undertake a puncture in order to evacuate the fluid. The news that he was about to attempt so unusual an operation spread widely among physicians, and on the day set an unexpectedly large number assembled in the operating room. The patient was brought in, and, under the strained attention of the onlookers, Schuh passed a simple trocar into the third intercostal space directly to the left of the sternum. Immediately a quarter of a liter of reddish fluid flowed from the cannula. This case alone was sufficient to cause Schuh, then the first surgeon in the general hospital, to be known as a distinguished man in his profession.

There recently died in Vienna a laryngeal artist, an old woman who for twenty years supported herself by allowing students to practise and experiment on her throat.

There is hardly a physician of the present generation in Vienna who did not make his first laryngoscopical examination on this woman; in all courses and lectures she took her passive part. The efficiency which proved remunerative to her and valuable to the cause of instruction, she owed to her peculiar power of controlling her respiratory organs by will power. For instance, she could hold her vocal cords motionless, without cocainization, for a minute at a time, and that even if they were touched. The students could, therefore, learn to examine the larynx with unusual completeness. The woman had also the ability to cause such obstructions as frequently occur in the course of an examination, while, on the other hand, because of unusual sensitiveness of the mucous membrane, she could feel and specify each failure in the examination. She could always tell exactly in what part of her nose, her larynx, or her throat, the instrument was, so that the student was made aware of his blunders, and could improve. Finally, she would produce from a large, black bag, which she always had with her, different kinds of objects, which she placed as foreign bodies in different parts of her respiratory tract, for the student to find.

Dr. Gustav Ebstein of Prague tried the radium bromide treatment in a case of congenital telangiectasis in a five and a half months' old child. In three sittings, each separate place was exposed to the rays for eight minutes and the weighted, hard rubber case, which holds the radium, was pressed on the skin, so as by pressure on the tissue fluids and blood to bring the radium as near as possible to the vessels, in order to increase and hasten the effect. Previous to this the method consisted in fixing the hard rubber capsule to the affected spot by adhesive plaster. Reaction appeared after eight days, with the already described typical characteristics. In the places subjected to treatment, the blood vessels have entirely disappeared, and a white, shining, superficial cicatrix has replaced them. Three other cases with similar treatment give the same appearance.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

THE RÖNTGEN RAY IN LEPROSY—A CASE OF FILARIASIS—CONTAGIOUS DISEASES—BERIBERI.

MANILA, October 15, 1904.

A very interesting experiment is at present being conducted at the San Lazaro Hospital, in the treatment of a certain number of lepers with the *x*-ray. The work has not progressed sufficiently far to warrant any conclusions being drawn, and it is not the purpose of this item to embarrass the officials by reporting on their work before they can have had an opportunity to do it for themselves, but the improvement in a few of the cases has been so striking and successful that even if no further progress is made, the application of the *x*-rays in certain cases of this disease offers the best hope of accomplishing anything in the line of treatment. About six weeks ago a case of leprosy in a male adult was admitted to the hospital. Among other marked symptoms of the disease there was an enlargement of the left ear, so that its long axis measured more than four inches. The ear of the other side did not measure more than two in its longest direction. The rays were applied daily for about ten minutes, at a distance of twelve inches from the ear. After a few weeks' treatment there was a marked diminution in its size, and now it is almost as small as the one on the other side. About two weeks ago the ear commenced to break down and ulcerate. It is thought that this was due to the too constant application of the rays; accordingly it was stopped temporarily for a few weeks and at this writing the ulcers have almost healed. The improvement in this man's condition was, however, not confined only to the ear mentioned, but extended to the leprous nodules located about his head. The improvement was particularly noticeable in the nodules of the cheek on the opposite side, many of the smaller ones of which disappeared completely. The benefit thus derived from the indirect application of the rays is of the greatest significance. While the foregoing treatment was in progress a number of other lepers were exposed to the rays and required to revolve slowly in front of the tube. In every instance in which these applications were made the cases showed marked signs of improvement after a few weeks' treatment. These preliminary results open up a wide field for speculation on the future application of the rays.

At a recent meeting of the Manila Medical Society a paper was read by John R. McDill, M.D., and Wm. B. Wherry, M.D., entitled "Notes on a Case of Chyluria, Together with Some Observations on the Morphology of the Embryo Nematode Filaria Nocturna." The patient was a young woman who has been under treatment for this affliction at the Civil Hospital for the past three months. Practically all the drugs which have been recommended by standard writers on this disease have been administered, but without results. It is now proposed, after first experimenting on animals, to saturate the patient with quinine and then to expose her to the *x*-rays, with the hope that the adult worms may be killed. The prognosis at its best is not very encouraging. Dr. Wherry showed some excellent microphotographs of the organism found in the patient's blood. He also gave an excellent description of the filaria and called attention to the flagella, which he stated had been omitted in previous descriptions of other writers.

The health condition with regard to the more grave contagious diseases is probably more satisfactory at present than at any other period since 1900. The last case of plague was reported at Manila September 8, 1904. The ports of Hong Kong, Amoy, and other Oriental cities in which this disease has been present during the summer in epidemic form, are now almost entirely free from plague. A few cases of cholera still continue to be reported at Kobe, Japan, but the rigid inspection that is made of Japanese food stuffs before they are admitted to the islands, makes it extremely improbable that the Philippines are seriously menaced from that source. If the present satisfactory state of affairs continues the quarantine officials hope to be able to remove at an early date most of the restrictions that are placed upon vessels before they can clear for the United States.

Beriberi still continues one of the most serious diseases from which the Filipinos and Chinese suffer. It is very rare for Americans to be attacked by beriberi, and when they are, it can generally be shown that they were deprived of proper food. Such, for instance, are lighthouse keepers on remote islands, at which places it is sometimes not possible, owing to weather conditions, to deliver supplies for many months, and such individuals are compelled to live upon rice and fish. The prisoners at many of the provincial jails also suffer very frequently from this disease. Many of these prisoners are transferred to the main prison at Manila, and for this reason there is almost a death per week at the latter institution, and there are always a number of cases to be found in the wards of the prison hospital. There are many more cases among the local Chinese than the reports of the health authorities would seem to indicate, because as soon as a Chinaman becomes afflicted with a disease of a more or less chronic nature he immediately proceeds to China, and probably in most instances dies in his native land. According to the last report of the surgeon-general of the army, beriberi is also the most frequently fatal disease from which the Filipinos suffer who are enlisted in the U.S. Army as scouts. Since the principal part of their ration is rice it is quite possible that this may have something to do with the prevalence of the disease in the army.

THE OPTOMETRY BILL.

To the Editor of the Medical Record:

Sir: During the legislative session of 1904, a society of opticians known as The Optical Society of the State of New York petitioned the Legislature to enact a law creating a State board of examiners in optometry. Before this board would appear all persons who desired to practise optometry, which practice was defined in the act to be enacted as "the employment of any means other than the use of drugs for the measurement of the powers of vision and the adaptation of lenses for the aid thereof." The Medical Society of the State of New York opposed this bill, and with the aid of other organizations, especially the County Medical Societies and the Optical League (an organization of opticians doing a legitimate business), secured its defeat. Since the last election, this optical society has been forwarding to physicians in all parts of the State, as well as to the members-elect of the next Legislature, a document giving reasons why a law of this kind should be enacted, and asking their endorsement. At the time of the hearing on the Optometry Bill before the legislative committees of last year, the opticians presented a long list of names of physicians who had endorsed their efforts. The undersigned communicated with every name on the list, and learned that where reputable physicians had endorsed the measure, it was through a misapprehension of the real purpose of the bill, and when its true character was pointed out to them, they not only withdrew their endorsements, but in many cases wrote vigorous letters in opposition to it. Many of the names were fictitious, the communications addressed to the addresses given being returned as not found. A large number were the names of irregular practitioners, as osteopaths, spiritualists, and so on. There is no doubt that the object of the opticians in presenting the present arguments is to obtain the endorsement of physicians, so that at the next legislative session these signatures can be used to offset the opposition which will be presented by the

regularly organized medical bodies of the State. I therefore address the profession of the State, urging its members not only to refuse to endorse this and similar measures, but to make an effort to present to their representatives, both in the Assembly and the Senate, the true merits of the case, and urge their opposition to it. The arguments presented by the opticians are very misleading. Their claim, of course, is that they desire to protect the community from incompetent people, but the fact is (as every well-informed physician must know) that they are all incompetent. They seek to create a separate profession. This they deny, but in their remarks before the legislative committees they continually used the expression "our profession." They seek the legal right not only to apply lenses for the correction of defective vision, which may or may not be due to errors of refraction, but they also seek to treat headaches, dizziness, and the various reflex phenomena which may be due to affections of the eye itself, or to affections of organs remote from the eye. They pose as being competent to make a differential diagnosis. To prepare physicians to do this work, the law requires that a four years' course in a medical college shall be taken, after which a medical examination conducted by the State must be passed. Physicians themselves find that after this preparation, it is often difficult to be sure of one's ground; and, if this is so, there seems to be no good reason why opticians should be allowed to undertake the same work with any less preparation. It seems unnecessary at this time to go into an extended argument in opposition to this bill. The effort to secure its enactment is not an honest one. Opticians know that they are violating the law in following the occupation which they are now engaged in, and they say that if their bill is enacted, it will not give them any more powers than they now possess, while the fact is, that the enactment of the bill will give them the legal right to do what they are now doing in violation of the law. They really desire to use the Legislature as a tool to put them beyond the grasp of the law; and if this is once clearly brought to the attention of our senators and assemblymen, there is no doubt what the outcome will be. We have met this and similar efforts more than once in the past, and there is no doubt that we shall meet many more in years to come; but from our experience, we feel justified in making the assertion that if the medical profession will present a united opposition to measures of this kind, they will never be enacted into law in the State of New York.

Frank Van Fleet, M.D.,
Chairman of the Committee on Legislation of the Medical Society of the State of New York.

POST-PARTUM HEMORRHAGE.

To the Editor of the Medical Record:

Sir: I was much interested in your editorial on post-partum hemorrhage in your issue of November 19, 1904. Some time ago, in a conversation with Dr. N. F. Raines of Raines, Tenn., on this subject, he related the following case: A multipara had been delivered by him in an easy manner. The uterus seemed to contract nicely. After holding the fundus for some minutes, he let it go in order to get something out of his obstetric bag. In less time than it takes to tell it his attention was attracted to the bed by a peculiar sighing. He found the woman very pale and with imperceptible pulse. Throwing off the sheets he saw at once that a profuse hemorrhage had taken place. The uterus was in atony and not to be felt. Having no sterilized gauze or cotton with him, and realizing that something must be done quickly, he pulled a handful of cotton from an opening in the mattress and boldly plunged it into the uterine cavity. Immediate contractions were excited. The uterine cavity was then douched with hot water, and gauze having been procured in the meantime, the uterus was packed together with the vagina. Salt solution was administered and the patient made a good recovery. This case certainly goes to prove that tamponage is the treatment in these cases. It must also be admitted that a city practitioner would scarcely have thought of the cotton mattress in this emergency. Verily, it takes country practice to sharpen the bump of resourcefulness.

M. Goltman, M.D.
Randolph Building, Memphis, Tenn.

To the Editor of the Medical Record:

Sir: Referring to your article on post-partum hemorrhage in the Medical Record, November 19, 1904, permit me to suggest an addition to the excellent treatment outlined. I refer to the injection into the cavity of the uterus of brandy, as practised and taught by Prof. I. Algernon Temple, of Toronto University, for many years. The uterus is first emptied of clots or placenta, and the brandy is then injected. I have found this plan successful after bimanual pressure, hot water, etc., had failed. I am not aware of its advocacy by any other teacher.

John W. McCullough, M.D.
Alliston, Ont.

Progress of Medical Science.

The Boston Medical and Surgical Journal, November 24, 1904.

Metatarso-Tarsal Valgus or Humped Foot and Its Relation to Boots.—E. H. Bradford states that this deformity is characterized by a depression of the first metatarsal with an inward movement of the foot at the metatarso cuneiform articulation. Boots are cut so that there is not only no spread at the toes, but also none at the metatarsals, so the ligamentous strain in locomotion is not felt at the metatarso phalangeal articulation, nor can the whole foot swing to the inside at the midtarsal articulation, making a splay foot. The strain comes at the metatarso tarsal articulation. If a heel is worn, the boot gives a slope to the foot and causes a backward pressure on the sliding foot, causing a cavus, analogous to that in the foot of a Chinese woman. Irritation may result and exostoses follow. The writer discusses various other deformities of the foot with their causes. The most common deformities are caused by crowding the toes together, as the shoe is always made narrower than the natural spread of the foot. The great toe is pushed toward the middle of the foot and often partly dislocated. But slight deformity can take place with slight discomfort, provided individuals do not lead active lives. It is not always the short or tight boot that does the injury. A loose boot which is narrower than the width of the toes will cause deformity. A stiffened toe cap acts as a clamp, holding the toes together when they would naturally spread in walking. Deformities due to badly shaped shoes will vary according to the fashion of the shoes. The writer believes that when working people realize the extent to which their feet are injured by shoes, there will be an increased demand for less harmful footwear. People should have both working and dress boots, relieving the foot from all pressure when at leisure by wearing moccasins or Turkish slippers. The working shoes of women should be like those of men, giving freer play to the foot. Children should wear moccasins, sandals, and loose, light boots and shoes.

New York Medical Journal, November 26, 1904.

Methyl Alcohol; Its Properties, Uses, and Abuses.—H. W. Wiley describes the methods of producing methyl alcohol, and enumerates the various tests for its detection, especially for its presence in ethyl alcohol. Its general effects when taken internally are such that it should be classified among the poisons. Its introduction into any substance, to be used internally as a medicine or beverage, should be absolutely prohibited, and stringent precautions should be observed in the marking of all vessels containing it. It may be safely used in the arts as a solvent and in spirit lamps. It is most easily obtained from mixed hard woods and southern pine. It occurs in traces in the juices of certain plants, and is well known in a compound form as methyl salicylate in the oil of wintergreen.

The Surgical Cure of Certain Cases of So-called Chronic Dyspepsia.—C. A. L. Reed presents the following propositions as summarizing the ideas offered in his paper: (1) The majority of cases of so-called "chronic dyspepsia," "gastralgia," "nervous gastralgia," "neuralgia of the stomach," "cardialgia," and "hyperchlorhydria," are, in fact, cases of ulcer, or the organic consequences of ulcer, of the stomach or duodenum or both. (2) Cases amenable to medical treatment should be cured in from five to six weeks, after which time they should be placed in the surgical category, while hemorrhagic cases should be operated upon without the delay prescribed by medical writers. (3) Surgical ulcer of the stomach, if neglected, may develop adhesions, perforations, hemorrhages, or cancer, or, in the absence of these, may provoke sepsis and anæmia, which, if the underlying conditions are not corrected by operation, may and frequently do prove fatal. (4) It is important, therefore, that the cases should be promptly brought to operation which, without reference to details, should establish rest and maintain drainage for the diseased organ. (5) The comfortable after course of these cases, the low primary mortality, and the permanent curative results following the operation comprise its complete justification.

Medical News, November 26, 1904.

Operative Treatment of Retroversion and Retroflexion of the Uterus.—Walter A. Jayne, after considering the advantages and disadvantages of the Alexander operation,

and of ventral fixation, declares that whatever opinion may ultimately be held regarding the relative value of shortening the round ligaments in the groins and suspension of the uterus for cases of uncomplicated retrodisplacements, the value and efficiency of the fleshy inner part of the ligament, as utilized in the Alexander operation, appears to be generally recognized, and attempts are being made to extend its use. Recently, methods have been proposed of attaching a loop of the intraabdominal part of these ligaments to the anterior abdominal wall more firmly than by the peritoneal adhesions formerly depended upon, by threading a loop through a small wound in the peritoneum, muscle and fascia on either side of the abdominal incision, and fixing it by suture, thus suspending the uterus by the strongest part of the ligaments and imitating as nearly as possible in intraabdominal work the result following the Alexander. If after trial sufficiently long this operation proves to be free from postoperative objections, and quickly performed, it may offer a ready means of correcting these displacements in cases in which abdominal section is required in a safer, more physiological and efficient manner than heretofore performed, and go far toward giving a satisfactory substitute for attachment of the fundus to the anterior abdominal wall, especially for women in the childbearing period of life.

Diagnosis and Operative Treatment of Stone in the Kidney.—Joseph Ransohoff divides the symptoms of stone in the kidney into two great groups: (1) those due to the supposed passage of the stone through the ureter,—the renal colic proper; (2) those due to processes constantly at work in the kidney because of its containing a stone, a condition of chronic neprolithiasis. He believes that as an element of diagnosis, the kidney colic *per se* is largely overrated. For in many cases of kidney stone there is no renal colic at all; and various other conditions, such as a twist of the ureter, may produce symptoms which cannot be distinguished from those usually ascribed to the passing of a stone. More important than colic, is the symptom group of chronic neprolithiasis. The writer describes his method of eliciting pressure tenderness in these cases as follows: The patient is made to stoop over, resting his hands on a chair. With extended fingers placed over the lateral costo-iliac interval, the writer makes simultaneous and equal pressure with his thumbs along the lower borders of the last ribs from end to end. This method is an excellent one for eliciting tenderness due to stone. The urine in chronic nephrolithiasis presents abnormal elements which afford a most valuable guide to diagnosis. Almost every specimen examined during a period of months will contain from one to twenty red cells in the field. To the naked eye, the urine appears to be normal until pyelitis has developed, the preponderance of the red cells over the leucocytes, as found in the urine, is like that of normal blood. Crystals are of little diagnostic value. Albumin and casts should be looked for. The temperature chart is of secondary importance. However, in the chronic state of nephrolithiasis, slight elevations of temperature continued through a long period and with a distinct tendency to recur irrespective of any renal colic, are a most important element in the diagnosis. The newer methods of cystoscopic, ureteral examination and separation of the urines, are of less significance in the therapy of kidney stone than in other surgical affections of the kidney requiring operation, since nephrectomy practically is never justified as a first operation for kidney stone. The writer declares that although subject to occasional errors, a radiographic presentment is with our nearly completed technique a *sine qua non* for a positive diagnosis. As to operation, it is becoming among surgeons an axiom that the presence of a renal calculus is an indication for operation. Calculous anuria is an absolute indication for operation. No other major operation presents so low a mortality as nephrolithotomy. The choice between incision of the kidney and incision of the pelvis, has been definitely settled in favor of the former. Retrograde catheterization of the ureter is essential to every operation for stone in the kidney. Primary nephrectomy should never be performed for stone except when the hemorrhage is uncontrollable. There are other pathological conditions of the kidney, the symptom complex of which cover that of stone. And the writer advises that in every case operated upon with a result negative as to the finding of a stone, a small section of kidney be removed for microscopical examination. In this way only, can the changes be detected, which although seemingly slight, are often capable of producing symptoms of great severity.

American Medicine, November 26, 1904.

Laboratory Aids in the Rapid Diagnosis of Rabies.—Walter H. Buhlig first mentions Babes' tubercle. It consists of leucocytal thrombi of capillaries and of accumulations of embryonal cells around the vessels and around the nerve cells of the medulla of a rabid animal. These microscopic changes are found by him with certainty in dogs that have died of rabies, but less constantly in animals that have been killed in the course of the disease. In 1900, Van Gehuchten and Nélis reported a pathological change found in the spinal, gasserian, and pneumogastric ganglions, which consists of a proliferation of cells, probably from the capsule of the ganglion cells. As a result, the space between the capsule and the nerve cell is more or less completely filled up, and the number of cells outside of this ganglion cell envelope is increased. Although this picture is very striking in animals that have died of rabies, it is not so clear in those which have been killed before the disease has run its full course. Somewhat similar lesions have been found in other conditions, such as diphtheria, so the clinical history of the animal must be carefully looked into. Its presence, however, is considered almost pathognomonic by those who have worked on the subject. This reaction stands to-day as the most trustworthy aid in the rapid diagnosis of rabies. Recently, Negri has found a structure in the central nervous system of different mammals afflicted with rabies, which he suggests may be a parasite and perhaps the causative agent of the disease. The ordinary fixing agents are adequate to discover it. Mann's method of methylene-blue and eosin is considered the most perfect. The so-called parasites are found in the nerve cells of the horn of ammon, in Purkinje's cells of the cerebellum, in the cortex, principally in the pyramidal cells, and sparingly in the pons, the medulla, the spinal cord, and in the various ganglions. These bodies are spherical, elliptical, or pyriform in shape. Their size varies from 1 or 1.5 microns to 10, 12, or 15 microns in diameter. Those which are not round are at times 22 to 23 microns long and 6.5 microns wide. They are found within the protoplasm of the nerve cell and often within the processes, and often several may be present in one neuron. Two distinct characters are distinguished within the organism: small, round, glistening forms, and large, oval, less glistening central bodies. Negri states that when dogs are inoculated by the sciatic route, the parasites are found practically only in the spinal cord region; when the subdural, intraocular, conjunctival, or mucous membrane path is selected, the organisms are found most abundantly in the brain in the usual locations. Negri's general conclusions have been verified by others. Another aid in the diagnosis of rabies is the presence of foreign bodies in the stomach. Like the ganglion cell lesion, it speaks for the disease when it is a positive one, and is noncommittal when there are no such extraneous matters. Leucocytosis is constant in rabies. A doubtful aid is the alteration in the voluntary muscles of rabid animals, as found in rabbits. It is reported that the muscle fibers show a longitudinal division into fibrillas, and many are entirely transformed into such threads. The nuclei are increased in number, and amyloid degeneration is sometimes seen.

Inversion of the Uterus: The Treatment in Cases Complicated by Necrosis of the Inverted Part.—Brooke M. Anspach reports the case. The patient had had two labors, both of which were marked by difficulty in delivering the placenta. The last labor was in September, 1903. In the following December, the patient noticed a slight irregular hemorrhage from the vagina, which continued till June, 1904, when every ten days there was a free loss of blood. In July there was a hemorrhage greater than any preceding one. There was backache and bearing-down pain. The discharge became greenish and very offensive. Under ether, the diagnosis was easily made. The uterus was completely inverted, and the inverted part was gangrenous. Section was made in the middle line and the necrotic mass was cut away beneath the forceps, which were left in place, their points being pushed back into the uterus and packed with gauze. The ovaries and the lower third of the endometrial cavity were left. Future childbearing was out of the question, but the other functions were left intact. The forceps sloughed off on the fifth day and convalescence was uninterrupted. This inversion must be ascribed to the puerperium. Apparently from the very beginning of the inversion there was serious disturbance in the blood supply of the inverted part. In amputation of the inverted part, there is no danger of infection. A suture might carry infection to the peritoneum, so it is better to clamp the pedicle. The danger of injuring a knuckle of intestine in the funnel of the inversion may be avoided by incising longitudinally the inverted part before cutting it away below the forceps.

Variations of Radiotherapeutic Technique.—Russell H. Boggs believes that technique is the key to success in Röntgen ray work. The application of this treatment either in diagnosis or treatment, should be done by mathematical calculations to do the most successful work. Usually the combination of surgery and the Röntgen ray will produce the best results. Tube distance is very important in treating deep-seated glands. The Röntgen ray should be of large volume when deep lesions are to be

treated. The Röntgen ray, like the intensity of light, varies inversely as the square of the distance. In treating deeper lesions, the best results will be produced by using a light which affects the different layers of tissue the most uniformly. The intensity of the rays, for example, is more uniform in the different layers of tissue with the tube placed at 16 inches than at 8 inches. In the treatment of superficial lesions a low tube placed near to the surface of the skin eliminates the danger of injuring the deeper tissues. Periostitis has been caused by a high tube placed at a distance. Each case is an individual one and should be treated as such. Adjunct treatment in these cases should not be overlooked. Every help possible should be taken advantage of to keep the system in perfect condition. In cases of carcinoma, when toxæmia is present, electric light baths are very valuable. Diet is important. Much liquid should be taken. Alcoholis, syphilitic, or very anæmic patients as a rule do not improve rapidly, and such patients often burn easily.

Journal of the American Medical Association, Nov. 26, 1904.

Injuries to the Rectum Caused by Gynecological Examinations.—H. A. Kelly makes a plea for more gentleness in making gynecological examinations. Of all organs liable to injury, the rectum is the most delicate, and the author reports four cases in which the coats of the bowel were actually perforated by the examining finger, which was thrust through into the rectum and into the peritoneal cavity. One case was his own, and the other three occurred in the practice of competent assistants. All four recovered. Predisposing causes are the age of the patient (average 57 in three of the four cases), and the weakened muscular tone of the bowel. Kelly believes that in the presence of such an accident, the proper procedure is to open the abdomen and suture the tear from the peritoneal side. An important prophylactic point is that the examiner should avoid the natural impulse to invaginate the wall of the rectal ampulla on the end of the finger, pushing it to a point higher up in the pelvis. This error will not occur if, after introducing the finger into the ampulla, the next step made is that of seeking out the so-called "third sphincter"—that is to say, the rectal valves behind the cervix. The finger ought to be introduced between these distinct anatomical structures and then up into the pelvis, where the bowel lies in its natural relation in contact with the posterior surface of the uterus and the left broad ligament.

Constipation in Infants.—According to J. R. Snyder, errors in diet are the great cause of infantile constipation. Consequently the treatment is something more than the removal of the immediate condition. If the disorder results from bad hygiene, it is useless to merely give castor oil and nux vomica. If the diet is too high in proteids, salts, suppositories, and enemata will not lessen the proteid percentage, and will consequently fail to be curative. If the condition is neglected while the child is still a young infant, the problem becomes more complex. Whereas formerly the bowel contents were at fault, we now have to deal in addition with changes in the bowel structure itself. This matter cannot be corrected by diet alone, and it is here that the judicious administration of drugs becomes permissible. If the constipation is not of very long standing, atony of the bowel may be overcome, after correcting the diet, by an endeavor to establish habit. The simplest way of accomplishing this is by holding the child at regular hours, preferably after the morning and evening bottles, on a chamber in such a posture as to favor an evacuation. For the success of this method, regularity in feeding, because it favors rhythm in the stages of digestion, is necessary. If the bowel still remains obstinate a stimulus should be given. At the same time it should be recognized that this is unnatural and foreign, and that not only must it be as slight as possible, but it must be withheld at the earliest possible moment.

Perinephritis in Children.—W. R. Townsend reports six cases, and gives a general description of the disease. In no instance of the six reported was a correct diagnosis made by the physician who sent the case to the hospital, where it came under the author's observation, but all were sent in under the impression that they required either spinal or hip braces. The most common errors are to mistake the condition for beginning spinal ostitis, Potts' disease, ostitis of the hip, or hip-joint disease, as acute osteomyelitis of the vertebræ. Treatment must be based on the conditions present. If the patients are seen early, rest in bed, tonics, laxatives, and mild stimulation are indicated. If an abscess is present, immediate evacuation is necessary to prevent death from sepsis, burrowing of pus, and sinus formation.

The Lancet, November 19, 1904.

Infantile Syphilis.—In discussing this disease, G. F. Still expresses, concerning, treatment, his preference for gray powder, which he uses in combination with aromatic chalk and occasionally with Dover's powder, if there is any tendency to loose bowels. Combined with the internal remedy, inunction may be employed. The author is not in favor of intramuscular or intravenous injections of iodine or mercury. Such methods he regards unsuitable for infants. They cause unnecessary infliction of pain and risk of inflammation. Iodides may be advantageously given along with the mercurials, and in any event treatment should be continued for at least six months after the disappearance of active symptoms. When the latter tend to recur on the omission of treatment it is necessary to continue it for a year or more.

Non-Fatal Rupture of Aortic Aneurysm.—After alluding to the few other cases reported in literature, C. H. Melland gives notes of the case of a laborer of 58 years who was admitted to hospital with the history of having raised a large amount of blood. He was in a state of collapse, but rallied after a saline infusion. On recovering he stated that he had been coughing for eight months and that for a few years he had had a stabbing pain in the chest from the right shoulder to the ensiform cartilage. He continued at work, and his bleeding before coming to hospital resulted on his making an unusual physical exertion. He did well for three weeks after admission, but then succumbed to recurring hemorrhages. Autopsy showed an atheromatous aorta, with a sacculated aneurysm from its convex arch, immediately beyond the left carotid and about the size of a hen's egg. The subclavian artery came off from the upper and outer part of the sac, which was nearly full of firm, laminated clots. Tracheal pressure had resulted, leading to a softening of the mucosa, and in this softened area was a vertical slit, about three-eighths of an inch long. The author assumes that a portion of the laminated clot had been carried across the rent so as to plug it effectively and so temporarily stop the bleeding.

The Action of Perchloride of Iron in Blood Poisoning and Other Disorders.—According to P. W. Latham, the beneficial effects of this preparation of iron are largely due to its free chlorine. Heroic doses are not necessary. Moderate dosage, say, every six hours, will meet most clinical requirements; if further antiseptic action is desired we may bring this about by the internal administration of chlorine water, alternating with the iron. The author discusses the uses of the remedies in scarlet fever, diphtheria, and other conditions of blood toxæmia. The question remains whether these remedies should be used independently of the antitoxin serum or in conjunction with it, and, if so, at what stages should one or both be administered. These questions must be settled by further observations.

A Case of Encephalitis Cerebelli.—F. Taylor refers to the case of a boy of four years, seen nearly thirty years ago. At the time the diagnosis was supposed to lie between disseminated infantile sclerosis and a cerebellar tumor, but the more recent development of the entity we call encephalitis cerebelli has convinced him that his earlier case belonged in this category. The patient had tremors and ataxia of the cerebellar type, nystagmus, absence of optic neuritis, a possible origin of symptoms in pertussis and recovery after a duration of three and a half years of symptoms. At the present time he is alive and well at the age of 33 years, without any trace of his early trouble. His muscular power, patella reflexes, and optic disks are all normal, and he is able to indulge in athletic exercises.

British Medical Journal, November 19, 1904.

A New Method of Dealing with the Stump of the Appendix.—J. M. Y. Stewart describes the method recently adopted by him as follows: The mesentery of the appendix is first tied off and then divided with scissors, leaving the appendix free up to its junction with the cæcum; a purse-string suture of catgut is then inserted near its base through the peritoneal and part of the muscular wall of the cæcum; a ligature is next tied round the appendix close to its base. While an assistant holds the cæcum just beyond the purse-string suture the base of the appendix is cut through with a single cut of the scissors, leaving a stump resembling a nipple; there is no pouting of the mucous membrane in the stump, but rather an invagination at its very apex; the stump is gently invaginated into the cavity of the cæcum as the assistant tightens the catgut suture; the peritoneal surfaces come well together, and the operation is finished as far as the removal of the appendix is concerned. In the writer's six cases, at the end of the first week, when the skin stitches are removed, there is an entire absence of pain on deep pressure over the seat of the operation, and no feeling of soreness is complained of when first the patient walks about. The muscular fibers in the appendix near its base are chiefly circular, and when the appendix is divided those in the stump at once contract and shut off the mucous surface and practically close the lumen. So there is no risk at all, and the advantage is two-fold—no pocket, with possibly an infectious stump in it, and no raw surface in the abdominal cavity.

The Treatment of Sea-Sickness.—Charles W. T. Woods has had much success in relieving this complaint. At the first onset of uncomfortable sensations, a broad, tight, flannel belt should be worn, and the patient should stay on deck if possible. Usually, lying on the back is preferable to the side. As low a pillow as possible should be used. The food most readily retained is devilled biscuit—dry biscuit, buttered, and lightly sprinkled with cayenne pepper, and then roasted—or egg flip. The latter must be given to the patient with his eyes closed, for the color is repulsive. Except in very severe cases, the less fluid taken the better. Alcohol is inadvisable until the worst is over, then champagne is often of great service. The writer has found the following prescription of great value: Two drachms of syrup of chloral and one-half drachm of ammonium bromide, made up to one and one-half ounces with water. This should be taken at the rate of a teaspoonful every five minutes until either relief or sleep results. Four or five doses are usually sufficient. When this prescription fails, one-minim doses of tincture of iodine in water every half hour is often successful. When the patient is not seen till he has been ill for a day or two, it is well to begin the treatment with two grains of calomel.

Hyperpyrexia Following Parturition.—Mark Farrant reports this case. The patient, a woman aged 42, had had five children. Delivery of the sixth was natural, but the child was a very large one and was stillborn. The patient was exhausted after delivery, the pains having been very severe. The placenta did not separate and there was too much tenderness to admit of its expression. About three-quarters of an hour after delivery, the patient became restless and threw herself about on the bed, not seeming to understand when spoken to. She soon became unconscious, with noisy breathing. There was no convulsion. The temperature was 107° per axillam; in the rectum a few minutes later it was 109.2°. She was cold-packed and the temperature fell to 101.4°, but the heart failed and she died without regaining consciousness. As soon as the patient had become unconscious, the placenta was expressed and a hypodermic of morphine was given, and afterwards injections of strichnine and quinine per rectum.

Acute Lobar Pneumonia Following Septic Tonsillitis.—Edward Carnall observed this case. The patient, a woman of 34, had a sharp attack of tonsillitis. The temperature was 105°. Salicylate of sodium was given and a throat-wash of boric acid and glycerin. The next day the temperature remained the same, and antipyrin was given, but with no reduction in temperature. The throat looked better, however. Five days after the onset, distinct dullness and harsh breathing sounds were noted over the lungs. She was placed on quinine and aconite mixture, but died during the night. The writer believes that this was a case of acute specific infectious fever. Doubtless the general state of health had been lowered previous to the throat attack. The winds at the time were carriers of dust as well as abstractors of heat. Probably if the patient had been removed to another house the chances of recovery would have been greatly enhanced. No bacteriological examination of the throat was made.

Berliner klinische Wochenschrift, November 7, 1904.

The Effect of Cold on the Arteries.—Herz experimented on the blood pressure in the forearm after the application of cold by adjusting a Gärtner's sphygmograph proximal or distal to the region to which the stimulus was being applied. According to his observations, the large arteries are not affected in size by cold stimuli, while in the smaller arteries, situated distal to the stimulus, the pressure is raised, owing to contraction of the arterioles, and in the centrally placed vessels the pressure falls in consequence of dilatation of the arterioles.

Intestinal Tuberculosis in Children.—Richter, who is attending physician to 1,200 coal miners' families, describes a somewhat unusual type of tuberculosis very common among the children of this class. It affects the intestinal and mesenteric glands, and though rarely fatal, forms an illness of much gravity. The patients emaciate rapidly, lose appetite, are extremely pale, suffer from abdominal pain and tenderness about the umbilicus, headache, insomnia, and slight evening temperature. The cervical and submaxillary glands are frequently swollen. The disease often progresses very rapidly for a time, and then takes on a chronic type, which is apt to be more prolonged the older the child. After the subjective symptoms finally disappear, anemia, emaciation and general weakness persist for a long time. Most of the children affected are from 1 to 4 years old. The author ascribes the prevalence of the disorder to the fact that the milk supply of the region is of extremely poor quality, and that the hygienic conditions are also very deficient. In view of v. Behring's statement that tubercular infection in childhood protects against reinfection later in life, it is interesting to note that tuberculosis is very rare among the adult inhabitants of this district.

Münchener medizinische Wochenschrift, November 8, 1904.

Intravenous Injections of Salicylates for Rheumatic Affections.—Behr lauds the method advocated by Mendel for the treatment of rheumatic conditions by means of the injection of a salicylate solution consisting of sodium salicylate 8.0, caffeine sodio-salicylate 2.0, distilled water ad 50.0. The therapeutic results of this method are excellent, and prompt relief is afforded in nearly all forms of rheumatic affections. A careful diagnosis is necessary, however, for non-rheumatic disorders are not amenable to this plan of treatment, and the effect in rheumatic cases is less pronounced the longer the duration of the trouble has been. The injection should be made with all due aseptic precautions, and care should be taken to see that the presence of the point of the needle within the lumen of the vein is demonstrated by the appearance of a column of blood within the syringe before the fluid is expelled, as the solution gives rise to severe pain if thrown into the tissues instead of directly into the vein. The author has seen no disagreeable complications attend the method when carefully employed, and recommends it especially for cases where it is of great importance not to upset the stomach, as in treating tubercular patients, for example.

Acute Dilatation of the Stomach.—Hoffman says that this condition may be of central origin, as when there is paralysis of the motor nerves of the stomach after cerebral injuries, or may be due to errors in diet. That the condition may appear in those who have never suffered from digestive disturbances is shown by a case of the author's which terminated fatally. The patient was a youth of eighteen, who had always been a gluttonous eater, but in spite of the quantities of food he consumed, did not gain weight. His illness began suddenly, with vomiting and pain in the pit of the stomach. There was intense thirst, and the symptoms of intestinal obstruction appeared and resisted treatment, so that on the sixth day the abdomen was opened. The stomach was found enormously dilated, and on opening it six liters of brownish fluid were evacuated, together with large pieces of cucumber. The pylorus was unobstructed. A drainage tube was left in the stomach, but the patient died the next day of collapse following a return of the vomiting. The author believes that the gastric atony already existing as a result of habitual overeating was rendered complete as a consequence of some error in diet, possibly the overindulgence in cucumbers, and that dilatation began. The thirst caused the patient to drink large quantities of water, which increased the dilatation, while at the same time the stomach ceased to absorb, and consequently the tissues did not receive the necessary amount of fluid, and the sense of thirst was increased, thus completing the vicious circle. The pancreas was found enlarged at the autopsy and was studded with areas of necrosis.

Pericystitis Following Latent Perityphlitis.—Walko says that idiopathic pericystitis is a very rare condition, and describes two cases in which only prolonged observation revealed the fact that the pericystitis was secondary to a pericoccal inflammation. The symptoms of pericystitis comprise vesical irritability and painful micturition, due to the mass of unyielding exudate about the bladder, and reflex pain in the rectum. Complete urinary retention may be caused by the pressure of the exudate, as well as albuminuria secondary to occlusion of the ureters. A rounded mass of more or less doughy consistence is to be felt above the symphysis, usually to one side of the middle line. Emptying the bladder, even by catheter, does not change the size of the tumor. The urine commonly shows the changes of cystitis to a greater or less degree. It is essential to treat the process actively, as the exudate is otherwise not often absorbed, but rather goes on to suppuration and rupture into the bladder, rectum, peritoneum, vagina, or through the skin. The author considers ice, combined with 50 per cent. alcohol, comprises the most suitable treatment for the earlier stages, to be later followed by the application of moist heat.

Deutsche medizinische Wochenschrift, November 3, 1904.

The Faradic Treatment of Uterine Myomata.—E. Witte says that in spite of Apostoli's failures in this direction, he has persevered in the faradic treatment of uterine myomata, and has perfected a method which gives satisfactory results. His plan is to produce firm uterine contractions by strong faradization, with the idea of causing the blood-vessels to contract, and so check hemorrhage, while at the same time the nutrition of the tumor is interfered with, and it is caused to diminish in size through absorption. The method is as follows: one electrode is carried through the cervix and well into the uterus, while the other is applied to the abdomen. If possible, the treatment is continued daily for from twenty to thirty minutes, and the current is used as strong as the patient can stand it without

discomfort. Both the strength of current and the frequency of application must be carefully regulated in beginning the treatment, in order not to overtax the patient. The author has never noticed any untoward effects due to the treatment, and has found that the metorrhagia is entirely controlled and the tumors are greatly reduced in size, so that operation is rendered unnecessary.

The Use of Rubber Gloves in Manual Removal of the Placenta.—Wormser gives the comparative results obtained in a series of cases of retention of the placenta treated in the Woman's Hospital of Basle, with and without rubber gloves. This series of statistics is of especial interest, since on the service of one chief of clinic the gloves were used, and on the service of another the bare hand was employed, so that in all respects save this one the conditions of delivery were practically the same for all the patients. While no deaths occurred in either series of cases (forty cases without, thirty cases with gloves), the patients treated with gloves showed less febrile reaction during the puerperium than the others, and the author is outspoken in his preference for the use of gloves. This is still more advisable in private practice, where the exigencies of the work frequently allow but little time for sterilization of the hand if the life of the bleeding patient is to be saved, and where the practitioner must constantly contaminate his hands with infectious material. It is a simple matter to keep a pair of sterile gloves ready for use, and thus safety is secured and no loss of time incurred in dealing with emergencies.

The Etiological Basis of Smallpox Diagnosis.—Jürgens believes that the difficulties in the way of making a positive diagnosis one way or the other in conditions simulating smallpox may be greatly simplified by resorting to a search for the cell inclusions which Guarnieri and later Wasielewski consider the cause of the disease, and to which Guarnieri has given the name of *Cytorrhyetes vaccinæ*. According to the author these protozoan-like structures may readily be identified in innoculations in the cornea of rabbits, and by this means a positive diagnosis be made. A pustule considered as suspicious is punctured with a sterile lancet needle, and the cornea of a rabbit then scarified in a slanting direction with the same instrument so as to bring some of the adhering pus into pockets in the cornea. This structure becomes cloudy as early as the second day, and in one or two days more microscopical sections in positive cases reveal the parasites in abundance. While the method is not infallible, in that apparently negative results may sometimes be due to lack of virulence in the particular pustule from which the material is obtained, the author considers the plan as of great value in identifying doubtful cases, and describes six instances examined in this way, in which the clinical evidence was insufficient, and the subsequent course of the disease corroborated the innoculation experiment. Two of the cases were positive and two negative.

Deutsche medizinische Wochenschrift, November 10, 1904.

The Relation of Avian Tuberculosis to That of Mammals.—Rabinowitsch describes observations made on the material of the Berlin Zoölogical Garden to determine the relationship existing between the bacilli of fowl tuberculosis and those causing the disease in mammals. In two hundred autopsies on birds of many species it was found that over 25 per cent. showed more or less well marked tubercular lesions, mostly of the abdominal organs, but to a greater extent than usually supposed of the lungs also. Infection usually takes place through the food or feces, and direct infection from one bird to another is rare, as well as congenital infection. It is possible, experimentally, to infect many mammals with avian tubercle bacilli, and spontaneous infections also occur. The converse is less easy to demonstrate, though the author observed two cases in which eagles had become infected with mammalian bacilli. By inoculating hens' eggs with avian bacilli, human bacilli, and the bacilli of perlsucht, the author determined that the susceptibility of the embryos for these different organisms was in the order named, the bovine bacilli being the least virulent. As the result of this and other work, the author believes that the mammalian and avian types of tubercle bacilli are but varieties of a single species adapted to different races of animals.

The Immunization of Cattle Against Tuberculosis.—Friedmann has found that the tubercle bacilli of the turtle are harmless to warm blooded animals, and reports on a series of experiments undertaken to investigate the possibility to using them as a means of immunizing cattle against the bacilli of perlsucht. It was found that a single injection of the turtle baccilli produced a degree of immunity sufficient to protect an ox against a dose of perlsucht bacilli fatal to an untreated animal, and that cattle suffering from perlsucht are apparently cured by injections of turtle bacilli. The author claims that this method of immunization possesses advantages over others now in use, in that the bacilli employed are perfectly harmless, and that a single injection produces a well-marked degree of immunity. The serum of animals, such as guinea-pigs and cattle, immunized in this way, is strongly protective, and when injected into other animals guards them against otherwise fatal doses of virulent bacilli.

Nervous Throat Pain.—Boenninghaus says that a not unusual class of patients comprises otherwise healthy and not neurotic individuals who complain of more or less constant pain in the throat, which is increased on swallowing. Examination of the throat reveals no satisfactory explanation, for the slight chronic catarrhal condition usually present is not sufficient to account for the symptoms. By palpating the neck, however, two localized painful spots will commonly be found, one over the point of emergence of the superior laryngeal nerve through the thyroid membrane, and the other above the clavicle over the recurrent laryngeal nerve. Pressure on these spots causes the throat pain to be felt, and the author considers that the condition is due to neuritis of one or both of these nerves. Treatment consists in massage of the painful regions in the neck, and is usually effectual. In the few cases in which it fails, other plans of treatment usually are also without result. The catarrhal condition which probably forms the starting point of the neuritis should of course receive the usual treatment.

French and Italian Journals.

Definite Results of Excision of the Stomach.—Kocher states that the number of definite cures in the cases of cancer is continually increasing. Certain surgeons already have a record of 40 per cent. of cures in the case of cancer of the breast. These results are due to early diagnosis and to perfection of operative technique. The results for cancers in other locations will probably become as good as those just quoted, with the constant progress of surgery. Kocher has performed 99 cases of partial resection of the stomach, 23 of which have been done in recent years. Of the forty-five cases which have been operated on in the last six years, the operative mortality is only 5 per cent. Of these fatal cases, one died from perforation; one from gangrene of the colon; while the other patients died from pulmonary complications which existed before the operation. Of the cases operated on, twenty patients are living and enjoying very good health. Their digestion is good, in spite of the absence of free hydrochloric acid, and the functioning of the stomach is perfect. These cases have remained well for varied periods: Two for several months; two for two years; three for five and one-half years; one for six years; one for seven years, and one for sixteen years. Kocher urges surgeons to operate in these cases as soon as possible, as this is a sure way of obtaining excellent results.—*Le Bulletin Médical*, October 19, 1904.

Hysterectomy in Puerperal Infection with Phlebitis.—Doléris calls attention to the fact that in cases of puerperal infection, even after the uterus and appendages, with the neighboring venous trunks, have been removed—that is, after the total suppression of the pelvic-abdominal foci of infection—the patient may die later, and after a period of apparent recovery from the effects of distant septic foci. He cites two cases in point. In the case of the first patient, operation was performed on the twentieth day after the beginning of the infection. In spite of multiple complications, the patient was apparently cured. The temperature had been normal for some time, when there developed an empyema. The patient died just as chloroform was being administered preparatory to the evacuation of the pus. This was two and one-half months after the hysterectomy. A very virulent streptococcus was found in the pleura. In the second case, infection developed before labor and premature labor was induced. Within the next few days various examinations showed that the blood was invaded by the streptococcus. Intervention was decided upon, and total abdominal hysterectomy was performed. Death supervened within two days. This was a characteristic case of phlebitic infection. There was no trace of peritonitis nor of lymphangitis nor any serious lesions—nothing but blood infection due to suppuration of the utero-ovarian vein. There were myriads of tiny abscesses in the liver, the spleen, and the kidneys, and there were infarcts in the lungs. Bacteriological examination of the lochia, blood, and uterine wall revealed the streptococcus.—*Annales de Gynécologie et d'Obstétrique*, October, 1904.

The Role of Intestinal Worms in Various Affections.—Blanchard presents a report on the work of Guiart in relation to the influence of intestinal worms, especially the trichocephalus, in different infections. These worms are capable of being the agents of intestinal infection, especially in typhoid fever. In a recent epidemic of typhoid fever, Guiart found the presence of the eggs of the trichocephalus in appreciable quantity in the stools of ten of the twelve patients which he examined. In one case there were 28

eggs in three preparations. In the case of one patient who died, six living worms were found in the cæcum at autopsy. No eggs were found in the stools of the other patients in the hospital excepting one, and in this instance they were very few. These patients were not suffering from any intestinal trouble. As early as 1762, Roederer and Wagler found the trichocephalus in the stools of patients suffering with *morbus mucosus*. There seems to be a relation between the presence of these worms and typhoid fever. According to Guiart, an individual without worms could with impunity drink infected water, and this theory would explain the paradoxical immunity of certain quarters in which infected water is taken. It must be remembered, however, that this worm is found in the cæcum, while the typhoid foci are in the small intestine. But the egg develops first in the stomach and then descends the length of the digestive tube. The practical conclusion drawn by Guiart is that, in the presence of an enteritis whose diagnosis is not determined, even before the serum-reaction or other methods have clinched the diagnosis, treatment should be instituted to clear the intestines of worms and of microorganisms.—*La Tribune Médicale*, October 22, 1904.

The Curative Action of the Serum of Roux in the Paralyses of Diphtheria.—The opinions of clinicians remain contradictory in regard to the action of serum in the paralyses of diphtheria. Some not only deny that serum has any beneficial action on these paralyses, but they even attribute to it a harmful effect. Others, however, have published favorable instances, and the number of these is constantly increasing. Comby reports the case of a child of four years who was cured in three days of a severe paralysis, after injections of serum. In another case of late paralysis, which had resisted all ordinary means, injections of serum were tried, and after a short time a complete cure was effected. Comby believes that all children afflicted with paralysis following diphtheria, whether they have had the serum treatment or not, should receive injections of serum. There is never sufficient certainty that diphtheria has exhausted all its virulence, even after some weeks, to refuse to children the chances of the antitoxic action of the serum of Roux.—*Revue Française de Médecine et de Chirurgie*, October 24, 1904.

Intestinal Obstruction from Biliary Calculus.—Annibale Passaggi records a somewhat rare case of intestinal obstruction from a large biliary calculus, which had ulcerated its way out of the gall-bladder into the intestine, and passing down into the lower small intestine, had entirely obstructed its lumen. The patient had for a year previously complained of uneasiness and weight in the right hypochondrium, with digestive disturbances and diarrhœa. The acute condition was ushered in by meteorism, violent intestinal spasms, and fecal vomiting. An abdominal section revealed a calculus obstructing a portion of the middle segment of the small intestine. When removed, it proved to be of an irregular ovoid, 35 by 48 mm. in dimensions. Perforation of the gall-bladder by a calculus is always preceded by a long period of discomfort over the liver. The stone finally pushes its way through into some hollow viscus, such as the intestines, and follows its way downward until the lumen becomes too small to allow it to pass further. The author recommends operation as soon as the diagnosis of obstruction can be made.—*Il Policlinico*, October, 1904.

Tuberculosis of the Cæcum and Vermiform Appendix.—Natale Palermo asserts that the literature of tuberculosis of the appendix is small, while the disease is comparatively frequent. Only a microscopic examination of the tissues removed, according to Billroth, can make the diagnosis certain. Many cases supposed to be carcinoma turn out to be tuberculous. Failure in diagnosis accounts for the comparative rarity of this disease, for in reality it is more frequent than tuberculosis of any other part of the intestine. The bacilli taken into the mouth are not all destroyed by the gastric and intestinal juices, but are swept on into the cæcum, whose lymphoid structure furnishes a favorable soil for their growth, while the angle in the intestine causes the current to be slow, and the fæces are retained longer here than at any other point. The appendix is a veritable Peyer's patch, and from its lymphoid structure, peculiarly liable to tuberculous infection. Infiltration occurs, followed by the formation of nodules, ulceration, and caseous degeneration. The lumen of the intestine is contracted and obstruction results. Tuberculosis of the ileocecal tract is rarely primary, but usually secondary to an appendicular infection. The author cites seven cases, in which he made a careful pathological examination, as confirmatory of his statements. He concludes that in all chronic cases, operative interference is indicated, as they may be tuberculous in nature.—*La Riforma Medica*, October 12 and 19, 1904.

Sterilized Milk or Plain Milk?—Spolverini has carefully considered whether the use of sterilized milk has more to recommend it than the use of uncooked milk, and has concluded that plain milk, when produced under the best hygienic conditions, is superior in point of nourishment to sterilized milk, and that the advantages of the removal of bacteria do not counterbalance the disadvantages of sterilization, especially when we consider that the infant takes in the dead bacteria and all the poisonous products of their life, and that the milk is never entirely aseptic when it reaches the stomach. In sterilizing milk, the following changes take place in the composition of the milk: 1. Expulsion of the carbonic-acid gas of milk, which stimulates the secretion of gastric juice. 2. Diminution of the amount of lime and free phosphoric acid, increase of insoluble calcium phosphate, which is not absorbed, and precipitation of the antiscorbutic citric acid. 3. A large part of the lecithin and nucleon is destroyed and precipitated as unabsorbable inorganic compounds. 4. The casein is changed and rendered unabsorbable, and the soluble albumin is coagulated. 5. The fat globules unite into larger masses, that are less easily absorbable. 6. The ferments are destroyed, and thus are lost antitoxic and immunizing substances, and microbicidal compounds of great value to the child. These disadvantages result in the child being pale, with soft flesh, having a predisposition to intercurrent diseases and a lack of resistance to ailments, with slight rickets, showing disturbances of nutrition.—*Rivista di Clinica Pediatrica*, October, 1904.

Pseudo-Fluctuating Sarcoma of the Parotid.—M. A. Cantonnet reports a tumor of this kind. The growth was the size of a fist, without ulceration of the skin, and presenting at the time of the patient's entrance to the hospital a rather large central zone with very distinct fluctuation. The tumor adhered rather loosely to the ascending branch of the internal maxillary. The patient had fever. An incision was made at the fluctuating point, but only blood came out. Extreme dyspnœa, cyanosis and high fever developed. Death soon intervened. At autopsy the tumor was found to be a large-celled sarcoma. The nuclei of the cells were fusiform. Some interstitial hemorrhages were noted, very little connective tissue, and vessels without normal walls. The growth was clearly a fuso-cellular sarcoma. There was too little connective tissue for a febrile sarcoma. Distinct caseous bronchopneumonia was found. The pleura showed some granulations. The peritoneum and meninges were not involved.—*Bulletin et Mémoires de la Société Anatomique de Paris*, June, 1904.

Very Marked Mitral Stenosis Unrecognized on Account of Insufficiency of Physical Signs.—De Massary and Tessier have studied a heart whose mitral orifice was so retracted that a pencil could not be passed through it. The right ventricle was very much dilated, giving rise to marked tricuspid insufficiency. The patient died from pulmonary embolism. This fact is of interest only because the very marked mitral stenosis was not revealed by any physical sign. There was perceived only a very strong systolic murmur, which was interpreted sometimes as a murmur of mitral insufficiency, sometimes as a murmur of aortic stenosis, and finally as a murmur of tricuspid insufficiency (confirmed by autopsy); but never, during the several months in which the patient was under observation, was mitral stenosis suspected. Thus again, the opinion of Rendu has been confirmed—that very marked mitral stenosis is not manifested by any stethoscopic sign.—*La Tribune Médicale*, October 15, 1904.

Hysterical Hemianopsia.—J. Valobra considers the study of the eye symptoms of hysterical cases to be of great importance and interest. Hemicrania may be perfectly simulated by hysteria, and there may be present a homonymous hemianopsia that seems to be of organic origin. In hysterical cases the symptoms are only transitory, and follow the attacks of hemicrania for a short time only. These symptoms are somewhat rare; hence the author publishes a case in point, in a young girl of twenty-one years, who had all her life suffered from hysterical hemicrania, anæsthesias and other hysterical manifestations. Following a severe attack of headache she had homonymous hemianopsia of the left eye, persisting for ten days, and then cured very quickly by electrical suggestion. She had also abundant lachrymation of the left eye, and mydriasis. Hysterical mydriasis usually accompanies amourosis. It is probably due to a spasm of the radiating muscle of the iris, innervated by the sympathetic. The pupil reacts to light and accommodation. The excitation of the cervical sympathetic also resulted in an excitosecretory action on the lachrymal gland. The psychological theory regards such phenomena as due to fixed ideas, spontaneous or suggested. The physiological theory regards them as due to an alteration in the function of the cerebral centers, independent of any ideas. Organic hemianopsia remains permanent, while hysterical hemianopsia is cured by means of suggestion.—*Rivista Critica di Clinica Medica*, September 17 and 24, 1904.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held November 17, 1904.

Dr. Andrew H. Smith in the Chair.

Demonstration of the Hoy Opaque Projector.—Dr. H. Holbrook Curtis made this demonstration and said that for a number of years an attempt had been made to throw upon the screen sketches without the intermitting stereopticon slide. Most endeavors to do this had been unsuccessful because of the immense amount of heat developed. In his demonstration two arc lights were used having 2,600 candle-power. Several anatomical pictures, photographic views, photographs of individuals, etc., were thrown upon the paraffin screen with wonderful success, especially as to the reproduction of colors.

Dr. Henry G. Piffard said the projector was by no means new, for Arnold had, about thirty years ago, in his university lectures, used one which, at that time, was looked upon rather as a "stunt." The heat might be overcome by passing the rays through solution of alum.

The Influence of Preservatives and Adulterants in Foods upon the Public Health.—H. W. Wiley, Chief of the Bureau of Chemistry, United States Department of Agriculture, Washington, D. C., delivered this address. The question he was to discuss was interesting to every citizen of the United States. The fact that preservatives were used in foods was well known, and he thought that perhaps the chemist was as much responsible for this as anyone else. The preservation of food was known as long as the history of man. The preservation of food was considered a necessity not only to human life, but to commerce and trade. Certain foods, as cereals, had the property of preserving themselves for a long time, and they have been found in the catacombs of Egypt in good condition. Some foods were improved by being kept for long periods of time, and some, like milk, fish, and oysters, were not good after being kept. With the progress of civilization and science, and the intercommunication of nations, men have changed, and they were not content to-day with foods of one season, but they wanted on their tables foods of all seasons. Of course, this would be impossible without the use of preservatives. The preservation of foods was a legitimate practice, necessary to the welfare and prosperity of mankind. He asked what kind of preservatives should be employed, and were there other forms more desirable than those now used. More especially, what effect had preservatives used in keeping foods, upon the health of the consumer? It was well known that when the moisture in food was below a certain percentage, germs would not act. Sodium chloride, sugar, vinegar, and smoke were antiseptic in their nature, but their use could be revealed by taste as well as by odor. Certain substances used as preservatives were themselves foods, as sugar. Others were absolutely necessary to the metabolic processes going on in the human body, as sodium chloride. So there were legitimate reasons for the use of certain substances. When Pasteur demonstrated that decay was due to ferments, the chemist immediately got busy devising means by which this could be prevented. There were certain substances that had neither odor nor taste that could be added to foods and prevent any further decay; they were capable of killing or paralyzing the ferments that caused decay. There were a large number of chemical substances, antiseptic in nature and used in large quantities, which did not give taste or odor to foods, and it was to bodies of this class that he wished to call attention. Mention was made of salicylic acid, borax, boracic acid, benzoates and benzoic acid, sulphates, formaldehyde, etc., these being the principal ones used to-day quite indiscriminately. The question of their effect upon the public health was a grave one. The manufacturer had a right to be heard on this question, because of its effect upon his business; with the use of preservatives, he could get a wider market for his foods. The consumer had a right to be heard, because he was the one who partook of these foods. The physician had a right to be heard. The scientific man had a right to be heard, and so had very many others, for obvious reasons. This was a many-sided problem and could not be considered in any dogmatic manner. An antiseptic, to be effective, must be capable of killing or paralyzing ferments; the whole process of digestion was one of fermentation. It was not the living cell which caused fermentation, but enzymes which they secreted. Experiments on digestion could be carried on in laboratories. Certain animals might be used, but every scientist knew that all these had peculiarities regarding food digestion, some being vegetarians, some carnivorous, and some omnivorous. Therefore any experiment upon lower animals gave results that were valuable only for that animal, and which could not be applied to any other genus. Experimentation upon the human animal had limitations, of course, but in his experiments he was aided by the inexhaustible resources of Uncle Sam. The experiments carried on with twelve young men were now of three years duration, *i.e.* this was the third year of this work, and what he had to say was about the first year's work only, and had to do only with the effect of boracic acid and borax. The whole year was used with experiments of this kind. The time was divided into five periods, four short ones of ten days each, followed by a period of observation of from twenty to twenty-five days, giving increasing doses of boracic acid and borax; this was followed by a period of ten days for the purpose of restoring the individual's equilibrium. He began with small quantities; after five days the amount given was increased; after another five days the amount was doubled, and so on until the limit of toleration was reached. The quantity given was what might be expected to be contained in food as a preservative, *i.e.* 7.5 grains per day. As a result it was shown that there followed some disturbance in the metabolic processes, that is, there was a disturbance in the relation between the excreted elements and the ingested elements. Phosphoric acid, sulphur, and nitrogen excreted should be in equilibrium with that ingested and, in every instance, this changed equilibrium showed some disturbed metabolic process. There was in every instance inhibition of digestion, absorption, and assimilation whenever borax or boracic acid was given in the short periods in increasing doses, and, at last, there appeared a feeling of fullness in the stomach and in the head, and in the majority of instances bleary eyes and a marked continuous dull headache. There was also inability to perform mental operations. The nausea and diarrhœa described by the Germans in their reports could not be gotten in a single instance, despite many attempts. Even four grams taken in a day was not productive of this result. In such doses the men were made really sick, and the appellation "poison-squad" was, therefore, not wholly unjustifiable. Seven and a half grains per day, given for thirty-five or forty days, was followed by the usual symptoms, but these symptoms would not be observed before this time had elapsed. In answer to the question, "What was the fate of these substances in the body?" he said that 80 per cent. of the substance was excreted by the kidneys, and 20 per cent. by way of the skin, and that there was but very little change in either borax or boracic acid in its passage through the body. The report of his experiments will embody 500 or 600 pages, and no conclusions would be drawn until all the data were collected, and then only general averages would be given. He said that the German chemists found that boracic acid was almost a poison to the human system; he found no such thing. He said the chemists in Germany were called upon to justify the action of the Government in keeping borax from foods; they were called upon officially to justify its action. Under certain conditions, just the opposite conditions might prevail. The views of the German chemists, he said, were widely parted, but his own views were between the two, and he wished to be understood that, in making these statements, he did not intend to throw any imputations upon the work of others. What should be the attitude of physicians? If

questioned in this matter, the only safe way was to advise that the suspicious material be left alone. Boracic acid or borax was not necessary for the preservation of food, especially in a country like ours; therefore, why use it, when it was open to suspicion? In England the use of boracic acid was justified in the preservation of butter and meats. Such agents could be used without danger, possibly, but that fact did not justify their use. If introduced into foods, a label should be pasted on, advertising the kind and quantity of preservative used.

Dr. George L. Peabody said that at the International Medical Congress, held in Paris in August, 1900, this subject had been discussed. The courts usually asked the expert this question: "Is this substance under discussion added to food in that way consumed in the dose admitted capable of damaging the health of the consumer?" When put in this way the reply must usually be a negative one, for the substance was guardedly used in such small doses as not to be productive of immediate bad results. The use of an antiseptic in preserving foods could only render them less easy of attack by the organisms of decomposition and putrefaction. Now the utility of foods depended upon their instability, upon their openness to attack by the digestive ferments. The addition of antifermentative agents to foods was therefore irrational from the point of view of nutrition, and distinctly diminished their nutritive value, even if it did nothing more. Army surgeons had attested the truth of this statement. Apart from the army and navy, these foods reached largely the less well-to-do classes, those especially in need of highly nutritious and easily digestible foods. We could not tell how many cases of digestive disturbance in hospital wards, how many anæmias, how many chronic diseases of obscure origin had been caused by the prolonged ingestion of foreign materials. Lancereaux said that the so-called plastered wine of France was a common cause of cirrhosis. Of 210 cases, excessive use of wine seemed to be the sole cause in 68. He thought it was the sulphate of potassium, used to give the wine a dry flavor, which damaged the liver. The question of importance was not the danger of the ingestion of a certain small amount of an antiseptic in food, but whether the daily use of such an agent could do damage. As an illustration, it had been believed that pneumonia could be aborted by giving large doses of calomel soon after the initial chill and before the development of consolidation. He said that he had frequently given twenty-grain doses, repeated once or oftener in twenty-four hours. The only effect had been that of a very active purgative, with its evident depletion. Had forty grains of calomel been divided into tenth or twentieth grain doses, and had they been taken an hour apart until the entire amount had been consumed, the effect would probably have been a very destructive and perhaps a fatal salivation. Again, water highly impregnated with lead might be taken occasionally with impunity, but if taken in small amounts indefinitely it would cause serious damage to nutrition. It was well known that boiled milk was so altered in composition as to be unfit for infant food and responsible in certain instances for serious attacks of scurvy. Might not the same history some day be written of some of the substances now tolerated as harmless preservatives. He thought that the burden of proof should be shifted to the shoulders of those who desired adulterated foods, and that the benefit of any doubt should be given the public rather than the manufacturers. Brouardel told us that an antiseptic which was harmless to a person whose powers of elimination were active might become toxic if taken by one whose eliminative powers were sluggish. His study of the elimination of salicylic acid showed that this power was dependent upon the patient's age. In the case of a person aged 25, the acid appeared in the urine in three-quarters of an hour and was wholly eliminated in twenty-four hours. In one aged 44 years elimination commenced after a lapse of from seven to eight hours and was not completed until after forty-eight hours. In a person aged 66 years elimination commenced in two days and continued for eight days. It was fair to conclude that this last subject was particularly susceptible to the danger of the accumulation of small doses of salicylic acid. In this instance the kidneys were normal; had it been otherwise his danger would have been increased. In 1881 the French Government interdicted the use of salicylic acid as a preservative of beer, wine, and food. In 1885 a commission appointed by the Academy of Medicine of Paris reported that it had proved that the prolonged use of small amounts of salicylic acid was dangerous, and that in susceptible individuals it was apt to cause disorder of digestion and renal disease. The common assumption that boric acid, because of its feebleness as an antiseptic, was harmless was a dangerous conclusion. Cases of non-fatal poisoning had occurred where patients took from ten to twenty grains a day. Kittens had been killed in the fourth week by feeding on milk which contained eighty grains to the gallon. Parenchymatous nephritis had been caused by it. Boric acid had been used some years since in the treatment of epilepsy, and experience obtained in this way proved that it could cause albuminuria, uræmia, and death. While it could not as yet be proved that in very small amounts it had caused damage to man, it seemed that, in view of what we already knew, it was wholly irrational to permit its use in this way. The diagnosis of conditions brought about by the daily absorption of small amounts of moist antiseptics, of their effects on metabolism and nutrition, was surrounded by many difficulties, and even if there seemed to be no immediate bad effects, it was not fair to assume that future serious results might not follow their prolonged ingestion. The Paris Medical Congress of 1900 adopted the following vote: "In view of the damage recorded by various writers which results from the habitual use of foods and drinks whose preservation is assured by chemical agents, the use of these agents (borax, salicylic acid, formol, saccharin) should be forbidden in alimentary substances." The International Congress of Hygiene and Demography, held in Brussels in 1903, adopted the following proposition: "There is no ground for the toleration of antiseptics in preserved foods." Dr. Peabody said that we should first convince ourselves of the harm of these and similar adulterations, and then do what we could to convince the public, and to promote restrictive or prohibitive legislation.

Dr. Thomas Darlington, Commissioner of Health, said that the Health Board only examined such foods as were supposed to be adulterated, or those foods which contained some preservative which was detrimental to health when ingested. The work in this department lately had increased, and the Health Board had added two chemists to the present staff to assist in the analysis of foods. The foods sent for analysis were those suspected of containing some poison. Dr. Darlington referred to the cases of wood alcohol poisoning that had occurred in the Striker's farm district recently; a large percentage of wood alcohol had been found in the whiskey sold, and also in the stomachs of some of those who were poisoned. He believed that every particle of food containing preservatives should have that fact placed upon the labels, particularly in certain types of food, as milk. Preservatives should not be allowed to take the place of cleanliness. In Chicago milk was brought about 40 miles, while in New York city milk was supplied from a distance of over 400 miles in many instances. The milk brought to New York could be preserved by cold, and no chemical preservative should be allowed. Such use was a fraud upon the public and should be interdicted. Every one had the right to know just what his food contained. Whenever preservatives were used, that fact should be advertised upon the label.

Dr. Roland G. Freeman was interested in the preservation of milk, and this was first brought to his attention by a manufacturer of formalin, who wished to have it used

as a preservative of milk. Milk properly handled did not require any preservative, and it was possible to bring milk to this city from long distances if it was handled right and kept cold. Dr. Freeman referred to an article published by Dr. Harrington in the *American Journal of the Medical Sciences,* in which it was shown that kidney disease was caused by the intaking of 45 grains of boracic acid in three successive doses.

Dr. Andrew H. Smith said that interest in this subject of preservatives was upon the morbid process which they engendered in the body, and during twenty or twenty-five years their use did not seem to have increased to any degree gastric disorders. The fact that borax and boracic acid were capable of giving rise to subjective feelings referable to certain organs was to him interesting, and he hoped that Dr. Wiley would make further experiments to determine how gastric disorders were produced by these agents.

Dr. Henry G. Piffard referred to an Albany trip of his, four or five years ago, at a time when a bill was introduced forbidding the use of borax in dairy products. The borax people had their experts, and among them was Prof. Chittenden, of Yale University, who testified that borax so used was entirely harmless. Dr. Chittenden was supported by the testimony of several other experts. The bill was reported and passed. Soon a chance occurred to test the bill in the courts, and the judge threw the case out and refused to allow it to go to the jury because there was no evidence that borax was harmful. Dr. Piffard spoke of the use of wood alcohol; methyl alcohol, he said, was used to adulterate some Scotch whiskeys. The use of acetanilid as a preservative, he believed, should receive the attention of the Health Board.

Dr. A. Jacobi referred to the development of tuberculosis from the ingestion of tainted cow's milk, and said that the best way to kill off tuberculosis in mankind was to kill the tubercle bacilli, and this could be done by the use of formalin in milk. Other agents than formalin were used in milk, such as bicarbonate of sodium, and milk containing this was far from being innocuous. Regarding the reports of the German chemists, he said that they probably were right; a great deal of boracic acid was found in the food stuffs on the other side. He thought Dr. Wiley was in error regarding what he said of the report of the German chemists.

The Fourth Pan-American Medical Congress.—Dr. Joseph D. Bryant and Dr. Ramon Guiteras were appointed Delegates to this Congress, which meets in Panama in January, 1905.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held November 21, 1904.

Dr. Francis J. Quinlan in the Chair.

The Dangers of the X-Ray.—Dr. Milton Franklin read this paper, confining his remarks to a consideration of the factors of obscure and perplexing nature which rendered one liable to accident, causing damage to patients as well as operators. In 1896 the first case of alopecia due to the *x*-ray was reported, and in 1896 cases of injury to the skin and falling of the hair became alarmingly common. In 1897 many more cases were reported, and among these were instances of exostosis. To-day the situation he believed to be truly alarming. If one understood to-day just what caused these *x*-ray burns or injuries, one might then be in a position to avoid them. The number of deleterious effects produced now was legion. It was strange that the very agent used to cure carcinoma was itself capable of causing the disease. Dr. Franklin reviewed a good part of the literature on *x*-ray injuries. The pathological changes occurring in *x*-ray burns could not be said to be characterized by anything. Sometimes five or six months intervened between the application of the rays to a surface and the appearance of the first evil effect. An important point in this connection was the unanimity of opinion regarding the effects upon the blood-vessels and skin appendages. It was stated that the effects of the *x*-ray were due to the ionization of the tissues at the point of impact of the rays. According to Lodge's theory, oxygen was wanted in available form, and blood was that substance containing it, and this, Dr. Franklin believed, might account for the invariable action of the *x*-ray upon blood-vessels and skin appendages. This was the most logical theory yet propounded. The dangers now of the *x*-ray were well recognized, but when used by experienced operators accidents rarely occurred. Too much stress could not be laid upon individual idiosyncrasies. A recent canvass among skiagraphers failed to reveal a single serious result during recent times from the use of the *x*-ray. Dr. Franklin thought that one of the great factors of danger was the inability to measure the energy of the emanations from the tube. Whatever theory was accepted, it was unanimously admitted that the reaction was in direct proportion to the quantity of rays emitted. The electroscope was placed at that distance from the tube that it was desired to place the patient or plate. The rays were then permitted to fall on the air between the terminals of the electroscope, and the passage of a filament between the two marks in the field of the instrument was timed with a half-second simple pendulum attached to the instrument. The number of half-seconds required in the transit would give the exact numerical value of the radiation compared with any desired standard. The fact that many injuries had occurred when the *x*-ray was used by the tyro ought not to condemn the method. The application of the *x*-ray when not indicated was most reprehensible and unwarrantable. From a long experience the speaker advocated the following: Every patient should be placed in the recumbent position and protected with sheets of lead foil. Only the part to be treated should be left unprotected; *i.e.* if the female breast was to be treated, both extremities and the neck and head should be properly protected. The exposure should be made with a definite potency, small at first and gradually increased to the point desired. The hands of the operator should be protected by rubber gloves, especially when using the developing solutions. He believed that with the general adoption of the radiometric technique all dangers would be eliminated.

Dr. William B. Coley took up the consideration of the treatment of malignant growths with the *x*-ray. Burns were not now so frequent when the *x*-ray was used by an expert, although the danger of them still remained. He had seen many cases in which there were small recurrent malignant nodules of the breast which did not give the patients a great deal of pain or discomfort; but after two to four exposures to the *x*-ray, burns resulted which required months to heal and gave the patients much pain and discomfort, even more than did the tumors. Another great danger was from a necrobiosis of the tumor and its transferrence into other parts of the body. He knew of several instances in which this had occurred. He referred to a case of carcinoma of the breast which was gradually decreasing in size; following the application of the *x*-ray, glandular involvement occurred and an extension took place in the spinal cord, pleura, and sternum. The dangers to the operator should not be overlooked. Extensive lesions had occurred, as shown by ulcerations; malignant disease had developed upon the ulcerated areas. Investigators who were looking for the cause of cancer should consider the *x*-ray, which seemed to be able to produce this malignant disease. Four cases had already been reported which developed epithelioma six months after the application of the *x*-ray. A very peculiar feature of *x*-ray injuries was the multiplicity of the lesions. Dr. Coley referred to the danger to the public involved in the flattering reports of successful treatment of malignant disease. The *x*-ray treatment had its limitations, and should be applied only to inoperable tumors or after primary operations.

Dr. Carl Beck said that the dangers of the *x*-ray had been underrated at first, but now he thought they were exaggerated. It was quite interesting to note that the same means which was expected to cure carcinoma had

been the cause of epitheliomas in many instances, and he believed this to be an argument in favor of the non-parasitic origin of cancer. There were two points of view to be taken in *x*-ray treatment; the conditions were entirely different in cases in which one used irradiation for cosmetic purposes from those in which it was applied in the treatment of malignant neoplasms. In the latter case it was far better to give less heed to the amount of tissues covered by the *x*-ray than in the former. Idiosyncrasies had been shown in many patients, and if one treated a patient for cosmetic purposes one should give tentative exposures. In the treatment of malignant disease, these tentative exposures were not required. It was not necessary to so protect the patients, and the vicinity of the tumor need not be covered. In cancer of the breast, carcinomatous cells had been found far away from the site of the lesion, and, therefore, this protection was not required. If protection was given, one protected the carcinomatous cells. He endorsed all that Dr. Coley had said, and believed the *x*-ray was for the treatment of inoperable cases in particular.

Dr. Charles W. Allen presented a patient who came to him two years ago with the diagnosis of carcinoma of the liver. He accepted this diagnosis and gave her *x*-ray treatments. On one occasion the tube was placed either too near the surface, or else the ray was too energetic, or else the time of exposure was too long, and at her next visit there were evidences of a severe dermatitis. The rays were then stopped, but the condition went on to a deep and extensive ulceration of the abdomen. She then disappeared from view, after he had advised her to go to some surgeon and have it all excised. Upon his return from Europe he was surprised to find that she had had nothing further done and had not consulted a surgeon, but had continued to improve. The burn was not well yet, but the patient presented a greatly improved appearance. Dr. Allen believed that the experience gained by practice with the *x*-ray was better than could be had with the use of the radiometer presented by Dr. Franklin.

Dr. William J. Morton emphasized the fact that the *x*-ray must be applied in an expert manner. In the light of modern research he thought that the dangers of *x*-ray injuries could be overcome by simple management. The results were pathological ones, and gave certain symptoms. The effect of the *x*-ray was to produce an atrophy, or degeneration, or death of the parenchymatous cells. He emphasized what Dr. Beck had stated regarding shields; he believed they should be avoided, and he disapproved of what the reader of the paper had said regarding them. The Röntgen rays should be used after operation for malignant neoplasms; if it was conceded that these rays were of value after operation, why not of value before operation, in order to curtail the spread of the initial disease?

Dr. Milton Franklin said that idiosyncrasies were of no more importance in *x*-ray work than in other measures of modern therapeutics. Such cases did exist, but they were not more common in this than in other treatments. Regarding the use of shields, he probably was misunderstood; he did not intend to convey the impression that he covered all but the area he desired to treat. The description of his instrument would soon be published in detail, and he wished it understood that it was a practical one, could be used by a child, and was "fool-proof."

The Medical and Surgical Features of the Russo-Japanese War.—Dr. L. L. Seaman read this paper. His remarks were practically the same as those made before the International Congress of Military Surgeons, held in St. Louis in October. His experience during the late Spanish war had taught him that the principal enemies of our army were ferment and microbes, and that the main fighting was done by the Medical Department. Led by the desire to see a conflict where powder and shell played at least an incidental part, he had visited the Japanese frontier. He had found the Military, Red Cross, and University Hospitals at Tokio conducted on broad, up-to-date principles. Up to July 1, only about 1,100 wounded had reached Tokio, and no medical cases. They were mainly from the Yalu, Nanshua, and Telissu fights, and included many severely wounded by shell fragments, bullets, shrapnel, and explosives. The physical condition of these patients was remarkable, considering the campaign through which they had passed and the severity of their wounds, for their faces showed little evidence of illness or suffering. Up to July 1 not one of these cases had ended fatally, and those remaining in the wards showed favorable prognoses. Little or no operating was done at the front, except in cases of extreme emergency, or when hemorrhage threatened death. All patients were treated by first-aid applications and were then sent to the rear as quickly as possible, and thence to the base hospitals in Japan. The Tokio surgeons complained that they had little to do, for by the time the soldiers arrived the vast majority of wounds had healed by first intention. At the base reserve hospitals at Hiroshima hundreds of wounded arrived every few days from the field around Port Arthur. The high velocity bullets, at such short range, produced almost every conceivable type of wound. The speaker had seen instances of bullets passing directly through the great cavities—seven through the cranial, nine through the thoracic, eight through the abdominal, and so many through the extremities that the number was quite lost, cauterizing their course and healing both entrance and exit wounds by first intention after first-aid dressings. Suppuration, even in cases in which the balls ricocheted, was comparatively rare. Operations for appendicitis, hernia, floating kidneys, gall-stones, etc., were conspicuous by their absence. The Japanese soldier had been taught how to treat his intestines. His diet was plain and rational, consisting of an easily prepared and easily digested ration, which could be thoroughly metabolized and converted into the health and energy that makes the Japanese soldier the ideal fighting machine of the world today. At Shimonoseki, the chief naval base, the character of cases in the hospital was of a type distinctly more severe. Prior to July 16 the total casualties in the navy amounted to 1,429, of which 1,209 were fatalities. Over 500 of these occurred on the occasion of the torpedoing of the *Hatsuse*, and a large proportion of the remainder were on the ships that were exploded or sunk. Less than 200 wounded were rescued, and of these only five had died, and the remainder were rapidly convalescing. The wounds in these cases were usually not from bullets, but from fragments of shell, causing fearful lacerations, contusions, comminuted fractures, etc. The medical wards of the hospitals were complete in every detail, but the beds were conspicuously empty, voicing more eloquently than words the most important lesson of the war. There were only a few cases of diseases of the respiratory tract, caused by unusual exposure, and scarcely a dozen under the head of diseases of the digestive system. Internal diseases were practically an insignificant factor in the naval hospitals, and up to July 20 not a single case of beriberi had developed. Dr. Takaki had demonstrated after an epidemic in 1882 that beriberi was a neurotic disorder, resulting from a lack of nitrogenous matter in the food. The ration was remedied and the disease practically eliminated from the hospitals of the Admiralty. The ration table contained a daily allowance of three ounces of liquor—saki—which was considered beneficial. A well-regulated army canteen existed, where beer was dispensed under official supervision, this beverage being recognized as bread in solution, that had undergone fermentation, thereby saving the stomach labor. He mentioned a number of medical officers in the Japanese army who had the rank and emoluments of major-generals, a rank at least two grades higher than the highest rank obtainable in the army of the United States by a surgeon. Dr. Seaman outlined the medical organization, showing how perfect the system was, how high the men ranked, and the duties that they performed. The Japanese were the first to recognize the true value of an army medical corps. Care of the sick and wounded consumed but a small part of their time. The solution of the greater problem, pre-

serving the health and fighting value of the army in the field, by preventing disease, by careful supervision of the smallest details of subsisting, clothing, and sheltering the units, was their first and most important duty. The medical man was as much in the front as in the rear. He was with the first screen of scouts with his microscope and chemicals, testing water and foods, and investigating sanitary conditions. Notices were posted so that the approaching column was warned of danger where it existed. Bacteriological experts formed part of the staff of every divisional headquarters. A medical officer also accompanied foraging parties. In the camp he lectured the men on sanitation and personal hygiene. He had recognized that disease had brought more campaigns to disastrous terminations than the strategies of opposing generals or the bullets of their followers. Up to August 1, 9,862 patients, of whom 6,636 were wounded, were received at the Reserve Hospital at Hiroshima. Of these, up to that time, only 34 had died. This happy result was due to non-interference on the field and thorough antiseptic methods in after-treatment. In war four men died of disease for every one who fell from bullets. In this way the Japanese neutralized the superiority of Russian numbers. Japan was the first country in the world to recognize that the greatest enemy in war was not the army of the invader, but preventable disease. It was against this enemy that she had made her hardest fight and won her most signal victory. She had kept her men in superb condition. Major Seaman spoke of the contrast he had noted on visiting the Russian lines, where brutality, debauchery, and criminal carelessness existed. The three great lessons to be learned from the Japanese war were from the medical, the commissariat, and the transport department. The Japanese Government permitted our Government to send five military attachés to accompany their army in the field, but no surgeon or quartermaster had been detailed. The life-saving and life-preserving departments were omitted; the killing departments got the appointments, and the Japanese officers were laughing at our folly. But what could be expected of a Government that, as in 1898-9, gave its men a ration that prostrated 50 per cent. of its 250,000 units with intestinal disease within six weeks and sent 3,000 to their last home? What could be said of the business principles of a Congress that preferred pensions to prevention; that permitted misguided women to deprive its army of one of its most beneficial features, a well-regulated canteen; that provided no instruction in physiology and hygiene in its great preparatory schools—Annapolis and West Point? Major Seaman said that it was time to demand another reorganization of our army, in which that branch of its service that grappled with the foe that caused 80 per cent. of its mortality should have equal recognition with other branches which, combined, fight the enemy which destroys but 20 per cent. The State deprived the soldier of his liberty, prescribed his dress, diet, exercise, etc., and expected him, if necessary, to lay down his life; it should therefore give him the best sanitation and the best medical supervision that the science of the age could devise. An adequate medical and sanitary organization was more important to the United States than to any other nation, because of the smallness of its regular army, and because in cases of emergency the vast majority of its medical officers must be drawn from civil life.

The Association of Military Surgeons had resolved that Congress be petitioned at its next session to reorganize the Medical Departments of the United States Army and Navy on a broad basis similar to that of the countries most advanced in military sanitation, giving to their officers equivalent rank, dignity, and power, and to their personnel ample members for the proper care of the sick and injured. The Association also recommended that the sale of beer be permitted at army post exchanges, subject to such regulations as should be determined by the General Staff of the Secretary of War; that an adequate knowledge of the care of troops was of such vital importance that it should be given recognition in our Army and Navy Schools, and especially in the Staff Colleges and War Colleges, and that the present course at West Point and Annapolis should count it in the requirements for graduation; it therefore respectfully petitioned the President to make this resolution effective.

The speaker said that the subject was a terribly live one, and that all he hoped for was that the man in the ranks and the medical profession might get their rights and due recognition.

This paper was discussed by Major John L. Phillips, U. S. A., Dr. Nathan S. Jarvis, Captain A. E. Piorkowski, Imperial German Army, Colonel W. E. Church, U. S. A., Major J. F. Powell, U. S. A., and Dr. Andrew H. Smith, and was closed by Dr. Seaman.

Chicago Medical Society.

At a meeting held November 16, 1904, Dr. Martin B. Tinker of Ithaca, New York, contributed a paper by invitation, on "The Advantage of Muscle-Splitting and Muscle-Retraction Incisions in the Prevention of Ventral Hernia." To avoid the disadvantages of the rectus incision, particularly the paralyzing of the median side of the muscle, he said that Lennander in 1898 introduced the rectus retraction incision; while in 1900 Pfannenstiel introduced his supra-symphyseal cross incision. The speaker usually employed the former incision in opening the abdomen for pelvic operations, although if freer exposure was desirable, the Lennander incision was preferable. The Pfannenstiel incision was found satisfactory for myomectomy; for operations on the tubes or ovaries; advancement of the round ligaments for backward displacement, or other operations near the median line of the lower part of the abdomen. For abdominal hysterectomy the Lennander incision gave better exposure. For exploration of the right iliac fossa, when some involvement of the pelvic organs was suspected, he also preferred the Lennander incision. When simple appendectomy was to be done, he thought nearly all surgeons agreed that the McBurney muscle-splitting incision was preferable, but when appendectomy was combined with pelvic work, the Lennander incision was preferable. As features of great importance in the prevention of ventral hernia, he mentioned healing by first intention; careful arrest of hemorrhage to prevent the accumulation of blood in the wound; the prevention of strain on the wound after operation by distention, etc. The possibility of getting a patient out of bed at an early date after operation with a feeling of real security from hernia, and without the need for wearing the binder, was a great satisfaction, and sufficient reward for the extra pains and few additional minutes of time taken to open and close the abdomen by any one of these methods. Dr. L. L. Mc Arthur was very much surprised that as large a proportion as one in five, or 20 per cent., of hernias should occur. It might be explained on the basis that patients did not return to the surgeon who had been the cause of the hernia. Dr. Arthur Dean Bevan mentioned a number of factors which must be considered in planning an abdominal incision. One should plan the incision (1) so as to give free and sufficient exposure to do the operation, (2) so as to give the least possible danger of a resulting hernia. One could not employ the Pfannenstiel incision in opening the abdomen to remove a large fibroid of the uterus. He could not employ the muscle-splitting incision in opening the abdomen to remove a large spleen. If one opened the abdomen posteriorly, to remove a large tumor of the kidney, the muscle-splitting incision was out of question. A muscle-splitting incision had little value in operations on the kidney. There was very little danger of hernia following a properly planned kidney incision, which divided the external oblique, the internal oblique, the transversalis fascia, but which did not interfere with the nerve or arterial supply of the abdominal wall posteriorly. Dr. E. Wyllys Andrews thought the Pfannenstiel incision was a skin incision only until he had heard differently. He

had only used it a few times, and believed it was employed almost entirely in the case of young or generally unmarried women, so as to be covered by the pubic hair afterwards. Personally, his inclination was to make a one-half or three-quarters of an inch incision out from the median line and secure the muscular wall for the incision. In ordinary laparotomy he attached considerable importance to the imbrication method. Dr. A. J. Ochsner had followed many hundreds of his cases, and in those in which there was no drainage or suppuration there was no ventral hernia. He placed a silkworm gut suture down through the transversalis fascia as an emergency suture, so that if the patient should sneeze severely at the time when the catgut became softened, there would be a safety suture on the outside to hold it. He sutured the peritoneum and transversalis fascia together; he passed a second catgut suture through the muscle, a third catgut suture through the aponeurosis of the external and internal oblique, and after all tied the silkworm gut sutures sufficiently loosely to guard against pressure necrosis. Furthermore, he applied, for emergency's sake, broad adhesive strips, so that if a patient should strain, vomit severely, or sneeze, the soft tissues would not be torn. Dr. E. C. Dudley made his so-called median incision through the right rectus muscle, parallel with the fibers of the muscle, somewhere near the inner margin of the muscle, to avoid ventral hernia, and to get a more accurate closure. Dr. William Cuthbertson spoke in reference to the after-treatment, saying that some practitioners lost sight of an important point, namely, the complete wound healing after operation in the abdominal cavity. Dr. Carl Beck had removed large tumors through a small transverse incision which one could stretch. The muscles were not split, but simply the fascia. Dr. Albert Goldspohn said the cardinal principles of closure of wounds must be carried out or there would be a hernia. He described a technique similar to that of Dr. Ochsner. Dr Tinker, in closing, would not have the members believe that he advocated these incisions for all kinds of surgical work, as no one recognized their limitations more clearly than he did.

Medical Society of City Hospital Alumni, St. Louis.

At a stated meeting held October 2, Dr. Geo. Gellhorn read a paper entitled "The Early Diagnosis of Uterine Cancer." He stated that cancer is on the increase, it being, according to the statement of Roger Williams, four times as common as it was fifty years ago. Only about 30 per cent. of the cases of uterine cancer which come under medical observation are operable at the time of first examination, and of these not more than one-fourth remain free from recurrence, so that only about 10 per cent. of the patients are saved from death. Each should consider it his duty to emphasize the points bearing on uterine cancer, and constantly study the means to arrive at an early recognition of the disease. The responsibility for the timely diagnosis of cancer rests with the family physician. Without his assistance the gynecologist will almost invariably see the case only when the disease is too far advanced to permit of a complete removal of the morbid growth. The speaker presented several specimens with the histories of the cases. The first case was that of a lady of fifty years, and the condition had been diagnosed submucous myoma. The only complaint was hemorrhage at the menstrual period. Examination showed a small tumor within the external os, and an attempt was made to enucleate it; only after microscopical examination of sections was it discovered that cancer existed. The uterus was removed and the disease was found to have spread to the left tube and involved the entire mucous membrane. Four and one-half years later the patient was still free from recurrence. Another case was that of a woman of thirty-eight years, whose mother and two aunts died of carcinoma. She had been treated for "ulceration of the uterus" for about one year. She had few symptoms, but following a slight, offensive discharge, a physician pronounced the case cancer, and this was confirmed later by the microscope. The speaker extirpated the uterus and found the growth had already invaded the deep tissues of the cervix. Speaking of the statement often made that the microscope sometimes fails to reveal the presence of the carcinomatous process, he mentions a case of a woman of fifty-three years, already in her menopause, who had been treated for several months for ulceration of the womb. The speaker was asked to examine her, but found no suspicious symptoms, and the patient was sent back to her physician with instructions to report to him in case any irregular hemorrhages occurred. This complication occurred two and one-half months later, and the patient was greatly weakened. She was transferred to a hospital at once, and the uterus curetted, but the microscope failed to demonstrate the presence of cancer though the macroscopical appearance very much resembled that of carcinoma. Numerous sections were made from all the pieces removed, but no malignancy was detected, yet the clinical observations concurred in establishing a diagnosis which the microscope could not verify. After long and careful consideration, the negative result of the microscopical examination was disregarded and the uterus was removed. The specimen showed a uterus considerably enlarged and thickened, but there was no sign of cancer anywhere. Dr. Carl Fisch said it was impossible positively to diagnose cancer in the very early stages by the microscope, because we do not know the appearance of the tissue in this stage of the disease. When a case presents suspicious symptoms and the microscope is unable to verify the diagnosis of cancer, the patient should be operated upon.

Dr. Fred J. Taussig read a paper entitled "The Etiology and Management of Brow Presentation," and reported a case. The case threw an interesting light upon the etiology of brow presentations. Owing to the fact that the umbilical cord was tightly wound twice around the child's neck, together with a condition of hydramnion, deflection of the occiput occurred. A sudden and complete rupture of the bag of waters served to fix the head in this position. The speaker agreed with the view that conditions of the soft parts and accidents affecting the attitude of the child are more often responsible for the occurrence of brow presentations than anomalies of the bony pelvis. In the management he suggested that when the head had already entered the pelvis, and when Thorn's method of correcting the position could not be applied, the following procedure be tried: One blade of the forceps is passed around the occiput; two or three fingers of the opposite side are introduced to exert pressure upward on the brow, while, at the same time, traction is made downward with the forceps blade; in order to prevent the forceps blade from slipping, a certain amount of counter pressure must be made between the blade and the fingers; an assistant simultaneously exerts pressure on the abdomen, with one hand pushing the chest of the child backward, and with the other hand pushing the breech forward. In this way pressure is exerted upon the child's body at four points, all tending to restore to the normal attitude. The procedure was tried in the case reported, and, although not successful, owing to the extremely critical condition of the child, it was shown that a very considerable amount of flexing power was obtained. The patient should be under an anæsthetic. If the procedure is unsuccessful, it can be followed immediately by the application of forceps.

Oriental Drugs.—The United States General Appraisers have recognized, officially, the medicinal virtures of dried lizards, which are in high repute among many Celestial residents of this country. Hing Lum Chon imported some of the lizards, and Collector Stranahan classified them as a medicinal preparation. Hing Lum Chon protested, and carried the case to the Board of General Appraisers. They confirmed the classification, and thus upheld Mr. Stranahan's title as an expert in the Chinese pharmacopœia.—*The Sun.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 26, 1904:

	Cases.	Deaths.
Measels	98	9
Diphtheria and Croup	376	40
Scarlet Fever	184	9
Small Pox	3	..
Chicken Pox	136	.
Tuberculosis	324	166
Typhoid Fever	89	12
Cerebro-Spinal Meningitis		14
Typhus Fever	.	.
Yellow Fever	.	.
Cholera	.	.
Totals	1,210	250

The Heart and Circulation in Pregnancy and the Puerperium.—Alfred Stengel and W. B. Stanton conclude that there is not, during pregnancy, any hypertrophy of the left ventricle, nor any special increase in its work. The increase of dulness toward the left is due to the upward displacement of the diaphragm and the consequent displacement of the heart in an upward and outward direction. The comparative outlines before and after labor show a rapid return to the normal position. Besides the frequency of an increase in the extension of dulness toward the left in the second and third interspaces, there is noted a distinct pulsation in the same area. This condition is evidently ascribable to distention of the conus arteriosus and root of the pulmonary artery. A systolic murmur is often heard in the same area. The writers believe that during the later months of pregnancy there exists some continuous dilatation of the right ventricle. This, however, seems to be of very moderate degree. As to the condition of the abdominal recti, in multiparæ separation of the recti materially lessens the tendency to displacement of the diaphragm, and diminishes in a corresponding degree the displacement of the heart during pregnancy. After delivery, this diastasis of the recti, however, may occasion a downward displacement of the cardiac apex, and the contrast before and after labor may be quite as pronounced as in primiparæ, though the first position occupied may not have been far from the normal. Later, if the separation of the muscles is not considerable and the normal tonus of the abdominal walls is regained, a restitution to the normal of the heart and its apex occurs. The writers have proved conclusively that there is no material increase of blood pressure before or after labor. During labor, there is sometimes observed a notable increase in the blood pressure. In comparing figures, the difficulties due to the imperfections of apparatus and the personal equation of the observer become apparent.—*University of Pennsylvania Medical Bulletin.*

Disinfections for Diphtheria and Scarlet Fever in Baltimore, with an Account of Reinfections.—Wilbur P. Stubbs describes the method of disinfection used by the Health Department of Baltimore, in relation to diphtheria, especially. When the presence of diphtheria is reported, the house is placarded at once and remains so till the throat cultures taken from all the inmates of the infected house are declared by the Health Department to be free from the presence of diphtheria bacilli. All inmates of a house placarded "Diphtheria" are supposed to be under quarantine. The increase in the work of throat inspection has been enormous, about 2½ times as many cultures having been taken in 1903 as in 1902. The largest number of cultures were taken during October, November, and December, while the smallest number were taken during the summer months. The opening of the public schools is doubtless the main factor in bringing about this relation. When negative cultures have been obtained from all of the inmates of an infected house, all of the infected rooms are disinfected by means of formaldehyde gas, and test cultures are placed in the rooms and returned to the Health Department by mail after fumigation. If it is seen by these cultures that all the germs have been destroyed, the disinfection is considered effective. If, however, germs are found, the fumigator repeats his work until a negative culture is obtained. The writer gives a table which shows how few reinfections have occurred. He includes in this table scarlet fever reinfections. The number of disinfections for 1903 in cases of scarlet fever was 957; in cases of diphtheria, 1,168; the number of reinfections, respectively, 18 and 34; the percentage of reinfections being, therefore, 1.8 per cent and 2.9 per cent. A case of reinfection occurring under one month after the room is disinfected appears to be dependent upon the original infection. This may happen even with the most stringent fumigation, for bits of membrane may be coughed up and deposited upon the nurse's dress, and if she goes to another part of the house this membrane may be deposited in various places. Considering the common obstacles to ideal disinfection, of which this is an example, the number of reinfections is small. In the case of scarlet fever, the period of time before reinfections occur is longer than in the case of diphtheria. But the period of incubation is generally longer in scarlet fever than in diphtheria. And again, the period of infectiousness in the case of scarlet fever is on the average about six weeks, and may be much longer. The scarlet fever organism seems to be even less resistant to formaldehyde than is the diphtheria bacillus, to judge from the smaller percentage of reinfections. The writer, in conclusion, emphasizes the importance of throat inspection and of thorough disinfection.—*Maryland Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the period from November 19 to November 25, 1904:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, Los Angeles	Nov. 6–12	1	..
Illinois, Chicago	Nov. 13–19	21	2
Danville	Nov. 13–19	1	..
Springfield	Nov. 13–19	1 Imported from East St Louis, Ill.	
Louisiana, New Orleans	Nov. 6–19	4	
Michigan, at 48 Places	Nov. 13–19	(Present.)	
Missouri, Saint Louis	Nov. 13–19	10	
New York, New York	Nov. 13–19	4	
Ohio, Toledo	Nov. 13–19	1	
Pennsylvania, Philadelphia	Nov. 13–19	2	
South Carolina, Georgetown	Nov. 16	2	
Greenville	Nov. 13–19	2	
South Dakota, Sioux Falls	Nov. 13–19	2	.
Washington, Tacoma	Nov. 6–12	2	
Wisconsin, Milwaukee	Nov. 6–19	42	

SMALLPOX—FOREIGN.

Brazil, Bahia	Oct. 15–29	43	2
Rio de Janeiro	Oct. 9–23	578	183
China, Chefoo	Oct. 8–15	1	..
Shanghai	Oct. 15	..	3
France, Paris	Oct. 30–Nov. 5	12	.
Great Britain, Bristol	Oct 30–Nov. 5	7	
Manchester	Oct 30–Nov. 5	1	
Newcastle-on-Tyne	Oct. 30–Nov. 5	5	
Nottingham	Oct. 30–Nov. 5	2	
Italy, Palermo	Oct. 30–Nov. 5	16	2
Netherlands, Rotterdam	Oct. 30–Nov. 5	1	
Philippine Islands, Manila	Sept. 10–24	2	2
Spain, Barcelona	Oct. 21–31	..	15

YELLOW FEVER.

Brazil, Para	Sept. 1–Oct. 20	.	16
Rio de Janeiro	Oct 9–23	2	
Ecuador, Guayaquil	Oct. 26	..	1
Mexico, Merida	Nov. 6–12	1	..
Texistepec	Nov 6–12	21	4
Panama, Colon	Nov 7	1 From Panama.	

CHOLERA.

Egypt, Suez	Nov. 4	2 From Br. S.S Coulsdon from Java.	
India, Calcutta	Oct. 8–22	..	22
Russian Empire, Baku	Oct. 11–18	60	24
Merv	Nov. 1–7	1	

PLAGUE.

Africa, Cape Colony, Port Elizabeth	Oct. 13–19	1	..
Brazil, Bahia	Oct. 15–Nov. 4	..	18
Rio de Janeiro	Oct. 9–23	72	25
Chile, Iquique	Oct. 1–15	(Present.)	
India, Bombay	Oct. 10–25	..	63
Calcutta	Oct. 8–22	..	5
Karachi	Oct. 17–23	9	8
Peru, Callao	Oct. 1–15	3	..
Lima	Oct. 1–15	5	..
Straits Settlements, Singapore	Oct 26–Nov. 8	1	1

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PROBLEMS IN DIETETICS.*

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IN the dietetic treatment of disease, it not rarely happens that a combination of conditions is present in the same patient which appear to demand almost diametrically opposite systems of feeding. It often happens, also, that a diet which serves good purpose for a time, subsequently becomes harmful through causing anæmia and debility, if too long continued in a very chronic disease, and not a few patients become gradually starved by adherence to a régime which has become monotonous and distasteful. Again, there are certain recurrent diseases, like rheumatism, for example, which demand a special diet in the acute stage, but in the intervals between such attacks the question arises as to how far dietetic treatment may be made prophylactic. There are, moreover, a number of nutritional disorders, the etiology of which is still so obscure that the formulation of proper dietetic principles becomes unusually difficult. It is to the solution of some of these complex dietetic problems that the present discussion is directed.

Typhoid Fever.—One of the most practical of dietetic problems is the determination of the proper time at which to feed the typhoid fever patient with other foods than milk. Twenty years ago it was the common practice to continue the exclusive milk diet of the febrile stage for at least ten days after the body temperature had reached the normal, and remained normal or subnormal. I have seen such treatment produce a condition of scurvy, with swollen hemorrhagic gums, and I have long been convinced that in many cases it not only protracts convalescence, but, by impoverishing the nutrition, makes the patient far more liable to serious complications, such as thrombo-phlebitis, neuritis, general furuncolosis, etc. It is my present rule to commence the feeding of semisolid food, in ordinary cases, on the day when the body temperature first reaches the normal. Such articles of diet may then be given as soft-cooked eggs, baked custard, junket, milk toast, mutton or chicken broth thickened with rice or crackers, plain gelatin foods like blanc mange and wine jelly, and light farinaceous foods such as farina and boiled rice with beef juice. On the third day, if convalescence be uninterrupted, a scraped beef sandwich is given. I have never seen harm from such early feeding, and in support of this statement I might present several hundred temperature charts from cases thus treated at the Presbyterian Hospital by my colleagues and myself, during some years past.

Early increase in the dietary (*i.e.* as soon as the temperature first becomes normal) is recommended in all such cases as the following; very mild cases in general: any case in which the patient has a fairly clean, moist tongue, a soft abdomen, stools which are nearly normal in consistency, a clear mind and eye, and no serious complication. I should avoid it if there be much tympanites, diarrhœal stools, or recent severe hemorrhage. One is liable to forget that milk must be solidified by coagulation before it can be digested, and moreover, there are not a few persons who cannot digest milk at any time in health, or who cannot take it continuously for a week or ten days without serious biliousness. Such persons are surely no more likely to assimilate it when the digestive fluids are impaired by a long-continued fever. The objection that particles of solid food may act as mechanical irritants, erode a partially or recently healed ulcer, and thereby induce relapse, is hardly consistent with the modern view of typhoid fever, as a disease in which the germs are by no means confined to the alimentary canal, but are widely distributed throughout the body. Many so-called "relapses" are not relapses at all, in the ordinary sense, but are cases of mixed infection or some form of autointoxication. Of course, it would not be maintained that a diet of corned beef and cabbage may not produce great intestinal havoc and perhaps induce fatal hemorrhage, but I do maintain that a carefully increased dietary such as that described, is not a *cause* of relapse. This statement is emphasized for the reason that I so often find the friends or nurses of patients, as well as their physicians, censuring themselves or each other because the patient, having been given one egg, for example, has begun a relapse the next day, whereas he is in reality better prepared to endure the relapse, having had the food when he could digest it.

Typhoid fever is essentially a disease of so-called "relapses." About ten per cent. of all cases are followed by relapse, no matter what the treatment. I have witnessed many relapses among those who had taken nothing but milk, and had not raised the head from the pillow, and, on the other hand, have met with many dietetic misfits, which were not followed by relapse—even the eating of an entire bouquet by a ravenous child, upon whose pillow a zealous "flower missionary" had placed it. It fell to my lot to treat some two hundred cases of typhoid fever among the soldiers who returned from the Spanish War, and I was much impressed by the comparatively slight effect which a perfectly irrational diet had had upon them—relapses were not more common among them than the average, and although the cases were severe the mortality was not excessive. This merely shows that the ulcerated intestine may be more tolerant of food than is generally supposed.

There is a class of cases, much to be dreaded, in which the main danger lies in the rapid loss of nutrition. The temperature often remains low (101°-102° F.), but the loss in weight may exceed a pound a day; emaciation thus becomes extreme, and asthenia is pronounced. These cases are prone to serious complications, and the maintenance of a better nutrition is imperative. Evidently the milk

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given during the fever is not digested or assimilated, curds are often to be observed in the stools, and meteorism is common. It is my custom in such cases either to abandon the milk diet altogether, or to give milk only which has been predigested and to reinforce it with beef juice, the white of egg, milk sugar, orange juice, and light farinaceous gruels. In such cases also, semisolid food may be given before the temperature is actually normal. In another group of cases, after a febrile course of considerable severity, the temperature remains normal for an hour or two in the day during the fourth week, but rises again each day to 100°-101° F. It may indeed be subnormal part of the time, thus presenting diurnal fluctuations of two or three degrees, and this condition may continue into the fortieth or perhaps fiftieth day, without discoverable complications. This type of patient almost always needs semisolid or solid food: I have a number of very striking charts of such cases, in which the temperature became normal and uniform within twenty-four hours of increased feeding. It is important to remember how little the thermometer really teaches in fever. It gives the balance, to be sure, between heat gain and loss, but if the loss be increased *pari passu* with the gain, the thermometric record is low, although metabolism is active and emaciation extreme. I would insist that the proper guide for feeding the typhoid patient is not the thermometric record alone, but rather the state of the digestion and the patient's general condition, as evidenced by the appearance of the tongue, the abdomen, the stools, by the appetite and the facies.

When, during the course of the fever, the patient being upon a milk diet, tympanites ensues, or any other evidence of marked indigestion, the milk should be withheld entirely for two or three days, beef juice and egg albumen or broths being substituted. With malfermentation, lactic acid and milk sugar are capable of evolving quantities of CO_2 gas, and not even hæmorrhage is to be more dreaded than excessive distention of the intestinal wall, weakened as it is by ulcers which may be on the verge of perforation.

Arthritis deformans, which is exciting so much renewed interest at present, is a disease of undetermined etiology, and it is very doubtful whether any form of food is especially harmful in this affection, in the sense in which it may be injurious in diabetes or gout. One meets with cases (not a few of which have been mistaken for rheumatism) in which the patients have been starving themselves in the belief that one or another article of diet is injurious, just as they believe it is in gout or rheumatic fever. As arthritis deformans, excepting in a few rare acute cases, is an exceedingly chronic and disabling disease, those afflicted with it tend to emaciate, owing to suffering from pain, lack of exercise, etc. Whether the disease be due to some perverted function of the trophic nerves, to an infection, or to spinal cord lesion, it is certainly best combated, in the present state of knowledge, by maintaining general nutrition at as high a level as possible. For this reason I am in the habit of treating these patients dietetically very much as if they had chronic phthisis, or chronic sepsis, *i.e.* by forced feeding, using largely fat foods —butter, cream, eggs, oils, bone marrow, bacon, etc. To combat the anæmia, they need also to eat abundantly of meats. Hence, in the main, these patients thrive best with a full diet of animal food, with predominance of fats. Digestion is not usually impaired, so that with a little care this dietary is well tolerated.

The ordinary meals should be supplemented by two or three luncheons during the day, at which milk and eggs, nutritious meat broths, meat sandwiches, or the like, are given. A heavy diet in one unable to exercise may be rendered less liable to produce biliousness by the following means: the use of simple bitters before meals, of dilute hydrochloric acid with nux vomica after meals, and the promotion of elimination of waste by use of an occasional cathartic and by the drinking of water in large quantity.

Nephritis.—It is a curious fact that in nephritis, as in diabetes, the organic substance which is chiefly at fault, being eliminated in excess, is the one which is most injurious when supplied to the organism in excess as a food, namely albumen or proteid in the one case, sugar in the other. It might be supposed that when proteid waste becomes abnormal, proteid food should be increased to supply the deficiency, yet so complex is the metabolism of such food that the appearance of albumen in the urine is regarded as a sign that proteid food cannot be completely assimilated, and to add it to the dietary is to add to the proteid waste direct and endanger the system through toxæmia. It is my belief, however, that in certain classes of cases this danger may be exaggerated. There seems in all cases to be a decided difference in the potential toxicity of the various proteids; thus, the proteid of red meats is the most deleterious, that of chicken and fish less so, and that of eggs and milk (casein) is still less, or not at all toxic.

As it is desirable to discriminate clinically and pathologically between different varieties of nephritis, so it is advantageous to modify the diet in the several types of this disease. The acute forms of nephritis may here be eliminated from further reference, for it is universally agreed that they demand an exclusive milk diet, or diet of bread or crackers and milk with farinaceous gruels, and the same statement applies to serious acute exacerbations of chronic forms. With regard to the chronic types, it is necessary to be more specific, for I would not be misunderstood in stating that the danger of eating meats in chronic nephritis is considerably overrated, and that there are some cases in which their moderate use is positively demanded. Such cases are (1) those of very long standing, in which the chief symptom is a moderate albuminuria, (2) those in which anæmia and loss of strength and weight are the prominent features, and (3) those in which some associated disease makes the use of animal food desirable.

(1) Cases with moderate albuminuria as the chief symptom. There are many cases in which the presence of alubumin is discovered in routine examination, as for example, for life insurance. If the patient be actively employed in business, or otherwise, and if he feels perfectly well, he is likely to become anæmic and lose strength if meat be withheld entirely. My practice is, in such instances, to permit the use of red meat sparingly, never more than once a day, or every other day. The urine, meanwhile, is systematically examined once in two or three weeks, and any increase in albumin or casts, or marked alteration in quantity or specific gravity, calls for a total abstinence from meat for a fortnight, when if improvement follows, it is again eaten. I have in mind four cases in which this plan has been followed for from five to six years, without any ill effects whatever. Two of these patients are middle-aged men, active in business pursuits, yet taking much exercise. They are allowed to eat bacon, ham, chicken, turkey, game, eggs and fish almost without restriction, and further to eat a small portion of steak, rare roast beef, mutton or a chop every other day. Originally, when their diet was restricted to vegetable foods and milk, they were losing in

strength, but on a more liberal diet, they tell me, they should not be aware of any ailment, but for the frequent urinalysis which is insisted upon. The albumin averages one or two per cent. by volume, and the specific gravity 1,020-1,025. I am confident that if they had been frightened out of all meat eating through so many years, they would be in far worse condition.

In cases of so-called functional or physiological albuminuria, or albuminosuria, a vegetarian or milk diet of ten days or a fortnight usually produces marked improvement in the urine, after which the patients are treated upon the same plan as above outlined.

(2) The second group of cases comprises those patients who through chronic nephritis, and, perhaps, accompanying arteriosclerosis, have become very anæmic and weak. It is not possible always to give such patients meat, and it is certainly undesirable if there be any uræmic symptoms, yet among them are not a few who become prematurely starved. With them periods of vegetarianism or of the diet of infancy may be made to alternate with periods of allowance of proteid foods. I will cite a single illustrative case, among many that I have seen. During the past summer a man sixty years of age was sent to the country, where I was residing, to be under my care. He arrived cyanosed, dyspnœic, and with a feeble, quick, intermittent pulse. His anasarca was so great that his features were almost unrecognizable, and he could wear none of his ordinary clothing, and the scrotum was so large that he could no longer contain it within a nightcap with which he had devised a temporary suspensory bandage. The left pleural cavity was more than half full of fluid. The urine was reduced to 20 ounces per diem, and contained from 5 to 7 per cent. of albumin by volume, many casts, and an average of only 15 grains of urea per diem. In a word, he presented a typical case of chronic parenchymatous nephritis, in the terminal stage, with a dilated heart and marked arteriosclerosis. He had for months past been allowed nothing but "slops" to eat, as he said, and his consumption of water had been reduced so much that he complained bitterly of thirst. He was very anæmic and, naturally, too feeble to walk. He was at once required to drink abundantly of water and vichy, and his diet was increased by addition of eggs, chicken, ham, and later a small portion of red meat once a day. He soon improved; within three weeks his anasarca completely disappeared, his pleuritic transudate was absorbed, his dyspnœa left him, his color and strength improved, and he was able to walk about on a level and take a daily drive. He received, of course, appropriate medicinal treatment also. He is phenomenally tall, —six feet four inches in height—and I am confident that he had been starved by the previous rigor of a diet too long enforced. His urine increased to 70 or 80 ounces per diem, with slight improvement as to the abnormal ingredients. It would be unwise to assert that the more liberal proteid diet caused all the improvement, but I am confident that without it improvement would have been much less in degree and promptness.

In cases such as this, in which there is a complicating endocarditis, and possibly myocardial degeneration, it is a mistake to allow the heart muscle to become still more feeble through inanition from lack of proteid food.

This case recalls the important dietetic question of how much fluid to allow patients with general anasarca, due to any cause. I think the only safe guide is the ratio between the fluid ingested and that which is voided. If the fluid ingested be restricted to, say, 30 ounces per diem, and the quantity of urine falls correspondingly, it is dangerous to withhold fluid longer, for uræmia is liable to develop. In a few cases, temporary restriction of ingested fluid causes reabsorption of the fluid which has passed into the tissues and serous cavities. The osmotic currents are reversed, and the quantity of urine is not diminished, or may possibly be increased. Unfortunately, this favorable result is seldom attained, but the experiment is worth trying in a given case. Should it not succeed, however, within forty-eight hours, *i.e.* should the quantity of urine still further diminish, there is danger that the excretion of urinary solids will be lessened, and possibly the reduction in intrarenal pressure which ensues may increase the accumulation of casts, which plug the renal tubules. It would seem best, therefore, in such cases not to restrict the fluid ingested below 50 or 60 ounces.

In the dietetic treatment of serous accumulations in the pleura, pericardium, or peritoneum, due to other causes than nephritis, the restriction of fluid ingested is often disappointing in its results. It influences reabsorption of transudates upon the whole less than does active catharsis.

(3) Chronic nephritis complicated with other diseases. What treatment should be given the patient whose nephritis demands no meat, yet whose complicating diabetes requires chiefly meat, or whose complicating gastric catarrh or phthisis requires chiefly animal food? The common refuge in all these cases is an exclusive milk diet, as it is the recourse of all those who are unwilling to bestow either time or interest upon dietetic problems. It is astonishing in how many hospitals there is no mean between the full "house diet" for the hearty day laborer with a broken leg, the "half diet," which is more often a mere reduction in quantity than an intelligent modification in quality, and the "milk diet," which is given indiscriminately in all doubtful cases, no matter what perils of biliousness, constipation, and tympanites may ensue. In dealing with nephritis complicated by other serious disease, if the patient be only ill enough, it may be granted that a milk diet may serve him best, but what directions are to be given the patient whose symptoms are as yet slight, and whose expectation of life may be several years? I think the only rational method is to determine which disease threatens the patient more severely, and diet that condition. For example, in a man of fifty years or more, who is not losing weight, complaining of thirst or other diabetic symptoms, a moderate glycosuria may be disregarded in the presence of the greater danger of thickened arteries, very high pulse tension, with moderate albuminuria and casts. Suppose a patient with a mild grade of chronic nephritis to have also a chronic gastritis, or a dilated stomach, which makes the digestion of other than proteid food impossible, it becomes a necessity to largely disregard the nephritis if nutrition and a fair degree of strength are to be sustained.

In all these complicated chronic cases the maintenance of nutrition is the all-important factor, and the effect of any system of diet should be checked by frequent examination of the stools, the urine, the body weight, and the condition of the blood as to anæmia.

The dietetic treatment of advanced cases of endocarditis involves two important factors. First, it is most undesirable to allow the heart muscle to become anæmic through insufficient nourishment, and, secondly, it is undesirable to overload the system with fluid which, when added to the volume of the blood by absorption, overtaxes the work of the heart and induces dilatation, or failure of compensation.

Hence it is that many cases of advanced mitral regurgitation, for example, do much better upon a solid or semi-solid diet than with milk and broths alone, and the diet should comprise a fair proportion of proteid.

Diabetes.—In the dietetic treatment of diabetes, I have come to disregard, almost entirely, the use of the much exploited gluten substitutes for bread. A diabetic patient who took a very intelligent interest in her symptoms and treatment had a large number of these preparations analyzed by expert chemists, both in this country and abroad. The gluten flours, biscuits, etc., were purchased in open market, and it was surprising how unreliable they were, many of them being found to contain a large proportion of starch or sugar, or both. Not only are such preparations uncertain in composition, but they fail to satisfy the craving which the diabetic has for bread, and he is apt to make too free use of them. Bread made from almonds, peanut flour, or the soya bean may be used for short periods of time, but is open to similar objections. For these reasons it is often best to allow the patient one or two very thin slices of thoroughly toasted bread once or twice a day, or a small baked potato. (The potato contains bulk for bulk less carbohydrates than bread by nearly 50 per cent.) A very good plan is to order the potato in the form of "Saratoga chips." In this manner a potato is divided into so large a surface that it seems to last longer and give more satisfaction in the eating; moreover, it is thoroughly cooked in fat. By these means it is possible to know with fair accuracy how much starchy food the patient is able to assimilate, and the quantity can be increased or reduced in accordance with that of glucose in the urine, and if fair equilibrium be established the patient retains weight, strength, and temper much better with a definitely prescribed modicum of starchy food. I think it is the general practice at the present time to order a less rigorous diet than formerly.

In fact, I am inclined to concur with the statement of Robert Hutchison, that "there is no such thing as a 'diabetic diet.'" In other words, a routine dietary for this disease may beget more harm than good, and each case constitutes a separate dietetic study.

In dealing with a well-developed case, it may be best to prescribe total abstinence from starch and, of course, from sugar for a week or two, with the promise that as the glycosuria abates and other symptoms improve, a measured quantity of bread or potato will be again allowed. Otherwise, the patient is apt to rebel against the hardship and help himself indiscriminately.

If the result of the carbohydrate elimination is a total disappearance of glycosuria, the patient can probably still assimilate small quantities of carbohydrate food, and very often the temporary rigid diet will the better enable him to do so by "re-educating the tissues in their power of dealing with sugar," as Hutchison expresses it.

It is a curious fact that certain tribes of man, like the Esquimau, live contentedly without ever knowing the taste of carbohydrate food, yet those accustomed to it, through heredity and life-long habit, find it impossible to do without it, and diabetics often appear to develop an abnormal craving for it.

Mild cases of diabetes will do well upon a diet chiefly proteid, to which a moderate quantity of carbohydrates and fats is added.

In more serious cases the fat should be still further increased, and in those most serious cases of all, in which upon an exclusive test diet of proteids, glucose continues to be excreted in the urine, both proteids and carbohydrates should be reduced below the normal, and the patient should take as much fat as he can possibly assimilate.

Among the fat foods which should enter largely into such a dietary are the following: Butter (¼ lb. per diem, or more), cream diluted with water and drank as a beverage (one pint or more per diem), the fats of Russell's Emulsion, cod-liver oil, olive oil upon salads, sardines, etc.; olives, oily nuts, such as fresh English walnuts, pecan and Brazil nuts; filberts, peanuts, eggs, bacon and fat ham; bone marrow, suet and lard (used freely in cooking); rich cheese, soups enriched with "dripping," and such fat fish as mackerel and salmon; fat meats, such as goose and duck, and the tender fat of corned beef.

Lithæmia.—The condition known as "lithæmia" is much benefited by dietetic treatment. I shall not here discuss the merits of the term, as to whether it be a definite scientific classification, or merely one of the medical scrap-baskets to which it is often convenient to relegate indeterminate diagnoses. I refer to that very common complex of symptoms briefly described as follows: The patient, usually in middle life, after leading an indoor or sedentary life, or after passing through a period of excessive mental strain and anxiety (especially of "worry"), complains of headache, insomnia, vertigo, "nervousness," irritability, and lassitude. Constipation and a furred tongue are observed, the pulse is often small and hard, and the urine, somewhat diminished in quantity, is overloaded with proteid waste. In a word, the balance between the intake of food, its oxidation, and the output of waste is disturbed, and nerve energy, which should be devoted to digestion, is diverted into other channels. Inquiry develops the fact that these patients usually have been eating meats at least twice and, sometimes, three times a day. The treatment is very simple, and the results are most satisfactory. For a week or ten days the patient should turn vegetarian, subsisting upon cereals, fresh green vegetables and fruits, and should drink 60 or 70 ounces of water per diem. Two glasses on rising, on retiring, and before each meal will account for ten tumblerfuls a day (about 65 ounces). Taken into an empty stomach water is promptly absorbed, and is more promptly diuretic than if drank with meals. If the patient, who usually has been taking less than half this quantity of water, needs coaxing to make him drink more, let him take it from a bottle with the label of some noted spa upon it—it makes no difference whence it comes—the water is the need. A less expensive and equally serviceable method is to add an effervescing lithium carbonate tablet to each tumberful—they are perfectly inocuous, and the visible effervescence is a great solace to the lay mind. Directions should be added to spend more time in the open air, to eat slowly, and, when feasible, to lie down and rest for half an hour before the principal meal of the day.

Occasionally this type of patient attempts his own cure by walking five or ten miles a day. He makes a great mistake by adding physical to mental exhaustion, sitting down to a hurried meal, and having no nerve force left to control the physiological functions of digestion and assimilation. Half an hour of vigorous exertion that calls into play a variety of muscles, and especially if it can be made to induce perspiration, is far more beneficial than tramping for miles the pavements of a crowded thoroughfare. A typically lithæmic man recently complained to me that although he walked fifteen miles a day he could not feel well. He was thin, and gaunt, and a nervous wreck. I told him to walk two miles only, and spend the balance of the time in proper rest in relation to his meals, and the effect was magical. As improve-

ment follows the patient may gradually resume the eating of animal food, commencing with eggs and fish. Bacon or ham, liver, and chicken may be added, and finally red meats may be eaten again sparingly once a day.

Arteriosclerosis.—The question whether the lithæmic condition long continued favors the early development of arteriosclerosis is very important, but it cannot be fully entered upon within the limits of this discussion. It is certainly not the sole cause, for there is much arteriosclerosis without lithæmic symptoms, as, for instance, that observed in tertiary syphilis, chronic lead poisoning, hepatic cirrhosis, and chronic nephritis. In my wards in Bellevue Hospital it is comparatively rare to find a man of thirty years or more who does not present an advanced grade of it. The most striking cases are among manual laborers, longshoremen, diggers, and the like, who have done much heavy lifting and drank much liquor of inferior quality, yet they rarely present the symptoms of lithæmia. Nevertheless, it seems reasonable to believe that lithæmia, like any form of autointoxication, may be at least one underlying factor in giving rise to arteriosclerosis, and it is certainly a highly undesirable condition to permit. The detetic treatment of arteriosclerosis should be substantially the same as that of lithæmia, with such common-sense modifications as the patient's social position may dictate. It is futile to tell a day laborer to lie down and rest before or after his meals, but it is possible to keep his elimination of waste products active through catharsis and diuresis, and to regulate his diet, while it may be possible to induce him to drink water occasionally, in lieu of poor beer and worse whiskey.

The quantity of fluid ingested is of importance in arteriosclerosis. In cases complicated with cardiac dilatation or myocarditis, it is desirable to restrict fluids as much as possible in order to lessen the weight of fluid that an enfeebled heart, already working against great arterial resistance, is obliged to pump through the circulation. It may be desirable to restrict it as a means of reducing intra-arterial pressure, thereby lessening the progress of cardiac hypertrophy. In many cases, however, there is a complicating nephritis, and it may be then undesirable to restrict fluid ingestion on account of the danger of renal inadequacy and consequent accumulation of proteid waste in the system. Such accumulation may be one of the factors in producing arteriosclerosis. The problem thus becomes so complicated that each case should be governed by the peculiar combination of conditions which it presents, rather than by set rules.

Gout.—There is no disease amenable to dietetic treatment in regard to which so many "fads" exist as gout. Many a patient who has, or thinks he has, it has received dietetic maxims from scores of friends, and firmly believes that "tomatoes cause gout," that "coffee is bad for gout," that "potatoes are the worst thing he can eat," and "apples are poison," and so on down the entire dietetic gamut, until, if he followed all the gratuitous advice he accumulates, he would go hungry indeed. As a rule, he contents himself with leaving alone a few articles of diet which he does not especially care for, and continues to eat and drink more than he needs, and fails to oxidize his food and eliminate his waste products.

Yet typical gout, the old-fashioned gout of Sydenham, whose personal experience with it has furnished a medical classic, is becoming less and less common in this country. "High living" is by no means the only cause of it, and by far the larger number of cases that I meet with to-day are observed among the laboring classes in the wards of Bellevue Hospital, among whom the consumption of cheap liquors, especially malt liquors, appears to be a more potent etiological factor than the quality of their food.

What one does encounter very often among the well-to-do, on the contrary, is the condition which William Ewart has so admirably dealt with under the title of "Goutiness" ("Gout and Goutiness"). For the acute attack a dietary of milk and vichy with simple gruels best suffices; but for the interim, as prophylaxis, and for the treatment of the lesser and chronic manifestations of gout, it is well to formulate a definite regimen. Of far more importance than the giving up of occasional articles of food in a long dietetic list are the following general principles—first, to reduce the consumption of food as a whole; second, to increase the consumption of water; third, to eliminate entirely sugars and sweets of every kind, as well as alcohol, and, fourthly, to reduce the consumption of red meats to a minimum. Almost any fresh vegetables may be eaten, and cereals also, provided the patient will take them without sugar; eggs, foods made with milk and eggs, fish and white meats (chicken, turkey, etc.), may be allowed. I am accustomed also to permit the eating of many fruits, such as oranges, grape fruit, melons, and the juice of pineapples, which contains a natural digestive ferment. A rigid diet, chiefly vegetarian, may be advised for periods of two or three weeks, but if too long continued it is liable to produce anæmia and weakness, and if the patient will follow proper hygienic rules they may be made the condition of greater latitude at the table.

Of recent years there is a prevalent fad among adults who are gouty or rheumatic for the use of Scotch whiskey. In so far as this form of drink is made to exclude other beverages, especially both sweet and sour wines, it may have advantage, but much of the so-called "Scotch" sold in this country is an artificial and injurious compound of rectified spirit flavored with creosote, which certainly never emanated from Scotland, and it is quite as harmful as any other form of alcohol in this type of disease. It favors dyspepsia, and any food or drink which does so is liable to provoke an attack of gout, less because of its own peculiar composition than because of the autotoxic influences which arise from dyspeptic fermentation.

Rheumatism.—The dietetic treatment of rheumatism is a disappointment. In general it should be similar to that of gout, *i.e.* a milk diet when acute attacks occur, and restriction of meats and sweets in the interim. But dieting as a prophylactic measure is far less satisfactory than in gout, and if rheumatism be regarded as an infection, as it appears to be, there is no apparent reason that it should be prevented by dieting. A child of eleven was brought to me a few days ago who had recovered from her first attack of acute articular rheumatism, which had left a serious mitral lesion. Her mother insisted that I prescribe a prophylactic dietary, and I frankly confessed my inability to do so. The child must still grow, and to check nutrition by a rigid regimen would perhaps result in anæmia and retarded development, without any influence upon a possible future attack beyond making the system less strong to resist it. Careful regulation of the mode of life and attention to general hygiene seemed a much more promising method of treatment.

I have purposely omitted consideration of the dietetic principles governing the treatment of gastric disorders, as this field is so extensive that to engage upon it would lead into too wide an excursion for the present time. I would, however, enter a word

of protest against the common practice of basing dietetic and other treatment of stomachic disease upon the results of a *single* gastric analysis. To this subject I have given much attention. In not a few instances I have known a patient whose gastric juice was reported by the hospital pathologists as containing no hydrochloric acid to eat and digest the full ward diet and grow stout upon it. The common test meal (a roll and glass of water) is by no means so appetizing as always to stimulate gastric secretion; the dread of the passage of the stomach tube may in a sensitive person inhibit or modify normal secretion, and there are other fallacies in the single test depending upon intermittent causes. Dr. William Armstrong has furnished me with a series of most instructive records of analyses of stomach contents made upon patients at my clinic at the Cornell Medical College Dispensary which show in the same person variations in successive days between extreme hyperacidity and total anacidity. Such results force the conclusion that in a given case, as deciding, for instance, between gastric ulcer or carcinoma and simple gastralgia or neurasthenia, at least half a dozen tests should be made before any definite conclusions are justifiable, dietetic or otherwise.

I have endeavored to confine this discussion to a review of a few of the many dietetic problems of disease, selecting those which come within the range of most common experience. I would disclaim any special dietetic system or "fad." No one food is curative in itself. I am not among those who believe in the cure-all system of meat and hot water, of vegetarianism, or of any cast-iron rules of eating, but the subject which I have outlined in this brief review is one which is still strangely neglected in comparison with the other branches of treatment, and is worthy of closer study. Authorities differ much in the details of dietetic regimen, but no more than they do in those of medicinal treatment, yet there are surely fundamental principles which, if properly mastered, should make the art of dietetics of at least equal value with the art of prescription.

RHEUMATISM.*

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THE term "rheumatism" is used to cover a multitude of diagnostic sins. As a dumping-ground for imperfect diagnoses, "rheumatism" vies with "catarrh." Indeed, these two terms have the same derivation, from a word meaning "to flow," and they were used synonymously by the humoral pathologists to cover a large number of diseases, which they attributed to a peccant humor flowing through the body. About the time of Ballonius (1600) "catarrh" became confined to affections of the mucous membranes, and "rheumatism" became limited to diseases characterized by pain about the bones, joints, and other structures than mucous membranes, which are not attributed to any special or specific cause. Later investigations have isolated gout (Sydenham), arthritis (Senator), trichinosis (Zenker), syphilis, tuberculosis, rickets, osteomalacia, and diffuse sarcomatosis and carcinosis.

The term "rheumatism" is now used to cover at least five distinct affections: (1) Acute articular rheumatism, (2) Chronic articular rheumatism, (3) Gonorrhœal rheumatism, (4) Muscular rheumatism, and (5) Nodular rheumatism (arthritis deformans).

This does not include the almost inexhaustible list of so-called "rheumatic" affections. Thus, the older writers described visceral, gastric, cerebral, cardiac, vesical, etc., rheumatism, and some writers still refer to rheumatic pleurisy, peritonitis, etc., and the oculists still report cases of rheumatic iritis, in describing cases not attributed to a specific cause, or the cause of which remains unknown.

At the present time our knowledge of the causes of the rheumatisms is so limited that it is not practicable to formulate anything like a complete classification based upon eitology. It is pretty generally recognized that the rheumatisms are toxic affections, and that in some instances the causal toxic substances are due to bacterial activity. Often the diet seems to play a prominent rôle in etiology. Not infrequently the essayist has apparently produced rheumatic pains in tubercular patients by placing them upon a diet in the treatment of tuberculosis. The apparent influence of the weather is a matter of common observation. Damp weather seems to aggravate rather than produce the disease. Let us consider briefly the various clinical forms of the disease:

Acute Articular Rheumatism.—This is an acute infectious disease, characterized by multiple arthritis. The affection flies from joint to joint. The disease is almost limited to the period of adolescence, fifteen to thirty-five years, and prefers fall and winter, when the weather is most changeable; but no season is exempt. The disease is comparatively rare before four or after forty years. Individuals most frequently affected are those exposed to changes of temperature—drivers, washerwomen, servants, bakers, sailors, and laborers. The disease is frequently ascribed to "taking cold." Acute articular rheumatism often occurs in the course of the infections, especially scarlet fever, dysentery, and puerperal fever (septicæmia). The disease is supposed to be due to some infectious agent, probably closely related to the streptococcus pyogenes. Often the infectious agent seems to gain entrance to the body through the tonsils.

The onset of the symptoms of acute articular rheumatism is often preceded by angina, especially tonsillitis, and malaise. Usually the disease begins suddenly, with a chill and fever, reaching 102° to 105° F. within a day. The pulse is usually above 100. There are more or less malaise and general distress. Affection of the joints is usually observed within the first 24 hours. The disease shows a preference for the medium-sized joints, especially the knee, ankle and wrist; later the shoulder and elbow, and still later the fingers, and the vertebral and streno-clavicular joints. Rarely there may be involvement of the articulations of the maxilla, larynx, pelvis and ribs. The joints become red and swollen. There may be subcutaneous œdema. The disease, as stated, flits from joint to joint, often to return again to a joint previously affected.

There is often profuse sweating, which lowers the temperature for a time. The perspiration is acid in reaction and sour-smelling. Often there are sudamina, especially in the absence of cleanliness. Examination of the blood shows marked anæmia and hyperleucocytosis. The urine is usually reduced in quantity, concentrated, of high color, acid in reaction, and loaded with urates. The chlorides are diminished, and sometimes absent. The saliva may show an acid reaction and an excess of sulphocyanides.

The chief complications of acute articular rheumatism are affections of the heart: pericarditis, en-

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docarditis, and myocarditis. Some cases show hyperpyrexia, the temperature reaching 110° to 118° F. Upon the part of the lungs, there may be pneumonia or pleurisy. Some cases show delirium and coma; less frequently convulsions, rarely meningitis. Often there is chorea. The presence of sudamina has been mentioned. There may be a red miliary rash, scarlatiniform eruptions, purpura, often urticaria, and erythema. Rheumatic nodules are sometimes found upon the tendons and fasciæ.

In the diagnosis of acute articular rheumatism, the affection of medium-sized joints, and especially the flitting from joint to joint, are characteristic points. Atypical cases and cases that do not respond readily to treatment should arouse the suspicion that they are not cases of rheumatism. Acute articular rheumatism must be separated from other forms of rheumatism, involvement of the joints in septicæmia, and gout and sarcoma.

Rheumatism has in itself a mortality of about three per cent. The remote effects are more dangerous. From one-third to one-half of the cases have permanent heart-lesions. Sometimes the heart-lesions entirely disappear.

Chronic Articular Rheumatism.—Exceptionally chronic articular rheumatism may result from acute rheumatism. As a rule, chronic rheumatism comes on insidiously, after the meridian of life, and remains confined to the joint or joints first affected. The disease shows an unwelcome preference for the poor—those most exposed to cold and damp. The affected joint is somewhat swollen, stiff, and painful. The pain is increased during damp weather or upon exposure to cold and damp. The joint may become ankylosed. Chronic rheumatism more frequently affects the larger joints—hip, shoulder, knee, wrist, and ankle. The age of the individual, the number of joints affected, the long duration despite medication, and the absence of sweating, high fever, or complications on the part of the heart, are important points in diagnosis, and serve to differentiate the chronic from acute rheumatism. In chronic articular rheumatism, usually life is not shortened; but the outlook as to cure is not good. The disease is obstinate to treatment.

Gonorrhœal Rheumatism.—Gonorrhœal rheumatism prefers the period of adolescence, the male sex, and the knee-joint. But the disease is not confined to these preferences. Females are not exempt, nor is immunity conferred by passing the meridian of life. There may be involvement of the ankle and joints of the foot. Usually the affection of the joints is observed within three months after the gonorrhœal infection. This period may appear to be exceeded in cases of latent chronic gonorrhœa. The joints are greatly swollen. The specific cause is the gonococcus, or the pyogenic micro-organisms as a secondary infection. The latter are really cases of septic rheumatism. Gonorrhœal rheumatism runs a chronic course, does not show sweating or involvement of the heart, and when finally cured does not return, and usually leaves no deformity.

Muscular Rheumatism.—Myalgia is a better term. Many cases of "muscular rheumatism" are caused by trauma, whereby muscular fibres are ruptured. Other cases are attributed to cold and exposure, which probably act by localizing some infection or poison. At least one infection, that by the trichina spiralis, is now recognized as a separate affection, trichinosis. The only characteristic symptom of myalgia is pain, which may vary in all degrees of severity, and is confined to the voluntary muscles. The pain is usually relieved by pressure.

The chief varieties of muscular rheumatism are: occipitofrontal rheumatism; torticollis, cervical rheumatism, stiff neck; pleurodynia, which is chiefly an intercostal rheumatism, and lumbago, one of the most frequent and painful forms. Affection of the muscles of the head is sometimes known as cephalodynia. The pain may be localized in the muscles about the shoulder and upper part of the back—scapulodynia, omodynia and dorsodynia. Myalgia must be differentiated from the infections, especially smallpox, tuberculosis, syphilis and septicæmia; and aneurism, caries of bone, and tumors must be excluded. The separation from neuralgia is sometimes difficult. The prognosis of muscular rheumatism is usually good.

Nodular rheumatism, arthritis deformans, is a chronic disease of obscure etiology, characterized by progressive, symmetrical deformity of the joints. Many observers believe the disease to be a chronic infection; others that it is of nervous origin. Most cases are found between thirty and fifty years. The great majority of cases occur in women. Heredity sometimes seems to play a rôle. There is a history of gout oftener than of true rheumatism. Exposure to cold, wet, damp, errors in diet, depressing mental emotions, grief or dejection, are prominent factors in causation.

Usually the onset of arthritis deformans is insidious. The affected joints first become stiff, especially in the morning, and tender, and later show characteristic deformity. The joints of the hands and fingers are usually first attacked. The fingers are flexed upon the hand and point toward the ulna; the thumb is not affected. When the disease attacks the foot, the big toe is first involved. The joints become locked, so that in cases of extensive involvement of the joints the patient may become immovably fixed in the position usually occupied. The disease is marked by great deformity. With exacerbations and abatements the disease is progressive. There are impairment of the appetite and digestion, and constipation, largely due to lack of exercise. The patients become irritable and hypochondriacal. The muscles undergo atrophy.

Diagnosis may be difficult only early in the course of the disease. Arthritis deformans prefers the female sex, and is comparatively rare under twenty. Permanent deformities are produced in the joints affected. Fever is usually absent. The disease is polyarticular and shows preference for the small joints. The hands and fingers, but not the thumbs, are usually first involved. Arthritis deformans does not seem to shorten life. The disease may be relieved, but the outlook as to cure is not good.

In conclusion, we may offer a few practical deductions. In the first place, it is important that we study our cases. It is a good practice to follow a scheme something like the following:

First, determine whether the disease is a rheumatism or some simulating affection, such as gout, arthritis, trichinosis, syphilis, tuberculosis, rickets, osteomalacia, or diffuse sarcomatosis or carcinosis.

Second, classify the case among the recognized clinical forms of rheumatism.

Third, if possible, find the cause or causes operative in the individual case, in order that the treatment may be rational.

Fourth, watch the heart.

In illustration, it may be interesting to record a case that came under my observation something over a year ago. The case was readily recognized and classified as one of acute articular rheumatism. Almost all the joints of the body, including even the sutures of the skull and some of the pelvic joints, were or had been affected by the disease. Upon examination of the urine, streptococci were found in

pure culture and in large numbers. The patient showed some improvement under salicylate of sodium. The injection of the streptococci into guinea-pigs did not produce pus.

After the patient had been under observation five months, the use of the antistreptococcus serum was begun. The result was striking. After the injection of the serum, the symptoms abated and there has been no return of the disease after a lapse of something over a year. In that case, the search for the cause was rewarded by finding the streptococcus, and we were able to institute rational treatment, the use of the antistreptococcus serum, which was followed by a cure in a most pronounced case of years' duration. There is always a peculiar satisfaction in solving a difficult case, in succeeding where others have failed.

Nothing could be farther from the purpose of this paper than to indicate that the antistreptococcus serum will cure every case of rheumatism. But we must study our cases, and we will find that many of the cases of rheumatism that are apparently most intractible are amenable to treatment.

In closing, we may review briefly the treatment of the various clinical forms of rheumatism, that has proven of most value in my practice.

In acute articular rheumatism, the patients should wear flannel and sleep between blankets. The best single article of diet is milk, which may be diluted with an alkaline mineral water. Thirst should be relieved by the free ingestion of fluid. Often relief may be obtained by fixing the joint—sometimes simply by wrapping the affected joint in cotton or hot cloths. Various liniments may be used, which are of value chiefly through massage and the application of heat.

For this purpose I have found a good application, and one that has the advantage of comparative cheapness, in an ointment composed of equal parts of salicylate of sodium, lanolin, and lard, to be applied hot twice a day.

It has been recommended that we wrap the affected joints in salicylated cotton, but I have not been able to see that this gives any better results than the use of ordinary cotton or flannel. Pain may sometimes be relieved by the use of a blister or a light application of the Paquelin thermocautery. Salicin, salicylic acid, and the salicylates, for a time regarded as specifics, often suffice to relieve pain and probably neutralize toxins. The oil of wintergreen, m.xx in milk every two hours, often gives good results. The salicylates are probably best given with alkalies, in sufficient dosage to keep the urine alkaline in reaction. Severe pain may demand opium, best in the form of Dover's powder, or morphine. As a rule, one of the coal-tar analgesics will suffice. Excessive fever may be controlled best by bathing. Tumultuous action of the heart may be relieved by the application of the ice-bag. The heart must be watched and any affection of that organ must be properly treated.

Finally, both as a curative and prophylactic measure, the throat should be carefully inspected, and any angina, especially tonsilitis, should receive the proper treatment.

In chronic articular rheumatism, iodine in the form of iodide of potassium or Lugol's solution, is probably the best internal remedy. Next to this I would place the tincture of colchicum, gtt.x ter in die. The salicylates may relieve the acute pain or exacerbations. Much may be accomplished by Swedish movements and the local application of heat and friction. All sorts of liniments are recommended, and are chiefly of value as affording massage and the application of heat. The Scandinavian fishermen introduced the use of cod liver oil as a liniment. The use of this remedy in private practice is not satisfactory, because of its odor. Ointments of potassium iodide and of ichthyol and iodine have been used.

In some cases I have secured rather striking improvement through the intramuscular injection of a solution of iodine in sesame oil. For this purpose I use a 25 per cent. solution, and inject 1.0—4.0 c.c. deep into the gluteal muscles, repeating the injection every second day. It is better to begin with the smaller dose, and make sure that there is no idiosyncrasy against the drug. This method of administration has proven of value in some cases in which the internal use of iodine and the iodides was not satisfactory.

Often relief may be secured by painting the part with pure guaiacol. The chloride of ethyl guaiacol spray is a useful preparation for this purpose. The oil of wintergreen, or menthol in a 25 per cent. solution in alcohol, is also useful as a topical application. The value of hot fomentations to the joints in these cases is well recognized even by the laity.

The local application of heat in rheumatism has long been recognized as a valuable adjunct in treatment. But from the exclusive use of hot air or "baking" in chronic rheumatism, I have observed only two cases that were permanently cured. In both of these cases the rheumatism affected the knees and was of the gonorrhœal form. In many cases of chronic rheumatism, the use of hot air gave very great relief, in some cases amounting to an absolute temporary cessation of symptoms on the part of the joint treated, but only in the two cases mentioned was the cure permanent, and therefore worthy the name of "cure." In some other cases of gonorrhœal rheumatism the use of hot air failed to cure the disease. The explanation for this diversity of results in gonorrhœal rheumatism may be found in the recognized fact that some cases of so-called gonorrhœal rheumatism are due to the presence of the gonococcus in the joint, while in other cases the cause is the ordinary septic organisms that find entrance as a secondary infection. Sometimes the application of blisters gives relief.

Often the best results may be obtained by climatotherapy, especially by prolonged residence in a warm climate, or at least by wintering in such a climate, to avoid cold, damp weather.

Unfortunately, comparatively few patients can afford such treatment. Hydrotherapy is sometimes successful. One of the best remedies for sleeplessness is the hot bath at night. Tonics and general hygienic regulations should not be neglected, especially in the after-treatment.

In gonorrhœal rheumatism, most may be accomplished by the use of heat, electricity, friction and massage. Further treatment is the same as for chronic rheumatism. It is important that chronic gonorrhœa should receive attention, to prevent continuous infection. Not infrequently an appeal to surgery must be made.

In muscular rheumatism, myalgia, the muscle should be put to rest, *e. g.*, by strapping the chest with adhesive plaster in cases of pleurodynia. Heat, friction, and electricity are probably the best remedies. Pain may demand one of the synthetic analeptics, aquapuncture, or morphine. Lumbago is sometimes relieved by aquapuncture. Some cases may be cut short by a hot bath early in the course of the disease. In chronic cases, iodide of potassium is the best single remedy. In all cases a careful search should be made for the cause, which should be removed or properly treated.

In nodular rheumatism, arthritis deformans, the

pain may be relieved by hydrotherapy and massage, which also assist the nutrition of the muscles. Electricity is sometimes of value. Arsenic probably does good as a tonic. Iron may be indicated by anæmia. Iodine best in the tincture, gtt.x, or the iodide of potassium or sodium, given in milk, is worthy a trial. The salicylates or salol may be advantageously used during the acute exacerbations. Massage and the local application of hot air sometimes produce good results. Blisters are of value, especially in chronic cases. Often a change of climate is advisable.

I cannot close without a word as to the diathesis. In tuberculosis, it is pretty generally recognized that individuals with the so-called tuberculous diathesis already have the disease, though it may be quiescent or latent. Indeed, it was the observation of this fact that led me to take up the study of the diatheses, and incidentally to pay attention to rheumatism. Suffice it to say that we shall succeed better if we consider all cases of the rheumatic diathesis as we would rheumatism, and try to study and classify them and find their cause. If this is done, we shall have fewer cases of rheumatism, and we shall not hear so much of the rheumatic diathesis.

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TREATMENT OF PNEUMONIA IN ADULTS.*

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Before discussing the treatment of pneumonia in adults, it might possibly not be amiss to present a few general considerations. First of all, I would draw attention to the fact that in no other disease is there greater contradiction between theory and practice than in pneumonia. Theoretically everyone agrees in regarding pneumonia as an acute general disease with lung phenomena as a local lesion; and yet in practice, the assiduous attention which is paid to the physical examination of the lungs alone, and the whole plan of treatment adopted by so many practitioners, would lead one to believe that they were dealing with a local pulmorary condition.

I would remind you of several important facts to emphasize the general nature of pneumonia. The first is that in nearly all cases bacteriologists have found the diplococcus of pneumonia in the circulating blood, provided a sufficiently large amount of blood was taken for culture. The second fact is that after the crisis the lung is just as consolidated and the alveoli contain just as much fibrin, cellular elements and diplococci as they did a few hours before the advent of the favorable turn.

The corollary of the above is that in pneumonia we have a general disease, the tendency of which is to recovery after the lapse of sufficient time for the body to produce its own antitoxin. A case that was recently under my care may be cited to emphasize this. A robust girl of twelve years was ill for about ten days with fever and a group of symptoms which suggested pneumonia as the only explanation. Careful examinations of the lungs yielded only evidences of bronchitis. On examining the child on the third day after the temperature had remained normal, to determine whether she should be allowed to leave her bed, I was very much surprised to find the signs of fully developed pneumonia at the left base, reaching from the spine to the anterior axillary line. For the three following days these signs persisted without any rise of temperature or any change in the pulse condition. On the fourth day redux râles appeared and the lungs resolved in the ordinary fashion. It might be said that this was a central pneumonia which had "worked" toward the surface, to which I can only assent. The case, however, shows most beautifully the absolute lack of relation of local physical signs to the general condition which is so often manifest in pneumonia. How many patients have succumbed with very small patches of pneumonia; how many have survived enormous consolidations! In other words, it is not the quantity of consolidation, but the quality of the infection, that is of importance.

Another important fact which must be borne in mind, especially now, is that pneumonia has become an entirely different disease since the advent of the grippe. It is true that we still see classical cases of acute lobar pneumonia; yet the prevailing form of the disease in recent years and in the epidemic that is prevailing now is one the clinical features of which are not those of acute lobar pneumonia, but rather a mixture of catarrhal and fibrinous pneumonia. The amount of consolidation bears no relation to the severity of the infection. Complete involvement of lobes is less frequently found than the successive involvement of portions of lobes, and the clinical course is marked by irregularities which are due to the infection of fresh areas, or by pseudo-crises which accompany the resolution of only portions of the areas involved.

With reference to the mortality, we have unfortunately been deluding ourselves and have regarded pneumonia as a less formidable foe than it really is. The worship of statistics and the misleading reports of physicians which have been based upon too limited a number of cases are largely responsible for this.

We are fond of quoting the statistics of Townsend and Coolidge,[1] and I will admit that I myself did the same in a former paper on the treatment of lobar pneumonia.[2] These give the record of 1,000 cases consecutively treated for this disease at the Massachusetts General Hospital from 1822 to 1889. The mortality of these cases was reckoned according to decades and presented on a chart. The result was almost a straight line, the rate varying between nine and fourteen per cent., showing that in spite of all the changes in treatment ranging from the bleeding, purging, salivation and blistering of 1822 to the symptomatic treatment of our own time, the death-rate at this hospital was practically unchanged.

These figures are certainly instructive, but they lose their force when we recall that they do not include patients "who were over fifty years of age, were intemperate, delicate or had complications."

Of far greater value are the statistics collected by Wells[3] of Chicago, which show a mortality rate of 18.1 per cent. for pneumonia of all ages as based upon the collection of 233,730 cases. (Since this paper was read, Wells has presented the mortality rate of a much greater number of cases, 465,020, the death rate of which was 20.1 per cent. for all ages.[4])

Many text-books have fostered this error as to the relatively low mortality of pneumonia. It is therefore well to quote the mortality rate given in Fraenkel's recently issued "Diseases of the Lung,"[5] a book which is destined to be a classic. For large cities the rate is between 20 and 35 per cent. In the patients under his care at the Urban Hospital in Berlin the rate varied in different years from 16.6 to 30 per cent., the average for adults being 22.6 per cent.

As regards mortality rate at the bedside, we are concerned, not with the question of average mor-

*Read at a meeting of the Bronx Medical Society, March, 1904.

tality, but the individual chances of the case under treatment, in estimating the prognosis of which we should not be misled by delusive statistics, but should bear in mind the individual characteristics of the patient, the method of his infection, the length of time which elapsed before he went to bed, his surroundings, the methods of treatment and nursing, his general constitution and the presence of complications. These are our guides in estimating the prognosis. Let text-books and insurance actuaries use statistics.

In discussing the treatment of pneumonia this evening, I propose to restrict myself to the disease as it occurs in adults and a consideration of the general indications of the treatment, rather than any attempt to include everything. What may we expect from a specific treatment for the disease? The answer to this question is to my mind a very simple one—nothing. What has been accomplished is so contradictory, is based upon so small a number of cases, the bacteriochemical principles are so ill understood, that the future holds little in store for us in this direction. All pneumococci are not the same. That there are variations in them bacteriologists are realizing more and more. Morphologically all diplococci may appear to be alike, or may present only minor variations, but as regards infectiousness and virulence the greatest degrees of difference have been observed. It is from these variations in virulence and the cultural difficulties which are encountered that the failure of any specific plan of treatment may be predicated. The possibilities in this direction become less and less as the difficulties and complexities of this problem are gradually becoming more and more evident. The obstacles which must be surmounted are very similar to those encountered in the manufacture of streptococcus antitoxin. It must also be borne in mind that all pneumonias are not caused by the pneumococcus, but that several other microorganisms may be present as mixed infections, of which we must never forget the important relations of the influenza bacillus in the disease as we now encounter it.

Somewhat allied to the subject of antitoxin is the use of creosote and guaiacol, which for the past few years have been so extensively tried for their specific effects in the treatment of pneumonia. While most of us are agreed that neither of these drugs can in any way be considered a specific, yet no harm follows their use, provided, of course, the kidneys do not offer any contraindication. Good results can be obtained in cases where grip exists as a complication and where there is a marked bronchitis.

In the meantime, how shall we treat our patients with pneumonia? Let it be premised that not every case demands treatment; patients presenting the normal picture of the disease, with a not too severe infection and a proper reaction by the system to the infection require nothing more than observation and proper nursing. When treatment is instituted, let it be remembered that we are not treating the pneumonia, but a patient with pneumonia. Also, that some will die in spite of all treatment, and that not a few perish as the result of it. The difference between the cases seen in the hospital ward and in private practice is most striking. It would aid many a general practitioner to see patient after patient, some with large areas of consolidation, progress nicely on very simple treatment in the wards. To many the diagnosis, pneumonia, *eo ipso*, seems to demand the immediate exhibition of heroic remedies. Meddlesome relations of the patient are bad; meddlesome nurses are worse; but in pneumonia the worst feature of all is the meddlesome doctor. When treatment is required it must be directed against the toxæmia. Its object is five-fold: (1) To maintain life; (2) to support the heart; (3) to control undue fever; (4) to relieve suffering; (5) to control complications.

(1) *To Maintain Life.*—This includes the nursing and diet which are too familiar to require any details. I wish, however, to emphasize the importance of watching the stomach, for not enough attention is paid to ascertain whether it be unduly distended with gas or partly digested food; even liquids may be improperly disposed of by the stomach. Routine percussion of the abdomen is far more important than routine examination of the lungs. The heart must be spared in every way; let its burdens not be unnecessarily increased by upward displacement from the unduly distended stomach and intestines. All articles of diet which may produce flatulence must be rigidly excluded, and the milk must be adapted to the patient both in quantity and in preparation. Do not overfeed these patients; the disease is a short one and the patient's surplus fat and tissues will supply any deficit in the diet. Spare the stomach from undue medication as much as possible and use the hypodermic method in preference. Give water freely, either cold or hot, for it allays the thirst, reduces the fever and increases the elimination of toxins by promoting free diuresis. For the latter purpose the combination of a light Moselle wine with an alkaline mineral water is exceedingly useful. The use of carbonated beverages in pneumonia is a danger which deserves attention. In the first place, it is impossible to drink large quantities of a charged water, and, after all, the object of the drinking of water is free flushing. Secondly, the patient already suffers from an excess of carbonic acid gas in the system—why needlessly increase it? Hence all charged waters, koumiss and champagne are to be avoided, the only exception being the occasional use of very small quantities of champagne where the condition of the stomach prevents the use of other means.

(2) *To Support the Heart.*—This very important indication can best be understood by considering that the dangers to the heart are fivefold: to (1) the medullary center, (2) the heart muscle, (3) the right ventricle, (4) the left ventricle, and (5) the vasomotor system. (1) Damage to the medullary center will result from the toxæmia and possibly the fever. (2) The effects upon the heart muscle are now very well understood since so much work has been done by Krehl, Romberg and others in showing the insular areas of infiltration and degeneration about the smaller vessels which are so characteristic of acute infections. Supplementing this are, of course, the well known effects of the hyperpyrexia. (3) The right ventricle: That the work of the right ventricle is very materially increased by the obstruction to the pulmonary circulation which is offered by the hepatized area of the lungs is well known. But Fraenkel has called attention to the fact that dilatation of the right heart has not been demonstrated in all severe cases and urges that we must look for more than local changes in the pulmonary circulation to explain this part of the matter. It is to be noted that the danger to the right heart is more serious in all cases where its work has already been materially increased by emphysema and old mitral lesions. (4) The left ventricle: The left ventricle plays a less important rôle and usually suffers as a result of the textural changes above noted. The gravity of an existing arteriosclerosis and old renal disease, which have already altered the left ventricle, becomes self-evident; hence the ominous prognostic significance of those

cases where the specific gravity of the urine remains low throughout the disease. (5) The vasomotor system: The work of Romberg and the careful measurement of blood pressure during the course of the disease have not alone cleared up many dark places, but have materially modified our therapeutic indications. The blood pressure is not high, as is usually supposed; on the contrary, it is diminished in the majority of cases, the lowest pressure being observed at the time of the crisis or shortly after. Increase of pressure is relatively infrequent and is only noted in the so-called sthenic cases. The rationale of the digititis treatment and of the ergot plan of treatment and all other methods by means of which smooth muscular fiber may be contracted is self-evident, and the fallacy of the use of nitroglycerin, which has been so indiscriminately employed, especially in this country, must be apparent. It is important to note also that this vasomotor paralysis is not confined to the blood vessels alone, but involves the intestines also, as the atonic distension of the abdomen, which constitutes so distressing a feature of severe cases, only too clearly attests.

The drugs which best meet the indications for the support of the heart are strychnine, caffeine, alcohol, camphor, and ergot. The caffeine is best given in solutions of the benzoate or salicylate; the ergot, according to the method which was described by Livingston, and later on employed by Lambert—aseptic ergot or the solution of the solid extract used hypodermically. If the results are not promptly obtained all the drugs should be administered hypodermically. Nor should we hesitate to use them freely, for the action of each is clean cut, and any overdosage can be recognized very readily. My own experience has convinced me of the value of very large doses of strychnine in tiding a heart through the crisis. For the same purpose we may also resort to the hypodermic injection of camphor in sweet almond oil. Many observers also report good results from hypodermoclysis and enemata of salt water. Elsner has recently called attention to the value of adrenalin for the same purpose (15 minims of the 1:1000 solution by mouth or subcutaneously). A struggling heart is often aided by an ice-bag over the præcordium. I would direct particular attention to the newer views as to the importance of the vasomotor paralysis since the rationale of the ergot plan of treatment finds much support. I might also again emphasize the need of greater caution in the use of nitroglycerin, which has been very indiscriminately used, especially in this country.

As to the use of digitalis in pneumonia, the extreme views of Petresco have not found favor. In answer to the low mortality of 2.06 per cent. reported by him and his school in 825 cases, most of these cases were in soldiers, his statistics being those of the military hospital at Bucharest, I may cite the extremely low mortality of 3.6 per cent. in 40,000 German soldiers. Fränkel's[6] mortality rate of 85,000 cases in the German army between 1878 and 1898 ranged between 3.1 and 4.3 per cent. Petresco has certainly demonstrated that the danger from these colossal doses of digitalis (12 grams or 180 grains daily) is small, but according to Reiner[7] they must not be continued more than two days at the utmost.

The only clinician of note who has recently advocated large doses of digitalis is A. Fränkel, who recommends the use of from 3 to 4 grams daily on three successive days, provided we see the patient during the first three days of the illness and provided there is no organic heart, vascular (arteriosclerosis) or renal disease.

Large doses of digitalis toward the end of the disease exercise an entirely different effect upon the heart than does its use in the early stages, since even the use of one gram may cause serious slowing and irregularity of the pulse in the latter period. Fränkel also avoids its use in patients over fifty years of age and in alcoholics. He never uses smaller doses than three grams a day because the shortness of the disease demands the speediest possible methods of administration. He has never exceeded the total dose of 12 grams. Fränkel claims to have observed shortening of the febrile period, but he has never observed any reduction of blood pressure. Unpleasant after-effects were seldom noted. It may be of interest to note that Leyden in his recently published views[8] does not share these opinions.

Another explanation of the tolerance of large doses may be found in the experiments of Brunton and Cash,[9] which clearly show that the action of digitalis is lessened in febrile conditions.

A safe guide for the use of this drug is that given by Von Juergensen:[10] "Digitalis is indicated as soon as the pulse rises in frequency and at the same time becomes irregular without any demonstrable cause in patients whose hearts were weak before the attack, or in patients whose hearts have weakened during the course of the disease. The fulness or emptiness of the pulse is important in determining this; if it is still full we can afford to wait a little, especially toward the end of the disease, when not infrequently one of the indications of an impending favorable turn is slight irregularity of the pulse."

There are also other indications for the relief of the struggling heart to be found in the lung itself. I refer to the treatment of marked congestion or edema in the unaffected areas. Timely action demands timely recognition of this complication and bubbling râles and the first sign of edema are danger signals of the gravest significance. Repeated dry cupping is a powerful method, if properly done. It is surprising how much dry cupping can be done over the back if only a little care is taken in the application of the cups. The hypodermic injection of atropine (1-100 of a grain) is of signal value, not alone in lessening the outpouring of secretion, but also in stimulating the respiratory center.

Venesection may also be considered in this connection. In the case of young, robust adults, venesection and the withdrawal of 12 to 15 ounces of blood is often followed by marked relief of the distended and over-active right heart, and in this class of cases I have no hesitancy in using it. In elderly or feeble persons, however, or in those trying cases of grippe-pneumonia of irregular course, where the fresh inflammation of new areas may be marked by edema, or where a pseudo-crisis may occur with the resolution of a small patch, venesection is not indicated.

Before leaving this topic a bit of advice will not be out of place, and that is to leave with the nurse a written list of directions as to what course is to be followed by her should heart failure, crisis or untoward complications occur during the absence of the physician. Such scheduled directions add not a little to the nurse's usefulness and the peace of mind of the physician during his absence from the case.

(3). *To Control Hyperpyrexia.*—In considering this indication it should always be borne in mind that temperatures ranging up to 104° F. are as normal a feature of pneumonia as dyspnœa and rusty sputum. The view which is now generally accepted is that fevers up to this point are the normal reaction of the organism to the pneumococci. The fever and the associated leucocytosis may have important relations in nature's defense against the disease;

hence, as in all symptoms of pneumonia, we must individualize, for in some patients a fever of 102° F. may inflict more damage than 105° may in others. The thermometer, then, is not the only gauge as to the question of the fever being unduly high; the true guide is the patient's general condition.

The use of large, flat ice-bags is a convenient method for the reduction of undue fever, two or three being applied to the affected area. They are usually well borne and may add to the patient's comfort. The ice-bag, however, is no specific against pneumonia, as Mays would have us believe. I would warn against the possibility of intercostal neuritis from carelessness in the use of ice-bags, which I have noted in two cases.

Cold baths are absolutely contraindicated. Cold sponging and cold packs are often useful, but very cold packs are to be used with caution, since the shock of carelessly applied cold may inflict damage upon the heart. Properly applied moist compresses which envelope the entire chest, and are changed every hour or two without disturbing the patient too much are of use; their antipyretic effect is not very marked, but they often comfort the patient, and they, at least, constitute a local treatment which does no harm.

Concerning the use of quinine I would state that the hopes of Aufrecht, that the systematic hypodermic use of quinine would act specifically, have not been realized. I have used quinine where the leucocyte count was low in the hope of stimulating leucocytosis.

As regards the use of the coal-tar preparations a more rational view is now taken than formerly. First over-used and then under-used, it is now generally conceded that the rational use of small doses of any of the coal-tar products may add not a little to the patient's comfort in the reduction of undue fevers and in a general soothing effect.

In all antipyretic efforts it must be remembered that the bad effects upon the heart are not due to the temperature alone, but to the effect of the toxins upon the myocardium and vasomotor system, and that when we reduce the temperature we do not influence the latter at all.

(4) *To Relieve Suffering.*—The most striking indication under this head is the relief of the pleuritic stitches and the distressing cough which wear out the patients and rob them of their much needed sleep. These are best relieved by the hypodermic injection of small doses of morphine (gr. 1-10 to 1-8) or heroine hydrochlorate (gr. 1-8 to 1-6) which may be resorted to as soon as possible without unnecessarily weakening the patient by temporizing with other means. The Paquelin cautery often acts magically in quieting pleuritic irritation; no one who has ever used it will temporize with sinapisms, blisters, leeches, poultices, etc. The ice-bag is valuable, but does not act as promptly as either of the above. Large moist compresses, changed every two hours, may also be used.

The undue distention of the stomach and bowels in some of the cases during the past few years has been a most distressing complication. This is not necessarily due to any error in diet or any fermentation in the stomach or intestines, but may be the manifestation of a severe general toxæmia showing itself in a vasomotor paralysis or atonic distention of the gut. An interesting point may be mentioned concerning the treatment of this distention, that while it is of enormous value to give calomel or other cathartics early in the disease, yet the temptation to use calomel or cathartics of any kind in the later stages of the disease to reduce this undue distention must be carefully considered. Personally I am afraid to use them, as I recall two melancholy cases in which their use was followed by most disastrous results. Lambert has strongly recommended hypodermic injections of large doses of ergot for the control of this distention, and although I have thus far had no personal experience with this method of treatment, yet I believe its recommendation most valuable.

The perusal of the nurse's notes will include a most careful study of the temperature variations; the rate of the pulse and respiration are carefully noted; possibly a summary of the quantity of food which has been taken and the urine passed may be included; but how few are the physicians who inquire about the number of hours of sleep! A moment's reflection must make it evident to every one that the securing of sleep is to this class of patients not alone desirable, but imperative. No class of patients is more over-worked and no system cries for sleep more urgently than does that of the patient with pneumonia. W. G. Thompson has happily called attention to the advisability of procuring sleep, not alone at night, but in the daytime. All administration of drugs, of food, of hydrotherapy should be done at stated times; during the intervals between them rest or sleep should be procured. At all events the attempt should be made to secure an uninterrupted sleep of some hours several times during the day. Leyden and others have no hesitancy in using small doses of morphine hypodermically (Gr. 1-10 to 1-8) for this purpose. Personally, I prefer to produce sleep by less powerful means, and I have not been disappointed in the judicious selection and variation of the newer hypnotics. With them, I have found chloral, the bromides, and even morphine unnecessary in the vast majority of cases. Should these drugs fail, I would not hesitate to resort to the hypodermic use of even morphine to secure the much needed sleep.

Fränkel forcibly states that the securing of sleep has a favorable influence upon the course of the disease, and may even avert heart failure. He also emphasizes the necessity of sleep in the delirious patient whose very delirium is an indication for the need of such sleep. Sleep is also procured by efforts directed to meet the third indication—the relief of suffering.

Of the value of oxygen in the relief of dyspnœa and cyanosis it is difficult to give a final judgment. The opinion is slowly but surely gaining ground among the great clinicians that oxygen has been much overrated in the treatment of pneumonia. Theoretically its employment seems to be so well founded, its application is so simple and the apparent relief so striking that the universality of its use is not at all strange. But does it really do any good in those cases in which we want its effects most? The primary effects soon wear off in serious cases and the dyspnœa and cyanosis increase in spite of its free use. Let the enthusiast for oxygen remember that the lung is just as consolidated immediately after the crisis as it was before it, and yet what a change there is in the patient's breathing. This proves that dyspnœa is not entirely mechanical in origin, as is generally thought, but is mainly the result of the pneumococcus toxemia. In tiding the patient over sudden attacks of dyspnœa and cyanosis oxygen is most useful, and there is no objection to its brief use at short, regular intervals after the dyspnœa has become more or less pronounced.

(5) *To Control Complications.*—Of these the most important are pleurisy with diffusion, empyema, pericarditis and endocarditis. The treatment of these conditions in pneumonia differs in no wise

from that ordinarily pursued, and hence requires no special discussion.

The recognition of effusions in pneumonia is often difficult, since the flat note and other signs which would indicate the presence of an effusion may be due to the presence of very thick layers of fibrin. To determine this point I have aspirated a large number of these cases and have been surprised at the relative frequency of this as a cause of undue flatness at the base of the lung. It may be added that effusions into the chest, either serous or purulent, ought to be removed as soon as the amount of fluid becomes large enough to seriously interfere with the lung. In delayed resolution one should never fail to look for an empyema.

In conclusion, I would once more warn against routine or scheduled plans of treatment. The successful outcome of a case of pneumonia is sometimes a matter of luck, but more often a matter of judgment. In few diseases are the therapeutic indications more sharply outlined; in no other is the practice of therapeutics so great an art.

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A QUESTION IN GALL-BLADDER SURGERY.*

CHOLECYSTOTOMY OR CHOLECYSTECTOMY?

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It is worthy of comment that most of the advances of surgery in recent years have been made so rapidly that they have often exceeded the bounds of good judgment before finally settling down to a recognized moderate and sane procedure beyond which good surgeons do not usually go. A few years ago the ablation of ovaries was so common that a woman was hardly safe within sight of a surgeon; to-day, conservative surgery removes but few, and restores many to normal function. It was demonstrated that the appendix could be safely removed when diseased, and in condition which previously had been fatal. Soon we heard men advocating operation for every intestinal colic, and advising the removal of the appendix from babies at birth, to be sure that they should never have appendicitis. But to-day the boundaries between when to operate and when not are more nearly set, between which there is ample room for the exercise of good judgment and special knowledge of the conditions.

This is largely due to excessive zeal of some earnest men, striving to arrive quickly at the end of the subject, and in some measure, by the endeavor of some men to outdo everybody else in the field, regardless of what the ultimate consensus of opinion may be.

In surgery, as well as in political life, there is usually an energetic constructive party whose efforts are always in advance; there is also an opposition party, who are never leaders; always followers, and follow only after a period of intense opposition. They can not create or advance alone, and are loth to acknowledge the creations or advances of others.

It is not my desire to be classed with the opposition party, but most decidedly with the progressive element. However, a degree of conservatism is necessary in any party, surgical or political, if it is to predominate and remain a leader.

My paper to-day is not so much a contribution to surgical literature, but rather a protest against a procedure which is just now enjoying the approval of many progressive surgeons, namely, the indiscriminate removal of the gall-bladder, cholecystectomy, as if it were an unnecessary appendage similar to the vermiform appendix, and useful only to afford lodgment for stones.

It is now the custom of many surgeons, and at a recent meeting of the New York Surgical Society it was endorsed by a majority present as good judgment, to remove the gall-bladder in all cases in which an operation is necessary for stones, or for any other morbid condition, no matter what the state of the viscus might be. The gentleman presenting the subject claimed for the procedure an equal degree of safety with other primary operations, naming appendicectomy; greater safety than secondary operations on the gall-bladder; greater surety in preventing reformation of stones, and a greater degree of neatness and thoroughness of operation.

Admitting that this is not only a justifiable but advisable procedure in all cases in which the gall-bladder is from any source atrophied or diseased beyond repair, it is not in my opinion justifiable when the viscus can be preserved and restored to its normal function, and I maintain here that it has a well-defined function which can not with impunity be ignored or dispensed with. The results of ruthless excision of the gall-bladder are not evident immediately after operation, and will be proved only by a gradual development of evils beginning at this time.

Bile is formed in the liver without interruption, while it is allowed to flow into the intestine only after food has been taken into the stomach. The common duct is closed at its distal or intestinal end by a sphincter of muscle fibers, and the presence of food in the stomach acts as a stimulus, which causes peristalsis of the gall-bladder and ducts with relaxation of the sphincter. The surplus of bile formed in the liver is stored in the bladder until needed, and thrown into the duodenum in large quantities during the process of digestion, so we see that the bile-ducts do not act simply as a drain from the liver; or if they do, it is a necessary provision that there should not be a free communication at all times between the ducts and the intestine, the sphincter being opened only when the intestinal peristalsis is actively passing things along. Perhaps here is a provision against infection from stagnant gases contained in a quiet intestine.

Unfortunately the viscus has a bad habit of accumulating deposits of bile salts known as stones. Usually they form in the gall-bladder, which is natural, as the bladder is dependent, the fundus being the lowest portion when a person is standing, and the bile is in a condition of stasis. However, they may form in any part of the biliary tract, even in the inner recesses of the liver.

Without going exhaustively into the theories as to the causes of cholelithiasis, we will accept the consensus of opinion that stones are largely due to a catarrhal condition of the biliary passages, caused by the invasion of bacteria from the intestinal tract;

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mainly *Bacterium coli* and frequently the typhoid bacillus. Their formation is favored by anything which contributes to stasis of the biliary flow.

We will assume that we have the stones for the present all in the gall-bladder, and their removal is indicated, or assume that the gall-bladder is the seat of an acute infection, cholecystitis requiring opening. The usual operation is cholecystotomy; the bladder is opened, emptied, and, if the cystic duct is patent, is stitched into the abdominal wound, where it is allowed to drain and cleanse itself, after which it returns to its natural function as a reservoir for bile.

But instead of this, suppose we do a cholecystectomy, simply ligate the cystic duct with its arteries, and remove the gall-bladder entirely, which is just as easy—in fact, I think a quicker and an easier procedure than stitching it into the wound. Our reasons for this are to prevent a similar occurrence in the future, to avoid the necessity of a fistula, and to accomplish a neater operation, reasons which certainly sound plausible. However, when you take away the gall-bladder you take away the safety valve of the liver. Bile to the amount of about 15 to 18 ounces, and frequently more, is formed in the liver during the day, and, as I have said, is only discharged into the intestine during the period of digestion, though the production is uninterrupted. Now if there is no storage place for the surplus produced between meals, it must be retained in the common and hepatic ducts until their capacity is reached, then retained in the liver spaces until the pressure is reversed, and a certain amount of absorption takes place into the general circulation. This also produces a form of hepatitis similar to cirrhosis. In course of time the gall-ducts become dilated to a considerable extent so as to contain a large amount of bile. Then another danger intervenes. This large still column of bile is, through stasis, more liable to infection, and on account also of the stasis the infection is carried upward into the liver. It has been shown by experiment that bile in the ampulla is always infected from the intestine, and if the common duct be tied higher up the bile contained in the portion below the ligature will also become infected, at least the walls of the duct will become infected. The bile does not act as an antiseptic, as has been stated, at least only mildly so, and it is the moving current which keeps the ducts healthy, by carrying away the dead epithelium from their walls, the surplus bile being regurgitated into the gall-bladder, where it is stored, until at the proper time it is thrown out with considerable force.

The strength of the gall-blader is not generally appreciated. A sound bladder removed and filled with air while fresh will sustain the weight of a heavy man without rupture. Many a smoker will tell you that a tobacco pouch made from a beef gall will outwear anything else of its kind.

Now suppose the common duct is occluded by a stone washed down into it, which may have formed in the liver itself or in the ducts; the gall-bladder then acts as a receptacle into which the bile is forced, and it is often found enormously distended, and while there is necessarily considerable back pressure into the liver cells, it is lessened for a space of time until the full limit of the distended bladder is reached, and while a patient soon shows signs of jaundice, he is not at once overwhelmed with sepsis from absorption. Of course, this comes sooner or later, but some time is gained during which the peristaltic endeavors of the duct, aided by the contraction of the bladder, may serve to dislodge the stone, by pressing it into the intestine, after which recovery is speedy, even when jaundice is very marked. The same rapid recovery takes place when the stone is removed by the surgeon.

However, when there is no gall-bladder into which the bile may for a time be forced, the bile is at once backed up into the liver, causing an acute hepatitis which interferes with its normal functions, and a double process begins at once. The organ ceases to remove the bile from the blood, or does so only in part; that removed begins immediately to be reabsorbed, and the patient is rapidly overwhelmed with sepsis.

The assistance of the normal contractile force of the gall-bladder in expelling the stone is also absent. When these patients, after becoming thoroughly poisoned, are relieved by removal of the obstruction, they do not recover as surely and rapidly as those in whom the main pressure was received by the gall-bladder; the liver is not able to recover from its violently congested condition and the patient dies from that cause.

I have observed a number of cases in which at the time of operation the patient was markedly jaundiced, and the gall-bladder enormously distended, which, however, made rapid recovery after removal of the obstruction; and recently I encountered one of the other class, which served to crystallize my opinions in regard to the advisability of having a gall-bladder if possible, and retaining it as long as it remains, or can be made, capable of its normal function.

Patient, male, 52 years, had complained at times for past year of an uncomfortable feeling about the region of the stomach near the pylorus. Usually this pain or bad feeling followed soon after eating, but was not closely associated with his meals, and would disappear for weeks, then recur. At no time was it really a pain, and there was no history of colic. I examined him carefully twice, and concluded it was some error in digestion, and treatment with that in view seemed always to relieve him. However, he came to my office a short time ago on a Saturday, complaining of more marked distress in the same region, not a colic, but more of a feeling of weight. On examination I could make out only a marked rigidity of the right rectus muscle over the pylorus. He said he had not felt well for several weeks—in fact, all summer. I asked him to return the following day, an hour after eating a prescribed test meal, for examination of the stomach contents. He did not return, and I did not see him until Wednesday evening, when I found him at home suffering from marked biliary colic which had persisted during the day. He looked haggard and was jaundiced to some extent. I sent him to the hospital with instructions for relief of pain, etc.

The following day he was markedly jaundiced, the skin being deeply stained, the tongue was dry, and his whole appearance bad; pain had ceased. Consent for operation could not be obtained, though it was urged. The following day, Friday, his appearance was worse, and consent for operation was obtained. Exploration through the usual opening disclosed a liver distended in all directions, the gall-bladder atrophied to size of one joint of a man's thumb, containing neither bile nor stone. In the common duct very near to the gut, just above the ampulla, I found a small stone, the cause of the obstruction. I could not dislodge it, though I tried hard to push it through into the intestine. Finally, I crushed it and then worked it through into the bowel.

Hemorrhage was profuse from everywhere, a continual oozing, which made careful manipulation dif-

ficult because I could not see well, and in crushing the stone I opened the duct. A small amount of very thick viscid matter appeared on the wipe, but there was no free escape of fluid, and I thought at the time only small damage was done to the duct wall. No other stones could be felt between that point and the liver.

The hemorrhage was so persistent that I was forced to pack some gauze into the bottom of the wound. The incision was then closed, excepting the space required for gauze. The patient did not improve after the operation, and died during the night of the following day.

Examination after death revealed only a small amount of bile in the ducts and no evidence of any quantity having passed into the duodenum, though the duct was patent. Had this man been possessed of a competent gall-bladder the back pressure would have been in a considerable measure mitigated, his consequent hepatitis at least postponed, and his chance of recovery after operation materially increased. Of course he could not have waited forever, but a little aid would have proven of great service.

If the cystic duct is closed permanently the bladder is of course useless, and should be removed. In one case I left it, hoping it might finally reopen, but a troublesome fistula resulted through which discharged a quantity of glary mucus, and was only stopped after repeated injections of a solution of corrosive sublimate in caustic strength.

The same indications exist when the gall-bladder has become permanently diseased from any cause, but there is no justifiable reason for removing every gall-bladder which has become infected, or has afforded lodgment to stones. The mere fact that a man may live without it is not sufficient. We are not at all sure that his liver functions are not materially embarrassed, which in the end will aid in the downfall of his general health. Nature may offer compensation in some way, but why should it be necessary?

I doubt if the number of recurrences of stones in the gall-bladder after cystotomy is greater than the number of cases of stone lodged in the common duct after the bladder has been removed, and the danger of reinfection is less.

It is a fact that infection of the gall-bladder a second time is an exception to the prevailing rule, as is also a second accumulation of stones; whether an immunity is developed, or an insufficient number of years have elapsed to prove the frequency of second accumulations, I cannot say.

Cholecystectomy is still too young for us to predict what will follow, but I believe stones will form more readily in a distended common duct where the gall-bladder is absent, and that infection leading direct to the liver, will have easier access, which, with the evil of the liver having to store a quantity of its own production within itself for variable lengths of time, will ultimately lead to the downfall of the patients' health.

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Milk Baths.—A dairymaid has been arrested at Cologne for bathing herself daily in the milk before it was sold, because she had read that milk baths were good for the complexion.

A SERIES OF FOREIGN BODIES IN THE VERMIFORM APPENDIX MET WITH IN 1,600 NECROPSIES.

By LOUIS J. MITCHELL, M.D.,
CHICAGO.

The "foreign bodies" referred to here are those properly so-called, not fecal concretions, and they were found during the writer's service as Coroner's Physician.

The points of interest concerning them are as follows:

Grape Seeds.

1. Male, 43 years, September 20, appendix 3½ inches long, below cecum, hanging down, contained 3 grape seeds and semisolid feces. Cause of death, fracture of skull.

2. Male, 42 years, September 30, appendix 4½ inches long, pointing to left, contained 1 grape seed. Cause of death, pulmonary tuberculosis.

3. Male, 33 years, November 7, appendix 2 inches long, very wide (3-8 inch) retrocecal, contained 2 grape seeds and semisolid feces. Cause of death, bullet wound of chest.

4. Female, 27 years, January 15, appendix 3½ inches long, below cecum hanging down, contained 1 grape seed and 2 fecal concretions. Cause of death, bullet wound of abdomen.

5. Male, 26 years, September 29, appendix 4½ inches long, hanging down into pelvis, contained 1 grape seed and numerous fecal masses. Cause of death, bullet wound of abdomen.

6. Female, 52 years, August 6, appendix 4 inches long, hanging into pelvis, contained 3 grape seeds and semisolid feces. Cause of death, enteritis.

7. Male, 35 years, December 29, appendix 4½ inches long, pointing to left, contained 1 grape seed and soft feces. Cause of death, alcoholism.

8. Male, 23 years, January 2, appendix 4 inches long, hanging into pelvis, contained 2 grape seeds and semisolid feces. Cause of death, bullet wound of brain.

Metallic Objects.

9. Male, 22 years, April 4, appendix 6½ inches long, contained 1 shot. Cause of death, pulmonary tuberculosis.

10. Male, 22 years, April 4, appendix 6 inches long, hanging into pelvis, contained 1 shot and mucus. Cause of death, chronic pleuritis.

11. Male, 44 years, March 24, appendix 4 inches long, hanging into pelvis, contained 3 shot. Cause of death, chronic nephritis.

12. Male, 23 years, September 3, appendix 4 inches long, curled on itself, contained a fragment of shingle nail (about half the length from point) and 1 husk. Cause of death, stab wound of neck.

13. Male, 37 years, July 17, appendix 3½ inches long, hanging into pelvis, contained a globule of solder weighing 14½ grains. Cause of death, alcoholism.

Miscellaneous.

14. Male, 27 years, November 13, appendix 5 inches long, hanging into pelvis, contained piece of nut shell and soft feces. Cause of death, fracture of skull.

15. Male, 40 years, January 14, appendix 5½ inches long, retrocecal, contained centrum of vertebra of small fish, with part of vertebral arch attached. Cause of death, alcoholism.

16. Male, 40 years, April 16, appendix 5 inches long, tip resting on bladder, contained 2 fragments of bone and soft feces. Cause of death, typhoid fever.

17. Male, 47 years, July 11, appendix 3½ inches

long, hanging into pelvis, contained a very sharp fragment of bone. Cause of death, mercurial poisoning.

18. Male, 50 years, November 27, appendix 4½ inches long, very wide (3-8 inch), hanging into pelvis, contained 3 hard fragments apparently ash or stone, and soft feces. Cause of death, morphine poisoning.

Of late years the tendency to regard foreign bodies as the cause of appendicitis has become less, and the pendulum has now swung to the other extreme—many writers believing true foreign bodies to be of unusual occurrence, and that fecal calculi are generally mistaken for them. Thus Berry[1] states: "The literature of the subject reveals a most extraordinary collection of substances which are stated to have been found in the cavity of the appendix. Thus fruit seeds, cherry stones, hairs, bristles, shot, pins, have all at times been recorded as having been found in the appendix. Without challenging the good faith of the observers who have recorded the above examples, I venture to assert that many of them are inaccurate. From their similarity in size, shape, and appearance, so-called fecal concretions have frequently been mistaken for foreign bodies. It may be said, in fact, that the occurrence of foreign bodies in the appendix is exceedingly rare," etc.

J. F. Mitchell[2] also regards them as uncommon: "Those foreign bodies of light weight like grape seeds and cherry stones, so popularly assigned as causes of appendicitis, are in reality exceptional, and their frequency is much overestimated, on account of the close resemblance of fecal concretions, and the lack of careful examination of the foreign bodies."

In the majority of cases of foreign bodies here reported the appendix was either empty save for the foreign body, or contained only soft feces. The resemblance of fecal concretions to orange or lemon pips is at times remarkably close. On one occasion, even after a somewhat extensive experience with these concretions, one was found by the writer which simulated an orange or lemon seed so closely that it was about to be noted as a "find," but on crushing it with the handle of the post-mortem knife its true nature was finally revealed. This occurred in a youth of 17, the appendix was 5 inches long, hanging down, and contained 2 very hard concretions, one round, the other of the shape described. Death resulted from a bullet wound of the abdomen. In this connection it may be of interest to state that the youngest age at which concretions were found was 8 years. This occurred in a little girl, who died from a bullet wound of the abdomen; the appendix was 3 inches long, hanging below the cecum, and contained soft feces in addition to a single concretion.

It will be seen that grape seeds were found in the months when grapes are in season, or about the holidays, incident to the consumption of the festive plum pudding, etc. So, too, the shot occurred during the game season.

In conclusion it may be noted that none of the appendices containing these bodies showed any signs of inflammation, either past or present.

1 Journal of Pathology and Bacteriology, 1895, page 164.
2 Johns Hopkins Hospital Bulletin, Vol. X, page 37.

A New Cause of Appendicitis.—Some imaginative Swedish doctors having found minute pieces of enamel from "granite" ware in cases of appendicitis, have suggested that the common use of this ware may have something to do with the prevalence of this disease.

A CASE OF CRYPTORCHIDISM.

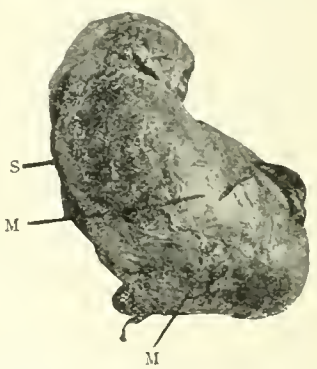
By JOHN M. FRANCE, M.D.,
RIVERSIDE, CALIFORNIA.

My only excuse for reporting this case is the very meager manner in which the subject is treated in the pages of our standard literature, and to urge surgical interference in early life for the relief of the condition.

J. E. M., aged 27, native of Kentucky, married, and the father of one child, presented himself at my office on June 1, 1904, and asked relief for a distressing pain in his bowels, which was now always present, and for the past three months had incapacitated him from performing any labor whatever.

Previous to my examination he gave the following history. Testicles had never descended, but were retained within the abdomen. He began suffering with vague pain in his left side, low down, about three years ago, not very severe. About one year ago he was in an electric car that had become unmanageable, and in his efforts to escape was severely bruised on his left side. Since then the pain had gradually grown worse. Now it was always present, and at times unendurable. He also informed me that his sexual desire was strong, and his ability to gratify it unimpaired.

The penis was normal in its development, but the scrotum was merely a small rudimentary sack



From a photograph of the tumor; S, spermatic artery; M, M, branches from the mesenteric arteries.

of skin. The left inguinal canal was totally obliterated; the right inguinal canal was obliterated to within one inch of the right internal ring. At a point one inch above where the left internal ring should have been, a round nodular body could be felt. This was very sensitive to the touch. Both rectus muscles were intensely rigid.

My diagnosis at that time was an incarcerated testicle that had taken on malignant growth. I advised an immediate operation for the extirpation of the diseased gland.

This he consented to, and the next evening entered the Riverside Hospital, where, on Friday, June 3, I operated.

After the patient was under the anæsthetic I could better outline the tumor, as the rigidity of the recti muscles had disappeared. I found what I had supposed to be simply an incarcerated testis to be a tumor of considerable size, filling the lower part of the pelvis. This determined me to ignore the rule to cut down directly on the neoplasm, so I made my incision in the medium line, three inches in length, between the umbilicus and pubes.

The digital examination revealed the fact that the tumor was adherent all around, above to the omentum and peritoneum, behind to the mesentery and small intestines, and in front to the bladder, the base resting on the right psoas magnus muscle. The

time occupied in enucleating this neoplasm was about three hours. The tumor, immediately after removal, weighed twenty-eight ounces.

The blood supply was from several arteries, entering its back, base, and side; in the illustration the points are marked where the vessels entered, the spermatic artery was one of them, the others were evidently derived from the mesenteric arteries.

The tumor, when cut, exhibited a white glistening surface which exuded a milk-like fluid; the histological examination showed it to be a large spindle-celled sarcoma. The patient's convalescence was devoid of any special interest, the only interruption being a slight infection from a stitch abscess in lower angle of skin wound on the eighth day. He left the hospital on the twentieth day.

In closing the abdominal wound, the peritoneum was separately closed by an uninterrupted cat gut suture, the deep fascia likewise, the coaptation of the skin was by interrupted sutures of chromatized catgut.

This method of closing an abdominal wound commends itself very highly, as in this instance, we had an infection in skin wound, where it was necessarily confined, the closing of the peritoneum and fascia by separate sutures protected the peritoneum from infection by either capillary attraction or direct contact with septic material. This case from a medico-legal aspect is not without interest. In searching the literature of the subject at my command I find that all authorities agree that cryptochids are sterile. Dr. Curling[3] has narrated nine cases in which the ejaculated semen of men with retained testes, or with a single testis, the other having been removed, or its duct obstructed, was destitute of spermatozoa. The history of the case certainly contradicts the foregoing, for the patient is the father of a child whose resemblance to him is marked.

Dr. Beigel[2] holds that when both testicles are absent the individual does not eliminate any semen, and when both are hidden the person is sterile. I could furnish other testimony similar to this above would space permit me.

The absence of the testes from the scrotum is usually discovered very soon after birth by either the mother or nurse, and as a measure of protection in after life from malignant disease it is suggested to search for incarcerated testicles, find them, and place them in the proper receptacle, or remove them.

Dr. Geo. Johnson[3] has reported a case of encephaloid cancer affecting a testicle retained within the abdomen. C. D., aged 27, was attacked after a hard day's shooting with a pain which appeared to be near the bladder, on the right side. From being a muscular and athletic man he became bent and haggard, and died in one year from the beginning of his illness. At the autopsy a mass weighing sixteen pounds was found in the abdomen. This specimen is preserved in the Anatomical Museum of Kings College.

Sir Spencer Wells[4] removed a cancerous testicle which was retained within the abdomen. The removal of the gland was safely accomplished, but the patient died in one week from sepsis.

In closing this paper I desire to mention the very skillful and valuable assistance afforded me in this operation by Major and Surgeon W. W. Roblee, N.G.C. Also to thank Dr. J. I. Clark of Santa Ana for the skill exhibited in maintaining complete anæsthesia with a minimum amount of chloroform in this very prolonged operation.

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1. British and Foreign Med. and Surg. Review, April, 1864.
2. Virchow's Archiv. Bd. XXXVIII, S. 144.
3. Medico-Chir. Trans., Vol. XLII, 1859.
4. Holmes' System of Surgery, 3rd Ed., Vol. III, p. 474

Chronic Intestinal Dyspepsia of Children.—J. Brunton Blaikie describes a typical case of what he calls the chronic intestinal dyspepsia of children. A child of eight has a headache in the morning, has no life in him, suffers from pain in the chest, has a bad cough, has always been weekly, is very thin, but not emaciated, has a sallow complexion, and dark rings around the eyes. The chest is found to be healthy, but badly developed, on account of the presence of adenoids and enlarged tonsils. The child is said to be very nervous. The chest pains are found to proceed from the epigastric region. The tongue is furred, and there are several carious teeth. The child suffers from night terrors. His appetite is poor and capricious. Thread worms have been noted in the stools. This condition is exceedingly common. When the correct diagnosis is made the child, instead of being stuffed with food and cod-liver oil and syrup of hypophosphites, will receive rational treatment. The writer has investigated fifty cases. The children are often members of poor families, although they are by no means limited to these classes. It is certain that the disease affects special families. All types were seen among these children. The disease generally occurs during the school age. Three-fifths of the cases were between the ages of five and eight. Thirty-four were in boys, and sixteen in girls. It is not possible to obtain any very definite information as to the duration of the disease. Constipation seemed to have a definite influence on the production of night terrors. The malady is often mistaken for tuberculosis. The disease is of itself probably never fatal. As to treatment, the most powerful remedy for the treatment of the immediate condition is change of air. Till the symptoms are greatly improved, it is well to allow the child no sugar, sweets, jam, potatoes, new bread, sago, tapioca, arrowroot, Indian corn, flour, turnips, or carrots. A sufficiency of fresh air is most important. The child should be kept from undue excitement. Among drugs, the most beneficial are the alkalies, oleoresins, and bitter tonics. Bicarbonate of potassium or sodium and citrate of potassium, especially when combined with nux vomica and myrrh, are very beneficial. Rhubarb and soda with a little grey powder are excellent. Aloes is also useful. The special symptoms require the usual treatment. The writer believes that this disease causes much needless suffering among children. By combating it the physical standard of coming generations will be raised.—*The Edinburgh Medical Journal.*

Meteorism Following Abdominal Operations.—A. P. Condon believes that of all the causative factors, the injury to the abdominal wall is the most important, for the meteorism seems to bear no relation to the amount of manipulation of the intestines, hemorrhage, etc., as he has seen the worst cases follow a simple section, with little hemorrhage and no handling of the intestines. Recently the writer has worked on the hypothesis that tympanites is due to lessened muscular tone following vasomotor paresis, in fact, a general and local condition of shock. He began to use ergot, hypodermically, knowing that this drug is one of the best remedies to overcome decreased contractility of involuntary muscles and flaccid condition of blood-vessels. He has used it now in forty-three abdominal operations, and has had no meteorism in any of these cases. There was less post-operative nausea and vomiting also, and less general shock. In every case in which it is possible he gives 30 minims of ergot hypodermically twenty-four hours before the operation. This dose is repeated every eight hours for four days, when it is discontinued. He also gives intestinal antiseptics the night before operating, to prevent excessive fermentation. When meteorism has developed, the writer has used with success physostigmine salicylate, hypodermically, in doses of 1-60 of a grain. Moskowicz has used this drug with magical effect in the relief of post-operative paralytic ileus. He emphasizes the danger of this pseudo-ileus, which is one cause of death after laparotomies, and has also been observed after vaginal operations.—*The Therapeutic Gazette.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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THE OPIUM QUESTION IN THE PHILIPPINES.

THE report of the committee appointed by the United States government to investigate the regulations controlling the opium traffic in the various countries throughout the Far East has recently been issued. After an exhaustive study of the conditions prevailing in all the lands in which the question presents itself, the members of the committee report in favor of the establishment of a rigid government monopoly of the sale of the drug in the Philippine Islands.

It is somewhat unfortunate that the Philippine Commission has been compelled so early to assume the responsibility of official action in this matter. The inherent difficulties of the question are much enhanced by the fact that the members of the commission are struggling with a complex problem in trying to conform to public opinion at home by establishing a form of government fit only for the highest types of men, yet compelled to modify it so that the childish Malay can take some part in it without injuring himself. Very few of the Filipinos have sufficient intelligence to understand Aryan ways or Aryan democracy, and this compels the commission to assume a paternal attitude, wholly at variance with the political ideas of the mass of the American people. Some combination of events unknown to us has induced the commissioners to take up the regulation of the opium traffic to protect the native. They have no doubt been influenced by exaggerated statements of the harmfulness of the use of the drug, and do not seem to be aware of the fact that the Asiatic nervous system is vastly different from that of the European. Unfortunately, the medical profession cannot enlighten them as it should. On the one hand we have the English reports from India to the effect that opium is quite harmless to the Asiatic, if not actually beneficial, and that it occupies the same place in his life that tea or coffee does in ours, with our more delicate and more unstable nervous tissue. On the other hand, we have the sensational reports of the missionaries in China, who think that opium is the cause of the dreadful condition of some members of that race, particularly of the inhabitants of certain interior villages which are said to have been practically destroyed. A middle position is taken by one writer, who apparently proves that the drug is invariably destructive to the peoples newly introduced to it, as in Farther India and China, but that by a process of elimination of the most susceptible, the race in time becomes composed only of those who can use it safely, and who become actually dependent upon it, as in India. The truth will probably be found midway, for the extreme views can safely be accused of bias. It is quite likely that the drug is harmful, but not nearly to the extent asserted by those who think it has the same effect on Asiatics as upon Europeans. So it might perhaps have been wiser to ignore the matter in the Philippines. In addition, the Malay uses the betel nut for the same purpose, and will probably not abandon it. It seems harmless to him, though it might not be so to us.

When the matter of regulation of the opium traffic was brought up it encountered violent opposition from the clergy and the Chinese, the former demanding absolute prohibition, on moral grounds, and the latter clamoring for no interference with a drug which they claim is as harmless and necessary to them as coffee is to us, and these two joined forces. It was like the combination of the whiskey interests and the temperance advocates to destroy the beer feature of the Army canteen, one fighting to increase the sales of whiskey, and the other endeavoring to prohibit all traffic. The commission was compelled to appoint a committee which, composed of a clergyman, a physician, and a Filipino, would naturally bring in a compromise report. As compromises with facts are notoriously unstable, we can expect difficulty in carrying out the recommendations, if not complete failure and renewed opposition from the extremists.

The Japanese Government has established a rigid monopoly in the drug in Formosa, but on such liberal terms that it is easy for the habitual user to obtain it. But the Chinese have developed the same sensitiveness to government control as the American colonists showed to the English monopoly of the tea trade. In Formosa it is an open secret that there is much opium smuggling, and the Chinese obtain it in as great quantities as ever, though they could buy it as cheaply, if not more cheaply, from the Government. As they are experts in smuggling, we can presume that in the Philippines they will obtain what they desire, irrespective of any system of laws which we can devise to regulate them. The wily Oriental is more than a match in subterfuge and underground work for Europeans, as he is the result of the survival of those who for many centuries could live only by such means.

THE MEDICAL RELATIONS OF LIFE INSURANCE.

ON the occasion of the Congress of Arts and Science, recently held in St. Louis, Mo., Mr. Frederick L. Hoffman read a very interesting and important address on "Life Insurance as a Science," in which he dwelt upon the relation of this branch of human activity to economics, on the one side, and to medicine on the other. The essay, instructive as it is in its entirety, is nevertheless of too great length to review in full, and we can only touch upon certain aspects of the question which intimately concern medicine. Mr. Hoffman points out that biological science rests in a larger measure than is commonly assumed upon a statistical foundation. Much, if not most, of what life insurance officials require to know of biology for the medical selection of risks relates to normal and abnormal man from the viewpoint of anatomy and physiology. The problems of human multiplication and normal increase, the mar-

riage rate, fecundity and sterility, consanguinity, race mixture, and intermarriage are all, as Mr. Hoffman shows, pending questions, toward the solution of which life insurance contributes much information and expert talent. The importance of the relationship of life insurance to pathology is sufficiently obvious to require no lengthy discussion. The medical director is an absolutely essential part of life insurance organization, and upon him depends to a very considerable extent the success of the company.

Neurology, the writer is of the opinion, will in the future render even greater service to insurance science than has been possible in the past. Brain diseases are increasing in all parts of the world, and statistics on the matter are to a great extent unreliable and undeterminate for a variety of reasons. In this connection actuarial skill can be of great value to the medical profession in assisting to clear up many obscure points. Suicide which may be termed one of the problems of neurology and of great importance to insurance companies, is briefly dealt with. In American cities the rate per 100,000 of population has changed from 12.0 during 1890 to 18.4 during 1903. This again is a question, the thorough investigation of which would be of the utmost service to insurance companies.

The psychology of life insurance is touched upon by the writer, and the psychology of suggestion in its special relation to the occurrence of mental epidemics is referred to. It goes without saying that the influence of suggestion in causing small epidemics of suicide of a local character is a source of considerable anxiety to the management of conservative insurance companies. As bearing upon this phase of the subject Mr. Hoffman quotes from Mackay's "Memoirs of Popular Delusions," as follows: "From time to time the infatuation to acquire wealth speedily by an illegitimate shuffling of the cards rather than by safe and equitable methods in the employment of capital and labor, seizes the people, and thus probably it will ever be until those who possess property shall be acquainted with the principles and laws of trade and shall at the same time be desirous to restore to the commercial character generally an inviolate and inflexible spirit of single-minded honesty." There is no doubt that the spirit of wild speculation so greatly in evidence in these days, and the unseemly haste to get rich, with the attendant nerve-racking tension, have much to answer for as causes of insanity and suicide.

Referring to gynecology in relation to life insurance, the author draws attention to the fact that woman as an insurance risk is one of the most perplexing problems with which insurance practice has to contend. Mortality tables go to show that the death rate of women at all ages is less than that of men. Nevertheless insured women frequently prove a loss to companies. One reason for this seeming anomaly is that for reasons of modesty the physical examination of women is less carefully carried out than is that of men, and consequently obscure pelvic diseases and diseases of the ovaries and uterus are often overlooked.

The improvement wrought by hygiene generally and by more careful feeding and care in particular, in lowering the mortality rates of the young, has materially affected insurance companies. On the whole, the general benefits accruing to such companies from the gradual diminution of a needless waste of infant life, has counterbalanced the loss of profits occasioned by the general decline in the birth rate. The perfection of the official registration of deaths and the medical or legal certification of their causes has been an agent in the improvement of the life expectancy, the value of which can hardly be overestimated. It may, however, be said that there is still room for further advance in many parts of the world, not excepting the United States, in the branch of vital statistics.

The effect of climate and weather is necessarily of the first importance with regard to life insurance, and the writer points out that tropical climates are losing much of their terror for white men. In India, for instance, the mortality of European troops since the days of the great East India Company has been reduced from 76 to 16 per 1,000. Meteorology has as yet not progressed so far that the effects of temperature, barometric pressure, humidity, rainfall, prevailing winds, etc., on human health can be accurately determined under the varying conditions met with in different portions of the globe. But our knowledge as to the manner of life best suited to various climates, and of the most efficient sanitary and preventive measures has immensely increased.

The article by Mr. Hoffman is both interesting and instructive, and is a notable addition to the literature of life insurance. It is well that a definite place should be accorded to life insurance among the sciences, and it is eminently fitting that so important a paper under the new classification should have been read in St. Louis, and by an American statistician. The United States is the country in which the principle of life insurance has reached its highest development, and this honorable altitude is due to the brains and energy of the men in charge.

THE CHANNELS FOR INFECTION WITH TUBERCULOSIS IN CHILDHOOD.

Infection with tuberculosis may take place through the inhalation of air containing tubercle bacilli, through the ingestion of food similarly contaminated, by direct inoculation, and by way of the placenta. In the first instance, which is naturally the most common, the air-passages, including especially the tracheal and bronchial glands and the lungs, become the seat of disease, although the bacilli may lodge in parts common to the alimentary and respiratory tracts, and thus eventually be swallowed. In the second instance, which comes next in frequency, the mesenteric glands and the intestines suffer most, while in the remaining instances the localization of the disease will vary in individual cases.

While probably the infection is acquired less commonly through the medium of contaminated milk than was at one time supposed, there is good reason for believing that this channel of communication can by no means be ignored, particularly in early life. Having in mind the importance as well as the difficulties of the subject, Dr. L. Kingsford (*Lancet*, September 24, 1904) undertook an analysis of the post-mortem records in 339 cases of tuberculosis in children at all ages up to 14 years observed at the East London Hospital for Children. As a result of this investigation it was found that 162, or 48 per cent. of the cases occurred during the first two years of life and 270 or 80 per cent. during the first five years of life, while there was a steady decline among

the older children. In 49 per cent. of the cases infection apparently took place through the mucous membrane of the trachea or the large bronchi. In more than 90 per cent. of the cases the lymphatic glands were obviously tuberculous, while in 68 per cent. they were the primary foci. Of 64 cases in which the origin of the disease was obviously abdominal, only 18 exhibited tuberculosis in any of the glands of the thorax, whilst the mesenteric glands were caseous in 62. Of the entire number of cases 212 or 62.5 per cent. were thoracic (167 primarily glandular, 34 primarily pulmonary, 11 both), 64 or 18.8 per cent. were abdominal (29 primarily glandular, 26 primarily intestinal, 9 both), 13 were pharyngeal, and 50 were doubtful.

If infection is considered to have taken place by inhalation in the middle-ear cases, of which there were four, to have been alimentary in the tonsillar case, of which there was but one, and of doubtful origin in the remaining pharyngeal cases, inhalation would account for 216 of the cases of 63.7 per cent., and ingestion for 65 or 19 per cent., while the remaining 17 per cent. are of doubtful origin. It will thus be seen that while the danger from inhalation is far greater than from ingestion of tuberculous material, the latter is far from insignificant, and cannot in practice be ignored. Differences in this connection in different countries are probably due to differences in the prevalence of tuberculosis in cattle and in the infectivity of the milk supply. Accordingly, in order to bring about a diminution in the prevalence of tuberculosis in children, measures must be enforced looking to prohibition of the sale of tuberculous milk, while at the same time attention should be directed toward improving the conditions of life through cleanliness, ventilation, disinfection, and better housing.

Exercise in Heart Disease.

At one time it was a canon of medical practice that exercise of any kind was contraindicated in cases of permanent anatomical defect of the heart. It is true that "old beliefs die hard," and even now the prevailing view among laymen is that physical exertion is dangerous, if not fatal, in heart disease. Stokes was one of the first to combat this view, and between 1862 and 1872 Sutorburg of Stockholm and Zander described the successful results obtained by them in the treatment of heart disease by gymnastics. In 1884 Oertel initiated the mode of treatment, which bears his name, consisting, among other means, of fairly vigorous exercise. Schott of Nauheim then made public his methods of treating heart disease by "resistance gymnastics" and the carbonated saline baths. Dr. N. S. Davis of Chicago, writing on the subject in the *Journal of the American Medical Association*, November 14, 1903, tabulated the following four forms of exercise, gathered from the history of the exercise treatment of heart disease: (1) Massage, (2) Swedish gymnastics, (3) mountain climbing, and (4) resistance gymnastics.

Dr. Davis has a high opinion of exercise for heart affections, but states that the exercise taken must be slight, although numerous large muscles must be used. Respiration must be deepened, but not hurried. Exercise must be graduated, beginning with the lightest.

Those forms of heart disease which are accompanied by muscular weakness, with or without dilatation, can be treated with hopefulness by exercise. Dilatation due to high arterial pressure or physical exertion, and in which there is little, if any, degeneration, yields most easily to the treatment. Recovery can be effected in the early stage of muscular degeneration, but when there is much degeneration, or a cause for its increase, only temporary improvement must be anticipated. Gymnastics exert a favorable influence upon the mitral form of chronic valvular disease, but there are many cases of this description which are hopeless. Aortic valvular affections are less seldom benefited by exercise.

Dr. Davis concludes that although, when the heart degenerates or grows weak because of artheromatous arteries, a perfect recovery is rarely effected, a temporary improvement often is. Even angina pectoris is not always a contraindication to the use of graduated exercises.

The Circulation During Pregnancy.

As a result of systematic investigation into the circulatory conditions present in pregnant women with healthy hearts, undertaken for the purpose of ascertaining the changes that take place naturally, and thus explaining the manner in which such changes have a deleterious influence on pregnant women suffering from valvular disease, Dr. J. Mackenzie (*British Medical Journal*, October 8, 1904) found a series of changes that, though in one sense abnormal, may in another sense be considered as incidental to pregnancy. These include limitation of the field of cardiac response, changes in the rate and rhythm of the heart, dilatation of the right side of the heart, a tendency to œdema of the lungs and to overfilling of the veins of the legs, and the occurrence of marked pulsation in the veins of the neck.

With respect to the relations between valvular disease of the heart and pregnancy, the opinion is expressed that when distinct evidence is present of failure of compensation, or when the patient is subject to frequent attacks of failure of compensation, pregnancy should be forbidden. Similar advice should be given also if with fair compensation there should be paralysis of the auricle, as evidenced by the presence of a diastolic murmur and the absence of a presystolic murmur, or of continued irregularity of the pulse, or of a jugular pulse of ventricular type. If, however, in the presence of fair compensation, with mitral murmur systolic or presystolic in time, and the apex-beat within the nipple-line, the patient may undertake the burden of pregnancy.

Chloroformed Vaccine Pulp.

Emulsions of vaccine pulp exposed for a time to chloroform vapors after the method devised by Dr. Alan B. Green of London have been found by Dr. J. F. Biehn, Director of the Department Laboratory of the Chicago Health Department, uniformly free from all foreign organisms except those causing vaccina. This vaccine was used by a physician five days after it was removed from the calf. One day was required to prepare it, one day to ship it to Chicago, two days to test it bacteriologically, and one day to send it to the clinician who made the clinical test. Ten days after its receipt the clinician reported that the chloroformed vaccine had given 100 per cent. of successful primary vaccinations. The most important advantage of the chloroform process is the rapidity with which vaccine lymph may be purified. Purifying by the action of glycerin requires from forty to sixty days; by chloroform, four hours.

Dr. Green, who devised this method of purifying vaccine pulp as it is collected from the calf, says, in a recent report, that since April, 1903, the date of his preliminary note on this subject, a large number

of vaccines have been treated. These lymphs have been freed from their non-spore-bearing extraneous bacteria within a period ranging between one and eight hours after their collection from the calf, and have, subject to the usual tests, been issued for general vaccination purposes about two weeks after collection. Their use, he claims, has resulted in high "case" and "insertion" success.

News of the Week.

The Fourth Annual Conference of Sanitary Officers under the direction of the State Department of Health will be held in the Assembly Chamber of the Capitol at Albany, December 15 and 16, 1904. For the purpose of securing a uniform system of sanitation, and increasing the efficiency of local boards of health, the department is anxious to secure the attendance at the conference, of as many health officers and registrars as possible. All others interested in public health matters are invited to attend the conference.

National Mosquito Extermination Society.—The second annual convention of this society will be held in New York on Thursday and Friday, December 15 and 16. The first session will be held at the Aquarium, Manhattan, at 2.30 P. M., on Thursday. "The Criminal Indictment of the Mosquito" is the title of a paper to be submitted by Frank Moss, Esq. The second session will be held at 8 P. M. of the same day at the Art Rooms of the Brooklyn Institute of Arts and Sciences, 174 Montague street. A paper will be presented on "The Sanitation of the Panama Canal Zone" by Col. Wm. C. Gorgas, and an address will be delivered by Dr. E. Porter Felt on "Diversities Among New York Mosquitos." The third session will be held in the hall of the Brooklyn Institute, 502 Fulton street, at 2.30 P. M. on Friday. Surgeon-General Walter Wyman and Dr. M. J. Rosenau of the Public Health and Marine Hospital Service will present a communication on "Methods of Examination and Dissection of Mosquitos for Parasites," and Dr. Thomas Darlington, Health Commissioner of New York City, will deliver an address on "What New York City is Doing and Might Do Towards Mosquito Extermination." The fourth session will be held at 8 P. M., in the hall of the American Institute, Berkeley Lyceum, 19-21 West Forty-fourth street, Manhattan. There will be an address by Dr. Quitman Kohnke, President Board of Health, New Orleans, La., on "The Mosquito Question," and a paper by Cornelius C. Vermeule, C. E., Consulting Engineer of the New Jersey State Geological Survey, etc., on "The Relation of Mosquito Extermination to Engineering and Public Improvements."

The American White Cross First Aid Society, chartered by the State of Illinois, took definite form as a national organization December 2 at a meeting of the incorporators, held in the office of Dr. Charles Adams. Dr. Nicholas Senn acted as chairman. The organization being national in character, it was decided to ask President Roosevelt to name its President. Other officers who were selected and have accepted follow: *Vice-Presidents,* Mrs. Potter Palmer, Mrs. R. P. Crane, and Dr. J. B. D. Irwin; *Surgeon-in-Chief,* Dr. Nicholas Senn; *Chairman of the Board,* Dr. John B. Murphy; *Superintendent,* Edward Howe; *Treasurer,* F. T. Haskell; *Secretary,* Mrs. M. A. Hines.

For the Prevention of Epidemic Disease.—Dr. John H. Simon, Health Commissioner of St. Louis, has prepared an illustrated treatise on the "Suppression of Epidemic Diseases" which will appear in the next bulletin of the League of American Municipalities, an organization composed of the Mayors, Comptrollers, and health officers of all the large cities of the United States. Dr. Simon has been very successful in stamping out epidemic diseases, and St. Louis has been one of the healthiest cities in the world during the last twelve months. In the paper, statistics will be given which will prove of special importance to seaboard cities where foreign cargoes are unloaded, as the method of preventing diseases which may be communicated by rats is thoroughly discussed. He advocates a method, adapted from the German exhibits at the World's Fair, of pumping gases into the holds of all incoming ships for the purpose of exterminating rats and germs. The subject of vaccination is treated of at length and statistics given which show that smallpox has decreased about 90 per cent. in Germany since the introduction of vaccination.

Jubilee of Dr. John B. Chapin.—A dinner was given on December 1 to Dr. John B. Chapin Medical Superintendent of the Insane Department of the Pennsylvania Hospital, in celebration of the completion of half a century in hospitals for the insane. Dr. Chapin, after spending four years in the New York Hospital, from 1850 to 1854, meanwhile preparing for his degree in medicine, became a resident physician in the Utica Hospital. Subsequently he aided in the founding of Brigham Hall, where he remained for a number of years, later becoming medical superintendent of Willard Hospital. He assumed charge of the insane department of the Pennsylvania Hospital in 1884 on the death of the late Dr. Thomas S. Kirkbride, and he has since continued in that position. The dinner was participated in by nearly a hundred guests, a number from distant cities. Dr. Edward N. Brush acted as toastmaster and responses were made by Dr. Chapin, Dr. James C. Wilson, Rev. Dr. Stephen W. Dana, Mr. James M. Beck, Mr. James T. Shinn, Dr. Henry M. Hurd, who presented an oil portrait of Dr. Chapin to his family, and Rev. Wm. M. Gilbert, who accepted the portrait on behalf of the family.

Sanitary Improvements in St. Louis.—The City Council of St. Louis has passed a measure authorizing an issue of bonds to the amount of $9,000,000 for the erection of new public buildings, including a new insane asylum, for improving the sewer system, and for a park fund and other improvements. Of this amount $1,000,000 is to be expended in building the insane asylum and reconstruction of present buildings, and $2,000,000 for improving the sewer system.

Rockefeller Laboratory.—The cornerstone of the bacteriological laboratory for the Rockefeller Institute was laid on December 3, by Dr. Simon Flexner, aided by Profs. J. M. Prudden, L. E. Holt and C. A. Herter, of the College of Physicians and Surgeons. The original endowment of the Institute consisted of $200,000, but has since been increased to $1,200,000, by further gifts from the founder, John D. Rockefeller, Sr. While waiting for the completion of the new building, which is being erected on the site purchased by the trustees a year ago, in Sixty-fifth street near Avenue A, the Rockefeller Institute has temporary quarters at Fiftieth street and Lexington avenue. The laboratory will have a frontage of 100 feet and will be five stories high. It is to be of light brick with limestone trimmings and will cost $325,000.

Dentists Robbed.—The offices of thirteen dentists in one building in this city, were plundered on Thursday of last week by a thief who obtained gold plates, fillings, etc., to the amount of $1,500. Instruments

and other articles of value were left untouched and only the gold, which can readily be disposed of, was taken.

The Status of Hospital Ships.—An international conference concerning the status of hospital ships in war time will meet at The Hague, on December 13. A majority of the powers will be represented by their respective Ministers. Russia will send M. de Martens, who will be accompanied by a naval officer.

Dr. Frederick Holme Wiggin has been appointed a delegate to represent the New York State Medical Association at the coming meeting of the Pan-American Medical Congress to be held in Panama.

Seizure of Spurious Drugs in Chicago.—Several United States detectives, aided by the local police, made a number of raids last week upon places in Chicago where counterfeit and adulterated drugs were manufactured, and several wagon loads of the stuff were seized.

Tuberculosis in Hogs.—Apparently danger of the transmission of tuberculosis through food, is not confined to the use of beef and dairy products. Western pork breeders are uneasy over the increasing prevalence of swine tuberculosis, which is becoming a serious question for the farmers and packing houses. A hog expert has expressed the opinion that the animals receive the infection by being fed with skimmed milk from tuberculous cows, as during the months when there is most dairy food for hogs the disease is seen more frequently.

Lying-In Hospital Report.—The annual report of the society of the Lying-In Hospital directs attention to the institution's urgent need of funds. The society's entire income in the last twelve months has been $32,178.57, while the actual expenses were $119,535.74. According to the report the number of the society's cases has increased, and it now shows a larger service than ever before, the applicants being 6,085, an excess of 775 over the previous year. Of these the society admitted into its hospital building 1,735, exceeding the figures of last year by 603, and giving an average of 145 every month, the average for the period ending September 30, 1903, being 94. The number of days' treatment given was 31,532, some 8,000 more than the year before, while the medical visits to the outdoor patients exceeded 61,000. Two ward floors, containing 124 beds, could not be opened on account of the lack of money to run them.

Garbage Disposal.—The City of St. Louis has adopted a new method for disposing of garbage. The garbage is collected by wagons as formerly, but instead of being carried to a reduction works it is hauled to the river and dumped on barges; these barges are towed down the river to an island about twelve miles below the city and there the garbage is spread over the land. This is in the nature of an experiment, but up to the present time it has proved a very satisfactory means of disposing of the garbage collected each day. The island may be rented to hog raisers, who will feed the hogs on the garbage brought to the island.

To Prohibit the Wearing of Corsets.—A society of women in Berlin has recently presented a petition to the Prussian Minister of Education, praying for the prohibition of corsets in young ladies' schools on the ground that this garment is prejudicial to the health of the growing girl.

Smallpox in Pennsylvania.—The public schools, churches, and Sunday schools in Dover and Conewago townships have been closed by order of the State Board of Health on account of the prevalence of smallpox. The School Boards of these townships have been organized into township Boards of Health and they have quarantined the homes in which there are persons suffering from smallpox. The schoolhouses are to be fumigated and the books used by the children burned.

Difficulty Over Vaccination.—The Board of Health of the city of Altoona, Pa., has entered criminal suit against a number of directors and principals of the public schools for permitting children to attend school who has not been successfully vaccinated. More than 100 children were discovered as pupils who had not been vaccinated, and they were promptly sent to their homes. Besides, a number of fraudulent vaccination certificates were discovered. The principals permitted a number of the dismissed children to return to school, and hence the suit.

Suit for Salary.—Dr. Frank Boogher of St. Louis, has filed suit in the Circuit Court against the City of St. Louis, for $1,350 salary alleged to be due him as Deputy Coroner. Dr. Boogher served as Deputy Coroner for a considerable period but was dismissed on charges which were not sustained at his trial.

Dr. Martha Tracy, a graduate of the Women's Medical College of Pennsylvania, obtained the highest mark among the candidates for licenses at the recent State examination. She had a mark of 91.07, while the best average of the graduates of any men's college was but 80.39.

State Pharmacy Law.—A committee of sixteen representatives of the pharmaceutical associations of this State met in Albany on November 28, to discuss proposed changes in the pharmacy laws. The committee on legislation of the State association was instructed to advocate before the next Legislature a revision of the State Pharmacy Law, so as to make it uniform with the penal code in relation to the registry and sale of poisons. The association will also petition Congress to amend the Federal Liquor Law, so that druggists selling alcohol only may pay a tax of $5 a year instead of $25, which they are now forced to pay, and which covers the sale of pure alcohol and spirituous liquors.

Sidewalk Dentistry.—A Brooklyn Alderman has presented a resolution to the Board to restrain the practice of dentistry in the streets of the Borough of Brooklyn. The resolution was directed against certain notoriety seeking dentists who have been setting up stands on street corners and extracting teeth free of charge. The matter was referred to the Committee on Laws and Legislation.

Obituary Notes.—Dr. J. P. Willett, of Webb City, Mo., was shot and killed at his home on November 15, by a young man who had been placed on guard to protect the house from burglars. During the night the doctor got up and walked close to the window when the man fired. The doctor was killed instantly. He was graduated from the Ohio Medical College in 1885.

Dr. Joseph Rutter Draper of Westford, Mass., died October 30, of typhoid fever complicated with pneumonia and meningitis. He was born in Dedham, Mass., May 22, 1862, was educated at the Boston Latin School, was graduated in arts from Williams College in 1885 and in medicine from the Harvard Medical School in 1888.

Dr. Jacob P. Bixler died from paralysis at Carlisle, Pa., on December 3, at the age of 65 years. He was graduated from Jefferson Medical College in the class of 1866. He had been for many years president of the local school board.

Dr. Leonard F. Pitkin, of this city, surgeon to the Interborough Company, died on December 1. He was taken ill last spring and had to retire tem-

porarily from practice. Dr. Pitkin was born in Hartford in 1858. He came to New York twenty-five years ago and built up a large practice. He attended all subway cases since that work began. He was a member of the New York Athletic Club and the local medical societies. He was the physician for many of the prominent actors and managers.

Dr. William F. Cushman, a retired physician of this city, who had lived lately at Ridgefield, Conn., died of apoplexy there on December 2. He was born in the Chelsea village district of Manhattan sixty-six years ago, and was graduated from the College of Physicians and Surgeons. He was for many years treasurer of the New York Academy of Medicine.

Dr. William E. Carroll of Newark, N. J., died of pneumonia on December 3, at the age of fifty-seven years. He was gynecologist to St. Michael's Hospital, Newark, and to All Soul's Hospital, Morristown.

Occupation Neuroses.—L. Harrison Mettler defines the term occupation neurosis as a nervous trouble brought on by a monotonous, excessive, or faulty manner of using the muscles concerned in certain special, complicated and co-ordinated movements and shown by the inability to perform these movements without the loss of other movements involving the same muscles. An occupation neurosis is apparently nothing but a disturbed function. The writer has never seen a case in which he could not trace a neuropathic inheritance. Neurasthenia, hemicrania, epilepsy, neuralgia, convulsive tic, phobias, and tabes have been seen and recorded in association with it. Men are more often affected than women. They suffer especially from the motor form of the trouble. The exciting cause of the disease is the overuse of a particular set of muscles—that is, an excessive, monotonous employment of a particular form of complicated, coordinated movement. It is the overuse of a movement, not merely of the muscles, that is at the foundation of the trouble. Writing seems to provoke it more than anything else. The style of writing, the anxiety to get through, the instrument employed, all have a share in the etiology. What is true of writing is also applicable to all other occupation movements from which the disease has developed. Emotion is an etiological factor. In the few cases that have come to autopsy, no pathological changes have been found. It is preeminently a motor trouble. The onset of this affection is always gradual. There are three types of this disease: The spasmodic, the paralytic, and the tremulous. In writer's cramp an attempt to use the muscles immediately develops a spasm. The paralytic form is not so common as the spastic. The will seems to lose all power over the muscles concerned. In some cases an irregular tremulousness has been observed. In cases in which there is much pain, the type is called neuralgic. Its etiology and symptomatology both show that it is a disorder of the higher conscious or subconscious coordinating mechanism. Neuritis and this affection are often confused. Poliomyelitis has also given rise to some confusion. Neuritis suggests clearly an organic, well-defined, local lesion, while an occupation neurosis resembles somewhat neurasthenia or hysteria. Poliomyelitis manifests itself in the legs, the neurosis in the arms. In the former there is a febrile condition. In whatever occupation the trouble may be acquired, it is practically always of the same nature. Absolute cures have been noted, but they are rare. This affection never destroys life. Prophylaxis is most important. All stiff, cramped, and uncomfortable attitudes should be avoided. When the trouble is fully developed, absolute and prolonged rest is the only safe course to follow. There is no drug treatment for this neurosis. Massage and gymnastics give the best results. Electrical treatment is of no use. Suggestions and psychical treatment have some influence.—*The Clinical Review.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ROYAL COLLEGE OF SURGEONS—SUPERNUMERARY RIBS—ULCERATIVE ENDOCARDITIS — LIVERPOOL UNIVERSITY MEDICAL SCHOOL—AIR VS. SUNSHINE—POISON-EATER—LONDON HOSPITAL—A DOCTOR'S TRAVELS ON CYCLE—NOTES—DEATHS.

London, November 18, 1904.

Yesterday afternoon the annual meeting of the Royal College of Surgeons was held, with the usual result. The President, Mr. John Tweedy, occupied the chair, and "placed before" the meeting the Report of the Council for the year ending August 1. He stated that the council was the governing body, and that no criticism of the action or policy of that council, as exhibited in the Report, could be permitted. Was there ever such a farce as calling a meeting to receive a report on such conditions? And yet this farce has been annually enacted for about twenty years. The Fellows and Members are called together to be told the two dozen Fellows who form the council are there for no purpose whatever. They need not endorse, approve, or accept the Report. They are summoned merely to hear the President tell them they have no voice in their college and cannot offer any criticism on the action or policy exhibited in the Report.

At the Medico-Chi. Mr. Thorburn read a paper on supernumerary cervical ribs and their effects on the brachial plexus. These ribs he did not consider very rare, and were fairly well recognized, but he had found no full description of the clinical symptoms they produce. Gruber said the condition was frequent. When sufficient size is attained (often there is a mere rudiment) to project into the posterior triangle of the neck, there may be deformity or pressure on the brachial plexus or subclavian artery may set up symptoms. Four cases were detailed; in two only a little tingling or numbness was felt; in the others paralysis of the hand, pain and sensory loss in the territory of the first dorsal root. The muscles on the ulnar side tended toward spasm; on the radial side toward paralysis. The diagnosis was not difficult by palpation, and could be confirmed by *x*-rays. The rib could be removed without any particular danger or difficulty.

Mr. Keetley had a patient with this condition, who first noticed pain in the right arm fifteen years ago. There was marked pulsation above the clavicle. The pulse differed on the two sides. In some cases aneurysm, thrombosis, and gangrene had resulted, but usually no symptoms of consequence were produced.

Dr. F. Buzzard pointed out the difference between these cases and those of uniradicular brachial plexus paralysis which he and Dr. Bramwell had described.

Mr. Carless mentioned a case in which the condition led at first to a diagnosis of subclavian aneurysm. Though most frequent in females, as pointed out, the condition is also met with in males.

Dr. J. P. Stewart said the symptoms were often unilateral, though the supernumerary rib might be on one side only. If exertion produced symptoms, they should be more frequent among males—the reverse of the fact. He thought the existence of the condition did not account for the symptoms without additional factors.

Dr. Newton Pitt then gave an account of two remarkable cases of ulcerative endocarditis, both ending in recovery. One was in a boy of 13, the other in a boy of 11. In the former the mitral valve was affected a week after chorea attacked him, and he developed right hemiplegia, complete aphasia, albuminous urine with incontinence; he became very drowsy and very emaciated, and for two months seemed certain to die. Injections of antistreptococcus serum were given on alternate days. He improved at once and progressed to complete recovery in about three months. Went home in October and is now earning his living. The second case developed after apical pneumonia. The temperature oscillated for a month up to 100° F. Injections were used and the lad recovered, but a few months later the bruit was audible. In fact, in both cases the valves have been permanently damaged, otherwise they seem in good health.

Liverpool still keeps in the fore front. On Saturday the new medical buildings and the physics laboratory of the University were opened. Lord Kelvin, Lord Derby, Mr. Haldane, M.P., took part in the proceedings. Since 1898 some £100,000 has been raised for these purposes and further additions to the University are in progress. As Lord Derby in his speech remarked, probably no city in the Kingdom—certainly no university city—can claim such alliance as Liverpool with the wants of medical and scientific knowledge beyond seas.

Mr. Haldane, who led the battle for the creation of the university, was made an honorary doctor of Laws.

Dr. Heron, in a recent address insisting on the value of fresh air, remarked that even in Harley Street and Wimpole

Street, with doctors' plates on most of the doors, very few windows were open at night. On this one "old Barts' man in his ninety-second year" writes that he is glad they are wise enough to shut out the cold night air, and perhaps Dr. Heron thinks more of fresh air than sunlight. Many windows, he adds, are open all night, and the blinds down all day to keep out sunshine for the sake of paltry bits of furniture. "Heaven's light is a better health-giver than the air which we medicals prate so much about."

Two new Hebrew wards have been added to the London Hospital. They are the gift of the late Mr. E. L. Raphael, and his son has provided for lining the walls with opalite. The formal opening was made on Monday by Mr. Leopold de Rothschild as representing his brother, Lord Rothschild, who was prevented by an attack of sciatica. The London Hospital has had separate wards for Jewish patients with separate kitchen to meet their requirements for more than a generation. The addition raises the number of beds for Jews from 27 to 54.

The Cancer Hospital's new home for nurses, erected at a cost of £5,000, was opened on Monday. In addition, an anonymous lady donor has presented an electric lift to the hospital at a cost of £250.

A certain "Captain Vetrio" has come here from Chicago, and professes to be able to swallow poisonous alkalies and salts with impunity. He gave a demonstration the other day to some forty gentlemen, several of them doctors. He said he could not digest acids. He had managed atropine in the presence of doctors. He declared he took no antidotes, made no preparations in advance, and did not use a stomach pump afterwards, adding that at Detroit Medical College he was under observation thirty hours before and seven after his demonstration. Then he proceeded with his meal—first course, copperas mixed in water; second, a dose of strychnine; a doctor tested this, and said it was weak, whereupon the "Captain" showed him a bottle said to contain a grain, and that being approved drank it. The next course was a blue powder dissolved in water, and the last a bite off a stick of phosphorus taken fresh from its bottle of water. The demonstration lasted one-half an hour or more, and the "Captain" exhibited no symptoms of inconvenience.

"Through Town and Jungle: Fourteen Thousand Miles Awheel Among the Temples and Peoples of the Indian Plain" is a remarkable book published this week, a record by Dr. and Mrs. Workman, who cycled with a camera from temple to temple through the depths of many a jungle far from the beaten tracks of tourists and the present centres of population. The doctor and his wife are inveterate travelers, but in this they have eclipsed all their records.

The *Dental Surgeon* is the title of a new weekly journal which has just been issued. Previously our dental brethren were content with monthlies. Mr. Robert Manning is the editor, with a strong staff.

There is an outbreak of typhoid at the Cork Lunatic Asylum. Sixty-eight patients, of whom two have died, have been attacked and fifteen of the attendants. An analysis of the water and milk gave negative results, but the water from a well on the farm of one contractor is stated to be very bad. The milk from that farm has been discontinued.

The funeral of Dr. A. Vintras, whose death I mentioned in my last letter, took place on Tuesday at Brompton, where his wife was buried nine years ago. A number of distinguished persons were present, among them the French Ambassador and his staff, representatives of the Italian Embassy, the French Hospital, of which he was one of the founders, and other institutions with which he was connected. He was an officer of the Legion of Honor for many years, physician to the French Embassy here, and the trusted adviser of the most distinguished French residents. He had lived among us over half a century, and took part of his education at St. Mary's Hospital. He qualified M.R.C.S. Eng. 1858, and M.D. St. And. 1859.

Dr. C. D. F. Phillips died on Sunday after a short illness, aged 74. He was for some years lecturer on Materia Medica and Therapeutics at the Westminster Hospital, and subsequently examiner in those subjects in the universities of Aberdeen (his alma mater), Glasgow, and Edinburgh. His *magnum opus* in two volumes, Materia Medica and Therapeutics, will be well known to you. A third edition of the first volume appeared only a few months ago. The Vegetable Kingdom volume was the first issued, 1874, and the volume on the Inorganic Kingdom followed in 1882.

Dr. John Harker, J.P. for the County of Lancaster, died suddenly on Saturday at the age of 70. He was on the staff of the Royal Lancaster Infirmary for some 46 years, and had served as a president of the hospital. He had also been M.O.H. for the borough for many years.

Dr. G. E. Power, who died on the 29th ult., was one of the sons of the late Dr. Power, a private tutor who attained some repute many years ago. He was born in 1849 and qualified in 1873. He took much interest in natural history.

FACTITIOUS SCOTCH WHISKEY.

To the Editor of the Medical Record:

Sir: In the discussion of Dr. Wiley's recent paper at the Academy of Medicine, recorded in the current issue of the Medical Record, your reporter credits me with saying that methyl alcohol was used to adulterate some Scotch whiskey. This I did not say. In another journal of the same date, the reporter credits me with saying that the flavor of Scotch whiskey was due to amyl alcohol. This I did not say. What I did say, was that I believed that a considerable portion of the "Scotch" whiskey imported into this country was manufactured in England from cheap German potato spirit, which contains a larger proportion of amyl alcohol (fusel oil) than grain spirit, hence was objectionable. The smoky flavor of factitious "Scotch" whiskey is usually obtained by adding a small quantity of creosote.

H. G. Piffard, M.D.

New York, December 3, 1904.

THE OPTOMETRY BILL.

To the Editor of the Medical Record:

Sir: The letter in this issue of the Medical Record under the head of "The Optomery Bill" I have read with great interest. If we but look below the surface it will require but a slight effort to see that the whole scheme is pernicious from its very inception, notwithstanding the coat of plausibility with which its advocates attempt to gloss over it. These parties ask for simply the right to refract all cases that do not require the use of a cyclopegic, and such that do require drugs, in their estimation, they promise to send to the oculist. As many of these men are decrying the use of a cyclopegic and picture the dangers attendant on its use in such a way that even now a large part of the public are beginning to regard this procedure as something most hazardous, we can readily understand the worth of such a promise. Again, as they have been carrying on their work for so long without the protection of a law, what guarantee have we that with a law such as this enacted they will not go a step further and use these same cyclopegics themselves, after undergoing a change of heart regarding their safety(!).

This would be simply in conformity with the teachings of the leading oculists at the present time, who claim that to obtain satisfactory results in refraction a cyclopegic is nearly always essential. Refraction is too closely allied to the science of opthalmology to be separated from it or practised by any other than the oculist himself. If this subject should be given more publicity and the public, and the general practitioner as well, be educated to an appreciation of the fact that the prescribing of glasses is fully as scientific a procedure as the treatment of other diseases of the eye, it might tend to discourage such a scheme as now presented to us in this Optometry Bill. Could we but educate the above to an appreciation of the fact that refraction is a science, and not a trade, and that properly to prescribe glasses to correct an error of refraction, requies a considerable amount of brain work as a preliminary to the mere holding the lens before the patient's eye. The fact should be taught that badly fitting or wrongly prescribed glasses are in their way fully as injurious to the eyes as a poisonous drug wrongfully given is to any part of the body. It may at the present time seem a sweeping statement, but when this subject is better understood it will appear perfectly feasible, not only that glasses should be prescribed only by an oculist, but also that they should not be sold without the prescription of a physician, in the same manner as poisonons drugs are obtained. This might prove disastrous to the traffic in "bargain spectacles" in our department stores, but nevertheless it would be an effective measure for the preservation of many eyes.

Perry Dickie, M.D.

Brooklyn, N. Y.

Treatment of Aneurysms of Large Vessels by Gelatin Injections.—According to Lancereaux, the method of using gelatin injections in the treatment of aneurysms of the aorta, is never dangerous if care is taken to use solutions of gelatin which are of good quality and which are well sterilized. These injections favor the coagulation of blood in the aneurysmal sac, and in this way they aid in the cure of aneurysms of the large vessels, which are so alarming. Tetanic accidents or others, which have been noted as following this treatment, have been produced either by the employment of gelatin solutions of poor quality, or by the use of solutions insufficiently sterilized.—*Revue Française de Médecine et de Chirurgie*, October 17, 1904.

Progress of Medical Science.

Boston Medical and Surgical Journal, December 1, 1904.

Mechanical Restraint and Seclusion of Insane Persons.—Charles W. Page in his interesting paper, says that it is only about 100 years since the propriety of controlling insane persons by the aid of manacles, shackles, chains, ropes, straps, etc., was especially called into question. He lauds the work of John Conolly, an Englishman, who in 1839, without previous experience in such work, assumed control of the lunatic asylum at Hanwell, containing about 800 patients. The various instruments of restraint which he found in use in that asylum, he collected in one room which was called the museum. From this time no patient in the institution was subjected to mechanical restraint. Under the influence of this example, the same spirit invaded other English asylums, and the fetters fell from the limbs of their inmates. In fact, Conolly revolutionized the management of the insane. He labored unceasingly to the end that the lunatic instead of being an object of dread, might be treated with pity and tenderness, and that insanity might be considered a disease of the body instead of a disease of the mind. He gave the most painstaking personal attention to detail in his wards. With the use of restraint, the spirit of coercion on the part of the nurses is fostered. Nurses will depend upon this treatment instead of relying upon their own tact. The general good of the inmates depends largely upon the nursing morale of the hospital. When mechanical restraint is abolished, nurses are considered incompetent if they cannot manage their patients without violence. Thus a kindly, humane spirit is advanced. The writer believes that mechanical restraint should be used only when there is no question but that its use or neglect would determine the life or death of the patient. Earnestness of purpose is the solution of the non-restraint problem. The objections to mechanical restraint apply in large measure also to seclusion of the insane.

New York Medical Journal, December 3, 1904.

Epilepsy Cured Without Drugs.—A. L. Ranney declares that eye-strain is responsible for many cases of epilepsy and refers to a previous publication of the notes of twenty-six cases. Four patients abandoned treatment from the beginning, but of the twenty-two remaining patients, ten, or forty-five per cent., may be considered to-day (nearly eight years since the aforesaid publication) as well (seven being completely cured and three being practically cured); amelioration of the attacks has been afforded by eye treatment in nine cases, or nearly forty-one per cent.; and no improvement has been observed in three cases, or about fourteen per cent. He gives the histories of six additional cases. His general conclusions are that a very large proportion of epileptics suffer from some reflex irritation, most commonly from eye trouble. The refraction of all patients should be determined under mydriasis. Glasses should be worn for a while before any attempt is made to adjust the eye muscles. The most serious refractive errors and muscular defects in the orbits do not necessarily create eye symptoms; even when reflex symptoms produced by existing eye defects are extremely severe. The percentage of cure of chronic epilepsy under skillful eye treatment will naturally be modified greatly by the abnormal eye conditions found, the physical condition of the patient, the amount of drugs that have been given to the patient, and the complications that may coexist with eye-strain. No one is ever justified in promising a cure of epilepsy by any plan of treatment, but examination of the eyes should be a preliminary to any other mode of treatment.

Should Pulmonary Tuberculosis Be Treated at Home?—R. W. Craig believes that the recent exploitation of "home" treatment of this disease is a step backward, especially in case of those who have means to secure proper climatic treatment. The conditions of the latter are sunshine, relative humidity, temperature, and altitude. The influence of the latter does not count for much in comparison with the others. No particular climate has a specific action on the disease, but in certain climates the best results can be obtained from an out-door life and the question is as to where the patient can spend the most time in the sunshine, equable temperature, least humidity and in air free from dust and bacteria. The author then goes on to extol the Arizona and Southern California regions, and makes a strong plea for tent life. Tent architecture is a very large factor in the success of tent life. The tent for one person should have a framework of lumber and should be about 15 by 18 feet in dimensions. An absolutely tight board floor is very essential, and a tight wall should be built around the side, about three feet from the floor. Over this the tent should be stretched, and a heavy fly should cover the entire tent. This gives enough space for two comfortable rooms. The upper part of the walls should be made detachable, so that they can be raised and lowered and converted into an awning, which changes the tent house into the best sort of pavilion.

Pregnancy and Successful Parturition in a Patient with Advanced Carcinoma of the Cervix.—C. A. L. Reed reports the history of a woman, aged 38 years, upon whom he performed the operation of removal of a portion of the anterior lip of the cervix. She soon became pregnant. Pregnancy went on in a normal manner, and it was decided to do at the proper time a cesarean or Porro operation. Labor came on, and while the posterior portion of the cervix dilated naturally, the anterior, in which the cancerous process had progressed, did not. Incision of the latter was proposed, but abandoned owing to the danger of wounding the bladder, so digital dilation of the os was practiced, and delivery accomplished by forceps. A severe hemorrhage followed, although the uterus was now well contracted. The flow was found to come from the offending growth, which had been torn in numerous directions, much after the order of old leather. Packing uterus and vagina firmly with iodoform gauze checked the bleeding. The patient got up in about the usual time. She lived about eighteen months, afterwards dying of an extension of the disease.

Medical News, December 3, 1904.

Diagnosis of Extrauterine Pregnancy.—Isaac Ivan Lemann believes that extrauterine pregnancy is far more frequent than is most generally supposed. By maintaining an attitude of alertness and by carefully investigating all conditions of menstrual irregularities and colicky pains, the writer feels assured that we shall find ourselves warranted in establishing an accurate diagnosis and saving the lives of some patients who would otherwise perish. When the diagnosis is obscure in the presence of a boggy or fluctuating mass to either side of the uterus, we are justified in doing an exploratory operation, either through the abdomen or the vaginal fornix.

Laundry Hygiene.—Ira S. Wile in his investigations has not been able to obtain statistics which afford any basis for medical reasoning. Until some other facts and figures are available it seems necessary to coincide with the opinions expressed by the laundrymen themselves. The writer formulated these five questions, which he sent to numerous laundries: (1) What precautions, if any, do you use to prevent infection of employees in handling soiled materials from time of collection to delivery? (2) Do you have much illness among employees? If so, of what character? (3) Do you know of any specific diseases which have been spread? If so, what ones? (4) What means do you have of protection of patrons from diseases of employees? (5) Is tuberculosis common among employees? Among diseases to be considered are typhoid, scarlet fever, smallpox, syphilis, diphtheria, gonorrhea, infected fingers, inflamed eyes, etc. The answers to these questions were practically uniform. (1) No especial precautions are taken to prevent infection of employees. Particularly filthy materials are not accepted. Linen is not received from places where contagious diseases are known to exist. The marking room is kept as clean as possible, and thoroughly scrubbed at least once a week. (2) Illness does not seem to be any more frequent than in any other business establishment employing large numbers of workers. The ailments are merely of ordinary types, and in no way dependent upon the vocation. (3) No specific cases of contagion have been found due to or even attributed to handling infected garments. These reports emphasize the comparative freedom from contagion of those handling the soiled clothes of a city. (4) No systematic, intentional protection to patrons is deemed necessary. Exposure to heat and chemicals, along with mechanical agitation, destroys the hardiest of bacteria. During the transition from soiled to clean clothes contagion is abolished. (5) Tuberculosis is no more common among laundry employees than among the workers in any modern, regularly inspected, hygienic, light, airy factory. The moist atmosphere, the frequent scrubbings, and lessened dust tend to keep the bacillus tuberculosis in marked subjection. One scientist wrote that "starching is the best employment for consumptives." These answers are all from public laundries. As far as can be judged, therefore, laundering appears to be an efficient hygienic method of promoting cleanliness, without marked danger to patron, and with comparative safety for the employee.

American Medicine, December 5, 1904.

Presence of Tubercle Bacilli in the Urine of Patients Suffering with Pulmonary Tuberculosis.—Rosenberger carefully studied 25 cases for the purpose of determining whether tubercle bacilli were present in the urine. The residual urine was obtained by means of a sterile catheter. Although the sputum in these cases uniformly showed the presence of tubercle bacilli, tuberculosis of the genito-urinary tract was neither diagnosed nor suspected. In five cases a few isolated tubercle bacilli were observed. But there were no clumps or groups, so common in tuberculous cystitis and nephritis. Guinea pigs were inoculated with

the sedimented urine. Three animals died, and in one case no tubercle bacilli had been found in the urine of the individual which had been used for injection. After three months the surviving animals were killed, and not one of them exhibited any tuberculous process. The writer believes that it is safe to say that in pulmonary tuberculosis the tubercle bacillus is found in the urine in only a very small percentage of cases.

A New Reflex: The Paradoxical Flexor; Its Diagnostic Value.—Gordon calls this reflex paradoxic, because excitation of the flexors gives extension instead of flexion. This reflex is elicited by pressing upon the flexors of the legs in a certain manner, which must be strictly observed, and for a description of which the reader is referred to the original article. The writer believes that this reflex ranks in value alongside of exaggerated knee-jerks or the phenomenon of extension of the toes, in the diagnosis of organic diseases of the nervous system. He has found it of especial worth in obscure cases, in which other symptoms are vague, and also in cases in which the diagnosis between organic and functional disease is doubtful. In his study of this subject Gordon has examined 30 cases of various organic diseases, and, for the purpose of control, several hundred normal individuals, and about 50 cases of various nervous diseases in which the new reflex could not be expected. He expresses his opinion concerning the relationship of this reflex to other reflexes, particularly to those which are manifestations of involvement of the motor tract.

Operative Technique in Stone in the Ureter.—Crawford describes in detail the anatomical arrangement of the ureter as to its reservoirs, sphincters, and flexures. In their relation to the retention of calculi. He emphasizes the fact that the ureter is not a passive organ from a physiological point of view, since the urine is transported from the kidney to the bladder by peristalsis. One dilatation and contraction, extending from the calices to the bladder—that is, a single rhythm—occupies about five minutes. Both in the normal, as well as in the pathological ureter, the irregular caliber and peristaltic force are important factors in determining the passage or retention of calculi. The writer describes a unique method of invading the distal extremity of the ureter for the release of calculi. In the particular case described, the stone had passed all barriers to this point, but remained here for years, increasing to large size. The mouth of the ureter was not forcibly dilated by instrumentation, but with the tip of the index finger introduced it was pulled and pushed to and fro, the sphincter being constantly teased for nearly an hour. After this manipulation the distal sphincter was sufficiently dilated to allow the delivery of the calculus, which was 1⅜ inches in diameter. The bladder wall was not lacerated.

Journal of the American Medical Association, Dec. 3, 1904.

The Etiology and Pathology of Gout.—T. B. Futcher concludes an elaborate paper in this issue. He summarizes by stating that heredity, overindulgence in malt liquors, poor food, with bad hygienic surroundings or overeating with insufficient exercise, and lead intoxication are undoubtedly important predisposing etiologic factors in the production of gout. An analysis of 54 cases treated in the medical wards of the Johns Hopkins Hospital shows that the overuse of fermented beverages seems to be the most potent factor in this country. Gout in the United States appears, therefore, in the majority of cases to be acquired or "free-hold," rather than "copy-hold" or inherited. Studies of the metabolism in gout have as yet afforded no satisfactory explanation for the causation of the disease. There seems very little doubt but that it is due to disturbance in the metabolism of the "endogenous" and "exogenous" purins. As yet there is not sufficient experimental evidence to warrant us in abandoning the theory that the manifestations are in large part due to disturbances in uric-acid metabolism. Practically all researches agree in showing that the blood in gout contains a marked excess in uric acid, and the balance of opinion is in favor of the view that this excess is due to deficient excretion on the part of the kidneys. The alkalinity of the blood is not diminished, as Garrod supposed. The joint manifestations are essentially due to the deposition of the uric acid combinations of the blood in the form of the crystalline sodium biurate. Whether a local tissue necrosis is primary or secondary to this deposition is a question still in dispute. Nephritis, usually of a chronic interstitial type, arteriosclerosis, myocarditis, pericarditis and emphysema are the other most frequent pathologic findings.

The Uric-Acid Delusion and the Prevention of Gout.—Woods Hutchinson claims that the researches of the last half century have conclusively proven that uric acid is *not* the cause of gout. Uric acid is not toxic, is in no sense a result of imperfect combustion of proteids of the urea series, is, as appearing in gout, a result of the destructive metabolism of the nucleins of the body tissues, and is in no way derived from the blood. Some of its antecedents, the so-called purin group, are more toxic than uric acid itself, but are probably a symptom, and not a cause of the toxemia of the disease. The author would define gout as "any form of mild chronic intoxication occurring in an individual of the medium grade of resistance, and resulting in the deposit of uric acid in the tissues or urine." It is a symptom rather than a disease *per se*. As to its prevention, the author relegates diet to the background, declaring that each patient should have such food as will, while reducing intestinal putrefaction to a minimum, abundantly support strength. He finds it practical to limit the consumption of potatoes, bread, pastry, and preserves. Vegetarian diet in the disease he considers a polite form of starvation, and, where indicated, it is of value. In the long run it will be preferable to increase the body oxidation rather than diminish the amount of food consumed. Large quantities of water should be consumed, because, first, our digestive processes are processes of hydration, and water is a valuable aid to digestion instead of a hindrance, according to the ridiculous old nursery superstition of the last generation; second, it is the finest eliminant, whether alimentary, renal, or cutaneous, that we possess; third, because 99 per cent. of the body cells are still aquatic organisms and marine at that, and must be kept flooded with water in order to live. What salts are dissolved in the water is purely a matter of taste.

The Lancet, November 26, 1904.

Red-Light Treatment of Smallpox.—The first paper on this subject is by J. T. C. Nash, who reports three cases treated in one family. Case 1 was that of a boy eight years old, of the unmodified discrete variety, and admitted to hospital on the eighth day of the disease when suppuration was imminent and the temperature showed evidence of slight secondary fever. He recovered without incident. The other two cases, one of a vaccinated patient and the other of a patient who was unvaccinated up to the date of invasion and admission to hospital, showed no secondary fever of suppuration. Nash fits red glass to the windows, so as not to interfere with ventilation, but the practice of hanging red curtains so as to exclude every possible ray of ordinary daylight he regards as both unhygienic and unnecessary. In the second case the temperature of the vaccination seemed to run an unmodified course concurrently with the variola. The third case was tabulated as discrete modified smallpox.

The second paper is by T. F. Ricketts and J. B. Byles, and is mainly a reply to a criticism of their previous article on the subject (*Lancet*, July 30, 1904) by the late Prof. Finsen, who was an advocate of the red-light treatment. These authors are loath to believe that there is anything of value in the red-light therapy, so far as preventing suppuration in variola is concerned. Not any of their cases showed any modification or improvement which could be attributed to this therapeutic agent.

Calomel as a Poison.—T. L. Bunting reports the case of a boy of three and one-half years who, obtaining possession of a bottle of calomel tablets, ate 110 of one grain each. In twenty minutes emesis was produced and the stomach washed out, a solution of sodium bicarbonate being used in order to neutralize the free hydrochloric acid and so prevent conversion of the calomel into the perchlorate of mercury. After the washing five ounces of milk were poured down the tube and left in the stomach. The patient immediately fell asleep. Half an hour later he vomited again and then slept undisturbed for nine hours. There was no further vomiting. The first motion of the bowels did not take place until twelve hours after the calomel was taken; it was copious and soft, but not liquid. A second motion, which consisted entirely of an almost gelatinous green mucus, occurred four hours later. After that the bowels were moved only normally. The patient never at any time showed any ill effects or any other symptoms than those recorded. The case is reported by the author to show the inconstancy of calomel as a poison.

A Case of Accidental Vaccination Inoculation Simulating Cutaneous Anthrax.—The patient of W. Sheen was a woman of thirty years who had on her left cheek a lesion consisting of a central depressed black slough, a quarter of an inch in diameter, with a ring of small, nearly confluent vesicles round, a few of which were broken and exuding a turbid fluid. Beyond this the whole of the cheek was swollen, red, slightly œdematous, and somewhat tender. The swelling extended round the eye, which was partially closed, and also below the jaw, where enlarged and tender submaxillary glands were to be felt. The patient's general health was unaffected and the temperature was normal. The woman volunteered the statement that she thought the condition was due to vaccination and said that her baby was done three weeks previously, "took" well, and the places were now drying up. Eight days before the mother's cheek had been scratched by the baby; on the following day a pimple appeared, which two days later became swollen and painful, and then gradually got

to the present condition. An examination of the fluid for anthrax bacilli gave a negative result. Boric acid fomentations were applied, and in a week the swelling had nearly subsided and the sore was scabbing.

British Medical Journal, November 26, 1904.

A Case of Tetanus Treated by Chloral Hydrate.—Alexander Binning treated this patient, who was suffering with well-marked symptoms of tetanus. His jaws were tightly closed, his head could not be moved on his body, there was marked arching of the back, the legs were rigid and widely separated, and he was seized with painful spasms every two or three minutes. The heart was normal and the pulse full and regular. Chloral hydrate, one drachm in water, was ordered. This lessened the number and severity of the spasms and made little change in the pulse. The drug was then given in gr.xx doses every four hours, with an occasional dose at the end of two hours, when the spasms were severe. Improvement continued, till by the ninth day the spasms had ceased. Relief from pain followed every dose. At about the end of ten days a scarlatiniform rash, due to the chloral, appeared on the back and front of the trunk, so this drug was ordered for every six hours. Several spasms then took place. The dose was then given every four hours, until the twelfth day, when it was stopped. But it had to be administered every morning for the next five days, as without it the patient was not able to open his mouth for food. This trouble did not occur in the latter part of the day. The treatment by chloral caused no bad symptoms except the rash, which disappeared in four days. The patient was not able to get out of bed before the end of a month. Convalescence was aided by massage of all the muscles.

The Protective Power of Vaccination.—J. T. C. Nash admitted a young woman to the hospital with smallpox, and as there was no place where her baby of six months could be taken care of outside of the hospital, and as the infant's arm revealed three typical full-sized vaccination scars of a satisfactory nature, it was taken into the hospital with its mother. In spite of its tender age, and the concentrated poison of smallpox in which it lived at the hospital, it remained perfectly well. The writer thinks that this case offers striking testimony to the efficacy of vaccination in affording protection against smallpox during a most susceptible time of life.

Colchicum Corm in Acute Gout.—D. Duncan advises that in case of dissatisfaction with the action of colchicum wine or tincture, the powdered corm be used; this will give far better results. Larger equivalent doses can be given without the undesirable effects, while with an equal amount the improvement in the condition will be greatly hastened.

Berliner klinische Wochenschrift, November 14, 1904.

Official Meat Inspection in Regard to Tuberculosis.—Westenhoeffer, as the result of experiments and theoretical considerations, does not believe that tuberculous meat is a frequent source of human infection. There are numerous instances on record in which large numbers of people have from motives of economy preferred to use meat from condemned animals, and during long periods of observation such communities have not suffered from tuberculosis to any greater degree than the rest of the population. The author considers that the flesh of cattle having a local lesion or a generalized tuberculosis which has subsided may be placed in the markets after removal of the diseased portions. Meat from animals with acute miliary tuberculosis or signs of a fresh generalization is dangerous to health and should be destroyed or devoted only to technical uses. In case the diseased portions cannot be removed without either infecting the healthy parts or injuring their appearance, such quarters should be condemned. If emaciation or changes in the character of the meat have taken place as a result of the tuberculosis, the entire carcass should be considered unfit for use, regardless of the general or local nature of the lesion. In other words, there is danger only in the meat coming from animals with acute miliary tuberculosis, and in all other cases of the disease the ingestion of the clean meat, after careful removal of all the affected portions, is without risk. The author also criticizes extensively the present laws of the German Empire controlling the inspection of meat, which he considers unnecessarily strict in some respects and dangerously lax in others.

Atropine Poisoning.—B. Holz was called to a patient supposed to be suffering from acute mania, and found a girl of seven in a state of wild delirium. Inquiry elicited the fact that the child was being treated at a dispensary for phlyctenular conjunctivitis, and had been given syrup of iodide of iron and atropine solution. By mistake the mother dropped the syrup into the eye and gave a teaspoonful of the atropine solution by mouth, which was equivalent to one-twelfth of a grain of the alkaloid. One-sixth of a grain of morphine in two injections was sufficient to control the symptoms, and the author reports the case to illustrate the completeness with which opium and belladonna neutralize each other's toxic effects, and further to emphasize the danger of ever giving atropine solutions to patients.

Deutsche medizinische Wochenschrift, November 17, 1904.

Trypanosomiasis.—R. Koch reviews the history of the development of our knowledge of trypanosome infections, and describes the varieties of the organism thus far recognized. He does not agree with those observers who attempt to subdivide the tsetse disease, and surra into several varieties of each, but considers the two as the same disease, and is inclined to add the mal de Caderas to the same group. Attempts to immunize cattle in Africa by treatment with trypanosomes that have been reduced in virulence by passage through dogs and rats have been very encouraging in so far as the morbidity of the animals treated is concerned, but the author calls attention to a serious danger attending this plan of procedure. The immunized animals are not rendered proof against trypanosome infection but simply lose their susceptibility to the effects of the presence of the organism and their blood continues to harbor the parasites. In other words, they are a perpetual source of infection for non-immunized animals and the wholesale adoption of the plan would serve only to perpetuate the disease and not to check it. The large game of Africa is a prolific source of infection, as the large antelopes, etc., nearly all serve as hosts to the trypanosome, and the choice for each district has to be made whether the game or the cattle are to be preferred. If the latter, then the wild animals must be exterminated, and the success of this measure in reducing the disease has already been seen in some regions. We are not yet in possession of any remedy which shall act against the trypanosome as quinine affects the malarial plasmodium, but it is likely that such an agent will soon be discovered, and perhaps also prove available for use in treating human trypanosomiasis, of which sleeping sickness is a late stage due to invasion of the cerebrospinal canal by the organisms.

The Action of Malachite-Green and Other Substances on the Nagana Trypanosome in White Rats.—H. Wendalstadt describes a series of experiments undertaken with a view of discovering some agent which should prove toxic for the trypanosome of nagana. A list of thirty-three agents experimented with is given, including Ehrlich's trypanred, which were without noteworthy effect in postponing the death of infected animals. Malachite-green, however, was found to have a markedly destructive action on the parasite though the substance suffers from the disadvantage of also being extremely toxic for the rats and of producing necrosis at the site of injection. Very small amounts are active, 1 c.c. of a 1-2000 solution being sufficient. After each injection the parasites disappear in about forty-eight hours but return again in several days, and finally the animal dies without showing more than the usual number of organisms in the blood, so that the author is not sure that perhaps the dye may not be the cause of death. The author has continued his observations by studying the action of malachite-green when used in combination with various other substances, and also the properties of other bodies chemically allied to this dye stuff and hopes to find some more satisfactory agent.

The Significance of Flagellates in the Human Stomach and Intestine.—A. Rosenfeld describes a series of cases in which a flagellate organism, probably the trichomonas intestinalis, was found in the gastric residue of patients having cancer of the stomach; the material being taken while fasting. Out of twelve cases only in a single instance did the organisms appear in a non-carcinomatous stomach and the author therefore believes that it affords good circumstantial evidence of the presence of malignant disease, though he does not go so far as Zabel, who considers the finding of flagellates an indication for operation. The frequent occurrence of such parasites in various forms of diarrhœa is probably not of very great importance, and such cases should always be studied carefully in order to determine the underlying etiological factor instead of being dismissed with the diagnosis of "flagellate diarrhœa."

Münchener medizinische Wochenschrift, November 15, 1904.

The Climatic Treatment of Asthma.—Avellis says that in spite of our efforts to discover the atmospheric conditions most suitable to the patient with nervous asthma, we must confess that success in these conditions is to be obtained only through the purest empiricism. Each case is different from every other, and more than this, conditions which at one time were favorable, after the lapse of a certain length of time may become just the reverse. In a case of the author's a boy of five found freedom from nocturnal attacks only after prolonged search in a certain country village. The effect of his sojourn there was so favorable that after his return to his city home he remained free from asthma for a year. His parents, wishing to do something further to strengthen him, took him back to the same village with the intention of spending some time there, but

the very first night the paroxysms returned and recurred every succeeding night of the visit. Apparently a very trifling change of air, such as is obtained by a one or two-hour drive, or even by removing from one part of a city to another, is sufficient in many cases to effect complete relief, and mountains and valleys, sea air and inland air all have special virtues for different patients. In general, it may be said that the patient should travel till he finds a place where he seems to be immune, and then stay there as long as possible.

Embolism of the Superior Mesenteric Artery in the Puerperium.—H. Cramer describes this unusual condition which occasioned the death of a woman of twenty-two, on the thirteenth day of her puerperium. She made a good recovery from the normal labor and was beginning to be out of bed, when on the eleventh day she had an involuntary defacation before arising, and abdominal pain followed by diarrhœa and vomiting. The next night was fairly comfortable, but the following day the symptoms became more severe, intestinal obstruction developed, the pulse and temperature rose, and the patient died during an exploratory laparotomy. Nearly the whole small intestine was found completely gangrenous and so friable that it tore repeatedly on handling with forceps. The author believes that the embolus probably originated in the pelvic veins and was short circuited into the arterial system through a patcht foramen ovale. The author reviews the fifty-one cases recorded in the literature and points out that in several the area of necrotic intestine was so small that a resection might have been attempted with good hope of success, and urges laparotomy with this end in view in all cases in which the diagnosis can be made.

Postdiphtheritic Nephritis.—A. Mayer says that it is usually accepted that the nephritis associated with diphtheria is an early lesion that it is rare to find it developing after the acute symptoms have subsided. Careful study of the urine, however, shows that there are opportunities for several fallacies which may give rise to inaccurate conclusions in this regard. One of these is the fact that the nephritis of diphtheria is peculiar in that there are often abnormal organized structures such as casts and epithelial cells to be found in the urine some time before the albumin can be recognized. It is therefore important to examine all specimens throughout the disease microscopically as well as chemically. The concentration of diphtheritic urine also causes spurious reactions for albumin to be simulated by precipitates of urates when tested by the acetic acid method, and in this way it may be thought that albumin not appearing till late was already present early in the disease. The author describes a case in which a sharp nephritis appeared on the thirteenth day when the child was about to leave the hospital. He concludes that the urine of diphtheritics should be examined for a considerable period after the disappearance of all symptoms, using the heat and nitric acid tests.

French and Italian Journals.

Treatment of Mosquito Bites.—Mosquitos, besides being the agents of propagation of certain infectious diseases, often produce local effects—for example, itching—which are extremely disagreeable to certain organisms. Physicians have for a long time been searching for a remedy which should not only do away with these distressing local effects, but which should also destroy to at least a certain extent any possible infectious agent at the portal of entry. Manquat advocates the use of several formulæ for this purpose. One is composed of 5 grammes of 40 per cent. formalin, 10 grammes of 90 per cent. alcohol, and 10 grammes of distilled water. This solution is to be applied repeatedly during fifteen minutes. This proceeding, although giving good results, is a little inconvenient on account of the length of time of its application. Another solution spoken of is mentholated cologne water, 5 per cent. The results from the application of this solution are more than doubtful. A third method praised especially by Capitan, is the application of the tincture of iodine as soon after the sting as possible.—*Revue Française de Médecine et de Chirurgie,* October 17, 1904.

Clinical and Anatomopathological Contribution to the Study of Cerebellar Atrophy in Man.—Giovanni Biancone has made a careful study of a case of cerebellar atrophy with epilepsy, in a girl fifteen years of age. The patient had rigidity of the muscles of the neck, tremor of the head, nystagmus, convergent strabismus, intention tremors of the upper extremities, oscillation of the trunk when standing, staggering gait with tremor, scanning speech, exaggerated reflexes, hypoalgia, and idiocy, associated with epilepsy. After admission to the hospital her condition grew gradually worse, and she died in a severe epileptic crisis. The autopsy and microscopical examination showed that she had chronic leptomeningitis of the cerebrospinal axis, marginal degeneration of the spinal medulla, symmetrical lack of development of the cerebellar hemispheres, and of some parts of the vermis, and decrease of the nervous elements of the cerebral cortex. A lack of development may be diagnosed from a sclerotic atrophy by the following considerations. If it has lasted from childhood without any evidences of fever or acute symptoms of an infective nature, it is congenital. If the condition is accompanied by ataxia, tremor and weakness, nystagmus, and scanning of words, it is associated with spinal lesions.—*Gazzetta Medica di Roma,* September, 1904.

Treatment of Echinococcus Cysts of the Liver by the Method of Baccelli.—Francesco Leto tells us that, in 1887, Baccelli, of Rome, brought forward a method for the treatment of echinococcus cysts in the liver at once simple, innocuous and efficacious; it consists of the puncture of the cyst with a small aspirating syringe, the removal of a small amount of liquid, and the injection of a small quantity of 1 per cent. corrosive sublimate solution. The amount injected should be 20 to 30 cm., about one-half of that withdrawn. The cyst is never infected, on account of the antiseptic action of the bichloride of mercury, and the echinococci are killed; the cyst gradually shrinks in size and a complete cure results, after the absorption of the fluid. More than one injection may be necessary, and the cure may require some months. Contraindications are suppuration of the cyst, and long continuance of the trouble. Several cysts may have to be injected at one or more sittings. The danger of hydatic fluid getting into the abdominal cavity and causing poisoning is small. After the operation, the patient should remain perfectly quiet for twenty-four hours, abstaining from food. The author publishes two successful cases treated by him after this method, and resulting in a perfect cure.—*Il Policlinico,* October, 1904.

The Otitis of Measles.—Le Marc, Hadour, and Bruder declare that the otitis of measles is closely associated with oculo-nasal catarrh and does not appear to be influenced either by the exanthem or by the angina. Just as it has been said that "scarlatina is angina," so it might be said that "measles are oculo-nasal catarrh." This predominance of naso-pharyngeal catarrh explains why measles affect the larynx while scarlatina is not apt to affect this part. The tonsil is an isolated territory without laryngeal repercussion; on the contrary, the least coryza often causes laryngitis and hoarseness. The writers have not made any bacteriological examinations of auricular suppurations because all of their cases were those of spontaneous perforations of the tympanum, and as these are already subject to secondary infections, the bacteriological examination would not be significant. The perforation most often occurred in the antero-inferior region, the otitis of measles following the general laws which regulate the escape of pus from the lowest point.—*Revue Française de Médecine et de Chirurgie,* October 3, 1904.

Treatment of Fracture of the Nose.—C. and F. Martin under general anæsthesia reduce fracture of the nose by means of their forceps which they introduce into the nasal fossæ. After the reduction is perfect the fragments are kept in position by the application of retention apparatus. Asepsis of the nasal cavity is assured by frequent and abundant lavage. Every five or six days the apparatus is removed and cleaned, and then replaced. This treatment is kept up for from four to six weeks. At the end of this period the consolidation is strong enough, so that the apparatus may be removed without danger of displacement of the fragments by cicatricial contraction. The results of this treatment are remarkable, and they are as good in old cases as they are in recent ones. Not one of the patients has had any mishap, no infection and no hemorrhage. In fact, in one of the cases, continuous epistaxis ceased after the reduction. In all cases, even when one is not absolutely sure of a fracture, reduction with these forceps should always be tried, for in this way the pain is overcome and consolidation is made more rapid.—*Le Bulletin Médical,* November 9, 1904.

Obesity.—Leven insists on the constancy of dyspeptic troubles in the obese. The author has observed a number of cases of obesity in which the patients suffered with diarrhœa, and whose weight increased in spite of the chronic diarrhœa. The cessation of the bowel disturbance after appropriate treatment was accompanied by loss in weight. These apparently paradoxical facts are explained on the ground that the weight is regulated by the nervous system whose mechanism may be disturbed by any diseased condition whatever. Leven insists on the necessity of decreasing the weight slowly since a rapid loss in weight depends more on dangerous dehydration of the tissues than on the loss of fat. Lorand thinks that there exists an obesity due to rich food and a sedentary life; and also an obesity due to morbid processes of certain glands whose internal secretions powerfully influence all of the processes of nutrition. The removal of the ovaries or of the thryoid is followed by a diminution of oxidation while the products of these glands increase it. The line between these cases of obesity and complete myxœdema is very narrow.—*La Tribune Médicale,* November 5, 1904.

Treatment of Congenital Dislocation of the Hip.—Calot presents a report of ten children who had been cured, some of single, some of double dislocation of the hip. The ease with which these children walked left nothing to be desired. He showed these children, two or three years of age, to prove that contrary to the generally accepted opinion it is easy to effect a cure in the very young. Though this treatment may necessitate extra attention at home, perhaps, the reduction is, notwithstanding, extremely easy; the treatment is very gentle and does not necessitate the use of an anæsthesia. And these anatomical and functional cures are generally more complete if they are undertaken before the development of serious osseous deformities which age induces. The writer questions why these children should not be promptly cured of these as well as other orthopædic congenital affections. Many of these cases have been cured in the space of four months with but a single application of apparatus.—*La Presse Médicale,* November 5, 1904.

Pustular Bromide Rash.—Vincenzo Chirivino publishes a case of bromide rash, with observations on the cause of such affections. The patient took each year a course of bromides for the relief of epilepsy, and he had usually no bad effects from the use of the drug. Finally, on one occasion of using the drug, he had a severe postular eruption appear nearly all over the body, lasting three months, without fever. Careful histological examinations of the skin and postular contents were made, which showed that the lesion was of the endothelium of the cutaneous vessels, and exclusively those of the rete subpapillare and of the papillæ; and that it was inflammatory in nature, and not functional or vasomotor. The author considers it of the greatest importance to note that before this attack the patient had marked gastric disturbances, characterized by hyperchlorhydria. He considers that this produced a chemical change in the bromides when taken into the stomach, chlorides of the sodium and potassium being formed in the stomach, and thus bromine set free to be eliminated by the skin and cause the pustulation. He advises that the gastric secretions be carefully examined before administering bromides in large amounts, and that in cases of hyperacidity they be not given; that acids be avoided while taking bromides; and that in cases of eruption the physician suspend at once the use of the drug, and treat the stomach. —*Giornale Internazionale delle Scienze Mediche,* October 31, 1904.

Post-Mortem Temperature in the Human Cadaver.—Ettore Greggio and Francesco Valtorta have made experiments as to the fall of temperature in the cadaver post mortem, which seem to be of considerable value medico-legally. They made observations on 100 bodies, beginning to take the temperature ten minutes after death, and repeating it at intervals during twenty-four or more hours. They found that there were considerable differences in the temperature, depending on the cause of death, the amount of fat on the body, etc., a fat body retaining heat longer than a lean one. Their conclusions are as follows: 1. Three periods may be distinguished; a short one of about three hours, in which little heat is lost; a longer one of six hours, in which the loss is greater, at least one degree per hour, and a third, longest of all, in which the loss becomes progressively less. 2. Reduction to the temperature of the surrounding air occurs in about 22 hours. 3. The temperature, after becoming that of the surroundings, rises again slightly. 4. A rise of temperature after death is more frequent than has been supposed. It was observed 25 times out of 40 in cases that had febrile diseases. The maximum rise was 45 minutes after death, and was in some cases more than a degree. 5. There is no great difference in the time of arrival of rigidity in different cases. Sometimes it comes sooner in certain parts than in others, as in a paralyzed portion of the body.—*Gazzetta Medica Lombarda,* October 17, 1904.

Rare Forms of Cardiorespiratory Murmurs of Double Rhythm.—Carlo Quadrone has observed, during his hospital experience, cases of cardiac murmurs of double rhythm, produced by the pressure of the ear or of the stethoscope on the chest wall. He accounts for them as follows: 1. There can be produced, by pressure over the precordial region, murmurs of definite tone and rhythm, which may be noticed for a long time and do not change their nature. 2. They are mostly mesosystolic, some synchronous with systole or presystolic. 3. They change their characteristics with the phases of the respiratory act. 4. They may be considered as cardio-pulmonary murmurs, produced by an aspirative and compressive action of the heart on the neighboring lung tissue, aided by the external pressure applied.—*Revista Critica di Clinica Medica,* October 15, 1904.

Annals of Surgery, October, 1904.

Some Studies in Asepsis.—C. Harrington calls attention to some of the fallacies attendant on modern surgical methods with reference to aseptic measures. Much stress is laid on certain pet procedures, while other matters of quite as much importance are neglected. Particular attention is called to the fact that many of the plans of washing the hands now followed do not produce asepsis. As the result of long-continued experimentation, the author is inclined to believe that the best results some from using as a solution for the hands the following mixture: Commercial alcohol (94 per cent.), 640 c.c.; hydrochloric acid, 60 c.c.; water, 300 c.c.; corrosive sublimate, 0.8 gram. This mixture contains 60 per cent. absolute alcohol, 6 per cent. commercial (strong) hydrochloric acid, and 1:1250 corrosive sublimate. Now, 60 per cent. alcohol will destroy *Staphylococcus aureus* in four minutes; 10 per cent. hydrochloric acid is equally effective; and 1:1000 corrosive sublimate will kill it in three minutes. Why a combination containing all three substances, but with lesser proportions of the acid and the salt, is so much quicker in its action than any one of them alone, is, says the author, an interesting question of physical chemistry. This mixture kills the *Staphylococcus aureus* in about ten seconds.

The Treatment of Hæmatemesis by Gastroenterostomy.—F. G. Connell reviews the literature and reports a personal case operated on in the manner indicated, with a fatal result on the fifth day. Autopsy revealed an ulcer on the anterior stomach wall, near the pylorus and lesser curvature, with an eroded artery at its base. An examination of the mucosa during the operation did not locate this point. From collective experience, the author believes that gastroenterostomy is but an indirect and unreliable method of dealing with gastric hemorrhage. While it has been followed, it is true, by a cessation of the bleeding, and the healing of the ulcer causing it, it cannot be depended on with any certainty. As to the indications for the operation, it may be said that it is indicated in hæmatemesis, first, after a thorough search has failed to reveal the source of the hemorrhage; second, when the source of the bleeding is located, but it is in such a condition as to make direct treatment impracticable or impossible.

Postoperative Intestinal Obstruction.—The histories of these cases are given by C. H. Peck, who notes that the possibility of postoperative obstruction should be borne in mind in all abdominal operations, especially in conditions likely to result in extensive adhesions, *e.g.* appendicitis with peritonitis, or pyosalpingitis with pelvic peritonitis. All raw surfaces should be covered as much as possible with normal peritoneum, or, when this is not practicable, perhaps with Cargile membrane, or carefully arranged omentum. Small incisions and the least possible manipulation and evisceration should be the rule. The cleansing of the peritoneum should be done rapidly and with the least possible trauma and handling of normal peritoneum. The smallest possible drains should be used, if any. Diet and regulation of the bowels should be watched with the greatest care during the first few weeks of convalescence; attacks of gaseous indigestion with colicky pain should be regarded with suspicion and treated promptly and vigorously. Determined effort should be made to relieve early attacks of obstruction by enemata, position, gastric lavage, etc., and if successful, the patient should be kept on a scanty fluid diet for some time, and watched most carefully for possible recurrence of symptoms. If palliative measures are unsuccessful after a few hours' trial, operation should be promptly resorted to. In cases occurring later than four to six weeks, palliative measures are less likely to be effective, and early operation is usually imperative. All patients who have been operated upon for intraabdominal inflammatory troubles should be warned of the possibility of the occurrence of obstruction before leaving the care of the surgeon, impressed with the importance of avoiding indiscretions in diet and attacks of indigestion, and of seeking advice promptly if such attacks should occur. The operative procedure must be adapted to each individual case; the right Kammerer incision for cases following appendicitis with complete healing is often useful. Resection and end-to-end anastomosis should be preferred to enterostomy in the majority of cases in which gangrene or sloughing of the bowel demands one or the other.

The Treatment of Fractured Patella.—J. A. Hutchinson reports seven personal cases, with excellent radiographic illustrations. He gives a general description of the deformity following the accident, and enumerates the various plans of treatment which have been and are now followed. He prefers the open operation, following the subsidence of inflammatory swelling (seven to ten days). He lays special stress on the following points of surgical technics: rapid operation, rubber gloves, packing of the joint cavity as soon as opened with sterile gauze in normal saline fluid, continuous irrigation with the latter during operation, keeping all instruments out of the joint cavity as far as possible, special care in adjusting the torn aponeurosis, particularly on the lateral aspects, elevation of the whole limb after operation, early massage and passive movement. Of six cases operated on according to this method, all are able to walk without lameness, and to go up and down stairs without difficulty.

Book Reviews.

The Medical Record Visiting List, or Physicians' Diary for 1905. New revised edition. New York: William Wood & Company.

This visiting list may now be assumed to represent the acme of convenience in pocket records. Thirty pages of printed matter contain information useful to have ready for consultation at any moment, such as a very ingenious obstetrical calendar; equivalents of temperature, weight, capacity, etc., in the metric and English systems; a table of solutions for hypodermic use; hints for the proper management of poisoning and other emergencies, etc. An unusually well arranged table gives the maximum doses of drugs in both the apothecaries' and decimal systems, and also indicates the remedies official in the pharmacopœia. The blank pages are designed for the daily record of visits made or to be made, together with details as to the charges, etc., consultation practice, obstetric engagements, and record of such cases, record of vaccinations, register of deaths, nurses' addresses, patients' addresses, and cash account. The binding is of the most durable type, the paper tough, and the volume of a size to slip easily into the pocket.

A Text-Book of Clinical Diagnosis by Laboratory Methods. For the Use of Students, Practitioners, and Laboratory Workers. By L. Napoleon Boston, A.M., M.D. Associate in Medicine and Director of the Clinical Laboratories, Medico-Chirurgical College, Philadelphia. Formerly Bacteriologist at the Philadelphia Hospital and at the Ayer Clinical Laboratory of the Pennsylvania Hospital. With 320 Illustrations, many of them in Colors. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

The author introduces his work by a concise description of the practical use of the microscope, and states that the ignorance of instrumental technique is largely responsible for unsatisfactory results in the laboratory. The first section deals with the examination of the blood, over one hundred pages being devoted to the most practical and recent methods, with plates such as are sufficient to make the subject matter intelligible. In this chapter the bacteriology and parasitic diseases are discussed in full and those protozoan parasites which invade animals are also included. Serum-diagnosis is given a fair amount of attention, and the text gives in a concise manner the latest decisions of what we know regarding this new but important branch. The portion on uranalysis is thoroughly up to date, giving methods of determining acidity, Bence-Jones albumin, etc. The gastric and intestinal contents are described and methods applicable to each are given in a manner such that the average man could perform them intelligently. The author also includes the examinations of the sputum, buccal secretion, nasal secretion, discharges from the ear and eye, together with the semen, vaginal secretion, and menstrual fluid. A short chapter on cerebrospinal fluid will be of interest, on account of the recent epidemic. Inoscopy and cytodiagnosis are briefly considered. The work as a whole fulfills the intention of the author and has the advantage of brevity without careless omission.

Kirkes' Handbook of Physiology. Revised by Frederick C. Busch, B.S., M.D. Professor of Physiology, Medical Department, University of Buffalo. Fifth American revision, with five hundred and thirty-five illustrations, including many in colors. New York: William Wood & Company, 1904.

Kirkes' Physiology is too well known as a reliable textbook to demand any extended notice. In this revision several changes have been made in order to keep the book abreast of the modern advances in physiological science. These changes and additions are particularly noticeable in the chapters on the Chemical Composition of the Body, the Blood (notably the paragraphs on the globulicidal properties of serum, agglutination, cytolysis, and precipitins), and the sections of the Hæmolymph Glands and the Internal Secretions. The chapter on Food and Digestion shows also considerable revision. The revision is well and thoroughly done, and the volume will be welcomed as an old friend by the very many who have used an earlier edition, while the medical student of to-day cannot do better than procure a book which has stood the test of long and critical service. We believe that it is more than fifty years since the first edition of Kirkes was published, and, judging from the rapidity with which successive editions appear, it is still able to hold its own.

Diseases of the Nose, Throat, and Ear, and Their Accessory Cavities. By Seth Scott Bishop, M.D., D.C.L., LL.D., Author of "The Ear and Its Diseases;" Honorary President of the Faculty and Professor of Diseases of the Nose, Throat, and Ear in the Illinois Medical College; Professor in the Chicago Post-Graduate Medical School and Hospital; Surgeon to the Post-Graduate Hospital and to the Illinois Hospital; Consulting Surgeon to the Mary Thompson Hospital, to the Illinois Masonic Orphans' Home, and to the Silver Cross Hospital of Joliet, etc. Third edition. Philadelphia: F. A. Davis Company, 1904.

The second edition of Dr. Bishop's book appeared in 1898. During the past six years much progress has been made in the fields indicated in the title, and the present edition incorporates into the original treatise all that recent years have shown to be of value. Full attention is given to recent discoveries, while many helpful quotations and references to current literature are added. We may particularly mention the closing chapter on Life Insurance, as affected by ear, nose, and throat diseases. Probably no one text book in use by American students and practitioners covers the general ground of ear, nose, and throat work better than does that of Dr. Bishop. This is not saying that one may not take exception to certain statements on various topics, but the book as a whole must be accepted as an interesting record of the experience of a long term of years spent in special practice.

The Medical News Visiting List. 1905. Thirty Patients per Week. Philadelphia and New York: Lea Brothers & Co.

The present handy little volume is in the nineteenth year of issue, and consequently is the product of years of experience and study. The text has been brought carefully up to date. Among other valuable features are a scheme of dentition, instructions for examining the urine, tables on eruptive fevers, of incompatibles, poisons, and antidotes. The paper is tough and fine, suitable for either pencil or pen and the binding is of leather.

Health and Disease in Relation to Marriage and the Married State. A Manual contributed to by Drs. G. Abelsdorff, L. Blumreich, R. Eberstadt, A. Eulenberg, C. A. Ewald, P. Fürbringer, M. Gruber, W. Havelburg, A. Hoffa, R. Kossmann, F. Kraus, R. Ledermann, A. Leppmann, E. v. Leyden, E. Mendel, A. Moll, A. Neiser, J. Orth, S. Placzek, C. Posner, P. F. Richter, H. Rosin, W. Wolff. Edited by Prof. Dr. H. Senator and Dr. S. Kaminer. The only authorized Translation from the German into the English language, by J. Dulberg, M.D., of Manchester, England. Vol. I. New York: Rebman Company; London: Rebman, Ltd., 1904.

The volume before us consists of an introductory chapter which points out the relation of Matrimony to Public Hygiene and to Preventive Medicine. This is followed by chapters on The Hygienic Significance of Marriage; Congenital and Inherited Diseases and Predispositions to Disease; Consanguinity in Marriage and its Effects on the Offspring; Climate, Race, and Nationality in Relation to Marriage; Sexual Hygiene in Married Life; Menstruation, Pregnancy, Child-bed, and Lactation in Relation to Marriage; Constitutional (Metabolic) Diseases in Relation to Marriage; Diseases of the Vascular System, of the Respiratory Organs, of the Organs of Digestion, of Diseases of the Kidneys in relation to marriage. The book is intended for the general practitioner, and differs very considerably from the works of Havelock Ellis, Krafft-Ebing, etc., in that here are no long histories of sexual degenerates, or, indeed, of any sexual abnormalities. The various subjects are carefully and thoroughly handled, and the reader will find here much information for which he will search in vain elsewhere. There is an ample bibliography (chiefly German), together with a good index.

Duality of Thought and Language. By Emil Sutro. New York: The Physio-Psychic Society, 1904.

We must confess that, while this work may prove of interest and profit to those who have a taste for metaphysics, it does not convey any very definite message to the physician. The author's main postulate is that "there is a correlation existing between the various phases of the human spirit and those constituting language, especially spoken language." Penetrating into the inner being of the latter, he finds that it owes its existence to a series of correlated physical and psychical factors constituting man. Language is a symbolical representation of human life.

Blakiston's Quiz-Compends. A Compend of Medical Latin, Designed Expressly for Elementary Training of Medical Students. By W. T. St. Clair, A.M. Professor of the Latin Language and Literature in the Male High School of Louisville, Kentucky; Author of "Cæsar for Beginners," "Notes to Cæsar's Gallic War, Book Three," etc. Second edition, revised. Philadelphia: P. Blakiston's Son & Company, 1904.

The most useful portions of this compend are the vocabulary and the few pages on prescriptions. The sentences given for translation into English are framed on the supposition that Latin words strung together constitute Latin. The grammatical slips are few, but the arrangement of the words in the (medical) Latin sentences is bad.

Society Reports.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held November 28, 1904.

DR. HENRY S. STEARNS, PRESIDENT.

Address of the Retiring President.—Dr. WENDELL C. PHILLIPS took pleasure in saying a few words regarding the work of the past year. His work as president had been laborious, but the duties involved were pleasant. To be the presiding officer of a body numbering 2,000, with all the responsibilities and duties attached to the office, was no easy task. Among the greatest responsibilities had been the arranging of the programmes, which required a great deal of thought, knowing so well that upon the character of the scientific work depended the success of the society. Again the responsibilities were increased by the varying calls upon him by members for advice and counsel, sometimes calling his attention to irregularities in the profession requiring work of the legal department. Not a small responsibility was the work of the legal department, and it was necessary to exercise the greatest care; it was not merely the arrest and conviction of such men as Conrad and Blinn that called for great care, but in doing all they could without reflecting in any way upon the medical profession. He thanked the members of the society for their kindly support during the year past, as shown not only by the interest taken in the programmes but also in the attendance, which was unusually large. He then introduced the incoming president.

The President's Inaugural Address.—Dr. HENRY S. STEARNS thanked the society for the honor they had conferred upon him in electing him president of this time-honored society, which had many veterans of the medical profession in this city to-day. He said that no efforts would be spared to make the coming meetings interesting. He hoped that every respectable and licensed practitioner of medicine in the county would be enrolled among the list of members. Very important and valuable work had been done by the Comitia Minora during the past year, as well as by other committees. He urged that the members persuade other medical men to become members, as the success of the society depended upon its membership. On the 10th of last month the maximum penalty had been imposed upon fifty milk dealers, which was largely the result of the work of the Milk Commission, which had the backing of this society. He called attention to the enactment of a new statute in which should be clearly interpreted the term "practice of medicine," which would enable them to get rid of so-called "Faith Curists," and others of similar type. By increasing the membership, more funds could be had for the purpose of suppressing illegal practitioners. Every dollar of this fund had been spent for this end. The daily press had asked why the Society did not suppress illegal practitioners, and his only answer was lack of funds to obtain indictments. A larger fund was imperatively needed to carry on the work of the legal department. Not only did lack of funds stand in their way, but also the lack of a statute defining the term "practice of medicine" more exactly. Other States, especially Michigan, were ahead of New York in this particular. Certain changes should be made in the laws, such as giving the Registrars the power to revoke licenses if bad conduct was proven; also re-registration of medical men should be made imperative, because many quacks were to-day practising under dead men's diplomas; also better definition of the words "practice of medicine," following somewhat the Michigan law. At present fine and imprisonment could not be imposed upon an illegal practitioner at the same time; practising medicine illegally should be made a misdemeanor, with a fine of one hundred dollars and imprisonment for one year. After reviewing briefly the attempts made at amalgamation of the two State societies and the cause of failure, he closed his address by stating that the State Society and County Society would honor all pledges given in joint conference, and that he entered upon his duties as president with the fixed determination to foster kindly feelings and to have no internal dissensions. He then made his committee appointments for the coming year.

Dr. J. RIDDLE GOFFE, president of the Medical Society of the State of New York, stated that somehow the impression among a few was that he was against the amalgamation of the Medical Society of the State of New York and the New York State Medical Association, and he wished it to be understood, once and for all, that he was unqualifiedly in favor of it and would work to this end. He felt certain that this amalgamation would take place before another year.

Recent Clinical Studies of Uterine Fibroids; A Plea for Early Operative Intervention.—Dr. ARNOLD STURMDORF read this paper. He said that two decades ago eighty-five out of one hundred women died when operated upon for uterine fibroids, while to-day the results of the operative treatment constituted one of the most brilliant achievements of surgery, and no woman would lose her life if operated upon in time. It was unfortunate that some, even to-day, condemned operative intervention. These growths possessed a peculiar malignancy; they were not self-limited, and they could kill by inducing local and constitutional conditions. At present all palliative therapeutics had proven futile and sometimes even disastrous. The histological structures possessed malignant potentialities. The question arose, why and when to operate? The answer was based upon the following: (1) Was there a tendency in the disease in question to spontaneous cure? (2) What was the potency of theraupetic resources? (3) What were the immediate and remote results of radical intervention? He said that Dr. Noble, of Philadelphia, in his report on 1,188 fibroid tumors operated upon, called attention to the relative frequency of adenocarcinoma of the uterus and epithelioma of the cervix. Fibroid tumors were direct predisposing causes of cancer. It should not be understood that uterine fibroids were benign tumors. It was also erroneous to think that such tumors produced few symptoms, and that, after the menopause, retrograde changes would occur and the tumor disappear. An analysis of the 1,188 cases of fibroid tumors of the uterus showed that 16 per cent. of these patients would have died without operation, and that 18 per cent. would have died from complications. In addition a certain percentage of them would have died from conditions produced by chronic anæmia and from pressure effects upon the alimentary and urinary tracts. Direct and indirect deaths from uterine fibroids could be placed under five categories, as follows: (1) the pathological conditions induced in the adnexa; (2) structural changes or degenerations in the tumor; (3) compression on adjacent organs or viscera; (4) metabolic and cardiovascular changes not due to pressure and occurring frequently when the tumors were very small; (5) pregnancy. Inactivity condemned the patient to invalidism for years. This was the reverse of the optimism taken by many general practitioners. In many instances, what would have been the operation of choice soon would become an operation attended with great and grave responsibilities.

Recent Pathological Studies of Uterine Fibroids.—Dr. THOS. L. CULLEN, of Baltimore, said that he had made a study of between 1,200 and 1,300 cases of uterine fibroids with Dr. Howard Kelly. These cases had been studied microscopically, and the histological elements had been carefully studied as well. They had accepted the general classification of interstitial, subperitoneal, and submucous myomata. Whenever large myomata existed they invariably had found others, some as small as pin-points. In many cases subperitoneal fibroids were seen to be covered over by adhesions, and one of the most interesting was shown to be adhesions to the omentum; an atrophy of the omentum had been traced in these cases. Some were slightly adherent, while others were very firmly attached; sometimes the omentum had entirely disappeared. Parasitic myomata were shown in some cases to be entirely separated

from the uterus and lying perfectly free in the abdominal cavity. He called attention to sloughing of these growths. In many instances in which the growth projected into the vagina, the surface epithelium would disappear and any slight injury to the surface mucosa would cause it to drop down, leaving a cavity as large as a lemon. These cervical myomata had frequently been found; they usually began in the substance of the organ and gradually, because of their increasing size, projected down until there was only a growth below with a little uterine tissue on top. The most common degeneration which took place in these tumors was hyaline, and this was probably due to their lack of blood supply; there was no coagulation necrosis. It was very interesting to follow the changes that occurred in hyaline degeneration; first, there was a hyaline appearance over large areas which melted away and only enough tissue was left to carry blood vessels. In the past it had been claimed that sarcoma of the uterus was an independent process and had nothing to do with fibroids, but Dr. Cullen had traced a direct transference of myomata into sarcoma; in one instance there were several myomata; at another point in the uterus there was sarcoma; there seemed to be a direct transference of myoma into sarcoma, sarcomatous areas being in the center of the myomatous growth. Interesting sections were shown of areas of myomata undergoing hyaline degeneration, and in the center were cells undergoing the early changes of transformation into sarcoma. In these cases the histological picture was not so distinct as in cancer. Until 1896 no attention had been called to cases of adenomyomata. They were not malignant, and consisted largely of a diffuse thickening of the uterine walls with a myomatous tendency. The thickening took place only in the mucosa. Sometimes the menstrual blood was dammed back and there was formed a large cyst with its cavity filled with a chocolate-colored fluid. Photographs of sections were shown with the uterine glands running one-half way through the walls. Before operating for uterine fibroids, the surgeon should be informed as to the condition of the uterine mocosa; in every case of myomectomy the operator should know whether or not the uterine mucosa was normal. In nearly every case where there were normal tubes and ovaries there was found a normal uterine mucosa. The degeneration which took place in the mucosa was entirely mechanical, and Dr. Cullen did not agree with the statement that it was due to any changes in the blood vessels. Whatever bleeding occurred was due to mechanical effects. Large veins were found in the endometrium with very thin walls, and at the menstrual epoch much blood naturally escaped; when these veins were placed on the stretch, naturally one would get a leakage, but only when the growth projected into the uterine cavity would there be much hemorrhage. He said that Dr. Noble had been much interested in the coexistence of myoma and carcinoma in the uterus, and he had drawn attention to the association of the two. Carcinoma of the body of the uterus was most prevalent in those who had never borne children; also myomata were more prevalent among those who never had children, and he thought possibly the same factors might be present to bring about these conditions. Nevertheless there seemed to be some relationship between myoma and adenocarcinoma of the uterus. Among the 1,200 or 1,300 cases that he had seen he had observed the coexistence of the two, myoma and adenocarcinoma of the uterine body, in several instances. He showed a picture of a perfectly normal uterine mucosa, and in the center of the organ was an early cancer, no doubt the earliest on record and which he had discovered accidentally. He related an instance of two malignant processes, papillary growths and carcinoma, both with metastases, occurring in association with a fibroid of the uterus. He also showed photographs of myoma associated with lipoma, a simple mixture, merely a coincidence, and which was interesting because so few cases had been recorded. Uterine polypi were mechanical in origin and existed with a perfectly normal mucosa; in these cases the mucosa was forced off and extruded through the cervix. In such cases an examination of the tubes and ovaries would show all kinds of conditions, but the most frequent were adhesions; sometimes there was produced as a result of these adhesions a hydrosalpinx, and, in some cases, a pyosalpinx. Sometimes associated was tuberculosis, and occasionally a tubal pregnancy.

Fibroids and Pregnancy.—Dr. S. Marx said that the association of pregnancy with fibroids was one of danger, and one which might make an otherwise perfectly normal labor one fraught with the gravest dangers. No matter how small the tumor might be, one would not know how large it might become at the time of labor. Patients might be lost from sloughing of the tumor. It was fortunate that many of these patients were incapable of conception; but when they did become pregnant then one was dealing with an uncertain and unknown complication. When Dr. Marx found a fibroid of the uterus in any woman who presented herself to him because of symptoms referable to it, he advised operation. The treatment of this condition during the child-bearing period was one of radicalism. Patients with uterine fibroids situated at the fundus and who became pregnant, presented many difficulties and should be watched very carefully and expectantly. During labor sometimes these tumors might be pushed above the presenting part, but such efforts should not be persisted in too long. When cases were met with at term one might extirpate them by vaginal section, but he thought it better to perform cesarean section. To extirpate during actual labor was practically impossible, and manifold complications might arise. Fibroids at the fundus were, as a rule, harmless; but those that were immovably fixed and blocked the pelvis required operation to free the passages. Many cases required deep and careful thought on the part of the attending physician, and experience had taught that the trouble during the third stage of labor was from hemorrhage and sloughing. Fibroids during and after labor should be handled with gloves. If much difficulty was experienced in enucleating the placenta, it would be better to introduce some gauze and adopt waiting tactics and not invite sepsis by attempting forcibly to tear or dislodge it. The treatment of any hemorrhage was by packing the uterus with gauze. It was Dr. Marx's experience that fibroids were, as a rule, harmless until after some one had used the curette for the removal of supposed fetal secundines. He sounded a note of warning, that the use of the curette in a fibroid uterus recently pregnant was fraught with the gravest danger, and it was not indicated. So soon as the puerperal woman showed a rise of temperature many physicians thought at once of the curette. The curette had no place in either a fibroid uterus or a pregnant one. If one was sure that the rise of temperature was due to sapræmia from retained secundines, the products must be removed, *not* with the curette but with an aseptic finger. The intermuscular and submucous fibroids gave the best prognoses and were most readily extirpated; the subperitoneal fibroids were most difficult to attack, and a total hysterectomy was probably, in many cases, the operation of choice. Dr. Marx wished to emphasize the following points: (1) Prophylaxis. Every fibroid should be attacked by a surgeon. (2) During pregnancy every fibroid should be carefully watched and, if complication threatened should be attacked. (3) During labor these tumors needed watching, and might give rise to much hemorrhage. If the tumors blocked the passage, either vaginal enucleation or cesarean section, followed by hysterectomy, might have to be resorted to. (4) Sloughing of the mass should not be mistaken for retained secundines. The curette should not be employed. (5) Sloughing and necrotic fibroids should be attacked surgically by enucleation or by hysterectomy.

Operative Technique for Uterine Fibroids, Abdominal and Vaginal.—Dr. J. Riddle Goffe presented this part of the symposium and referred to the earlier teachings that uterine fibroids were benign in character, and that after the menopause they would become smaller and finally disappear. The result of this firm belief was that these tumors were seldom operated upon until they had obtained large

dimensions. The man who first planned hysterectomy was Kimball, of Lowell, Mass., in 1855, and he had one success and two failures, one from hemorrhage and the other probably from sepsis. In May, 1888, Dr. Dudley and himself devised an operation, and operated upon four patients with success. Here Dr. Goffe gave a description of the operation, illustrating it by diagrams and showing how adhesions were avoided at the bottom of the pelvis. As a result of discoveries in reference to degeneration, etc., of fibroids, he said he had formulated for himself the rule that every developing fibroid which was small but gave symptoms, or which was discovered during the course of other pelvic operation, should be removed. He had also formulated for himself the rule that every uterine fibroid discovered in a woman during the child-bearing period should be removed at once. The technique of operations, of course, varied to meet the varying indications and conditions. When small, such tumors could be removed per vaginam, either through the anterior or posterior fornix, or both incisions could be made. A description of vaginal myomectomy was given, and in doing this operation there were certain points of danger. First, in making the primary incision it might be found that, if dealing with a large fibroid, it might carry the bladder wall upon the base of the tumor, and this incision might injure it; therefore, he made the rule that in cases of large fibroids the incision should be made near the umbilicus. Again, in dissecting the bladder from the anterior surface of the tumor, care should be taken not to tear into the bladder. A third element of danger was injury to the ureter in ligating the uterine artery. If the tumor was very large, one might bisect the tumor after its delivery through the abdominal incision and then enucleate it; the elastic uterine structure would so contract as to give nearly normal relations. Originally he ligated the artery with silk, but at present time he used chromicized catgut or kangaroo tendon. Sometimes the angiotribe was used, which was of great aid in dealing with possible hemorrhages. Illustrative drawings were shown of the angiotribe in position in working by either the vaginal or abdominal route.

Dr. Henry C. Coe opened the discussion and said that he had seen women made miserable because they were told they had tumors, when an examination revealed tumors at the fundus about the size of a pea and which was of no more importance than a foreign body would be. He asked if it would not have been better to wait and keep the patients under observation. He had had fibroid tumors under observation for ten, fifteen, or twenty years, with the patients remaining in perfect health. Dr. Coe was not willing to subscribe to the opinion that fibroids were necessarily malignant. With regard to certain changes taking place in these tumors, one should bear in mind that no two cases were exactly alike, and because a patient had a small fibroid, operation was not always indicated; he believed they should not always operate, but keep such patients under observation. Each case should be studied separately, and not only the size and character of the tumor noted but also the location. The operative technique at present was practically crystallized, and the mortality now was not over five per cent. Cardiac changes might arise only with large tumors of long standing. Pelvic thrombosis should receive more attention in such a discussion, for quite a number of deaths had been reported due to thrombosis of the pelvic veins, death occurring on the fourth, fifth, or sixth day. But sometimes these thrombi existed prior to operation. While Dr. Coe believed in conservative myomectomy, he said he would not select a case of multiple myomata and remove ten, twelve, or fifteen of them. Pregnancy did sometimes follow myomectomy; but it was sadly disappointing sometimes to tell a woman that, after this operation, she might marry and give birth to children when she did not. He said he favored the abdominal route in operating; he liked to separate adhesions with the aid of the eye, and also to remove appendices when he saw them. He protested against claiming that because a uterus contained a fibroid, it should be removed.

Dr. A. Palmer Dudley thought that Dr. Sturmdorf's paper was a timely one, and when the general practitioner came in contact with such cases he should have the advice and guidance of an expert in this work. He believed that every fibroid tumor that produced pressure would produce systemic changes. These cases could be combated for years by the general practitioner, but so soon as pressure symptoms occurred, one should remove the growth by myomectomy or hysterectomy. He reported a case of myomectomy, the tumor being as large as a child's head, with brilliant results. Regarding the complete or partial removal of the uterus in such cases, he said that depended upon the opinion of the individual operator, and no operator should pledge himself to save certain organs; if a cervix was found to be diseased and it was left, it probably would remain diseased. Hysterectomy by way of the vagina might be all right, but Dr. Dudley did not like this route, and chose the abdominal. Sometimes one discovered gall-bladder or appendicular trouble, or adhesions might have to be broken up; then the abdominal was the operation of election.

Dr. Sturmdorf said that he referred to those cases which presented symptoms, not pressure symptoms alone, but such symptoms as would bring a woman for consultation regarding them. He asked how one could tell when changes would take place in fibroids? He believed it to be impossible. In cases of fibroids, women might be destroyed, not from the pressure symptoms or from displaced organs, but as the result of a toxæmia of which we knew nothing. Ten per cent. of the women with uterine fibroids died; but not from pressure effects. A mortality of four per cent. in cases of operation, as against a mortality of 11 per cent. without operation, spoke for operation. He reiterated his belief that if a woman came to him with symptoms the result of fibroids of the uterus, he considered the condition a source of danger and believed in at once attacking the condition radically.

Dr. Cullen said we should be more conservative in doing myomectomy than we had been in the past, and yet be more radical by doing hysterectomies. There were several instances recorded of very large myomata with extensive myomectomies performed, several large incisions having been made, and from twenty-four to forty-eight hours after the operation the patients died with symptoms of toxæmia, yet bacteriologically there had been no infection. These patients had a temperature of 104° just prior to death. Why death occurred in these cases was not known. Dr. Cullen, therefore, believed that myomectomy should be reserved for those cases in which no large cavities would be left and not much damage done, and little danger of absorption. He believed the secret of success in these operations was the covering of the entire operative area with peritoneum. In bisecting large tumors, as advised in certain cases by Dr. Goffe, he said we should be careful that no carcinoma or sarcoma coexisted, for such cutting might be a fruitful source of malignant metastasis.

Optometry Bill.—Dr. Matthias Lanckton Foster offered a resolution to the effect that because the Optometry Bill was again about to come up for consideration, and because it was claimed that 75 per cent. of the general practitioners of New York favored the measure, and because those who favored the bill were those who would use this bill as a cloak under which to practise medicine, the members of the Medical Society of the County of New York protested against its enactment, and urged that a protest be mailed to every Senator and Assemblyman in the County of New York, and also that a committee of three be appointed by the president to fight against this and similar measures. The resolution was unanimously carried.

Dr. Frank Van Fleet moved that the committee of three to be appointed by the president should be reimbursed for necessary expenditures from the society after these expenditures had been passed upon by the Comitia Minora. This was unanimously carried.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

190th Regular Meeting, November 4, 1904.

THE PRESIDENT, DR. CHARLES STEDMAN BULL, IN THE CHAIR.

Problems in Dietetics.—Dr. W. GILMAN THOMPSON read a paper with this title (see page 921).

Dr. GEORGE L. PEABODY said he was particularly interested in that part of Dr. Thompson's paper relating to the early feeding of solid food to typhoid fever patients. For many years, the speaker said, he had followed this plan, and he had seen no cause to regret it. His rule in this respect was even more liberal than that of Dr. Thompson, as he did not wait for the temperature to drop to normal before allowing the patients to have solid food. If their general condition was good and they were hungry, he took it for granted that their stomachs were ready for work. Dr. Peabody said he was somewhat doubtful as to whether soft-boiled or raw eggs were as easy of digestion as very hard-boiled eggs. As with milk, a soft-boiled or raw egg had to be coagulated before it could be attacked by the gastric juice, and if the coagulation could be produced artificially by boiling, the stomach was saved just that much labor. By a hard-boiled egg he meant one that was boiled for at least twenty or even thirty minutes, by which time the yolk was reduced almost to a powder and was not pulpy or difficult of attack by the gastric juice. The speaker recalled an instance in which a little girl, who was recovering from typhoid fever in Bellevue Hospital, got hold of a bag of grapes that were intended for another patient. She ate them, skins and all, and in spite of the fact that her temperature was still high and she was very much emaciated, no bad symptoms followed, not even a diarrhœa. It was forty-eight hours before the skins were passed. Dr. Cayley, of England, in a very instructive paper which he read some years ago upon the hydrotherapy of typhoid fever, recited an instance in which a woman became dissatisfied with her boy's treatment at the hospital, so she took him home and fed him on beefsteak, and no accident followed. Every typhoid fever case, Dr. Peabody said, must be regarded as individual, and no hard and fast rules could be formulated that could be applied to all. He did not believe that the early administration of solid food had any influence in causing relapses.

In cases of mitral stenosis and regurgitation, with anasarca, the speaker said he favored small, frequently repeated meals of solid food, and the restriction of fluids. These patients often were able to bear solid food well, and it was a great mistake to keep them on a milk diet, and thus add to their embarrassment by increasing the volume of their blood.

Dr. BEVERLEY ROBINSON said he was very much in accord with the statements made by Dr. Peabody. He recalled a case of typhoid fever where the patient had had a normal temperature for four or five days, and was then allowed milk toast in addition to her usual diet of peptonized milk and broths. This was followed in twenty-four hours by a marked rise of temperature, and an examination of the blood showed a moderate leucocytosis of about 15,000. The temperature and leucocytosis persisted for about three days, and disappeared when the patient was put back on a liquid diet. No inflammatory cause for the leucocytosis could be found, and Dr. Robinson said he had been inclined to attribute it to the digestive process in one who had not had solid food for a certain period of time. In another case which he saw very recently there had been a severe intestinal hemorrhage on the twelfth day of the disease. Her physician had been giving her milk without the addition of a digestive. Dr. Robinson suggested modifying the milk by adding pancreatin and bicarbonate of sodium, and thought that in some of these cases the hemorrhage was the result of the presence of masses of casein in the intestinal tract. For this reason, he always favored modifying the milk by adding pancreatin and bicarbonate of sodium, which would aid in its digestion. He also favored the occasional use of a cathartic, in order to clean out the bowels from above. In the treatment of typhoid fever, as in other diseases, each case should be judged by itself, and he still believed in the idea promulgated by the elder Flint long ago that it was often a good idea in many diseases to allow the patients to indulge in the diet that their experience had proved was suitable to them. The personal equation must never be lost sight of.

Dr. ROBERT ABBE said that while the surgical aspect of dietetics was not as interesting as the medical, he had made certain observations regarding it that were perhaps somewhat peculiar to the surgical field. For example, if a normal and uneventful convalescence was suddenly interrupted by a rise of temperature of perhaps one degree, it frequently indicated that the patient had resumed a meat diet. The first chop or red meat generally produced a slight and transient rise of temperature. In certain cases where a restricted diet had been continued for some time, and had become inadequate to sustaining the patient's convalescence, an incidental delirium sometimes ensued, which could be controlled by stomach tube feeding of concentrated nutriment composed of eggs, beef peptones, etc. In those cases the delirium was evidently the result of starvation. In cases of loss of appetite and progressive weakness following operation, it was sometimes desirable to indulge the patients in their peculiar whims regarding particular articles of diet. He recalled one instance where a college girl who had been operated on was losing ground during her convalescence without apparent cause. One day she asked for a big green, soft pickle, which she said the girls "treated" themselves to at a store near the college. The pickle was brought and eaten with evident relish, and this seemed to be the turning-point in her convalescence. In another case a young girl whose stomach had refused food and who seemed to be in a desperate condition, asked for some pickalilli or chow-chow—a mixture composed of bits of cauliflower, tiny onions, peppers, etc., in mustard—and she consumed a good part of a bottle of this relish. From that time on her appetite returned, and she made an excellent recovery. In both of these cases the gastric function was probably stimulated by these highly seasoned articles of diet which appealed to the palate. In changing from a fluid to a solid diet, Dr. Abbe said he usually began with milk toast, which always proved very gratifying and palatable to the patient.

Dr. EDWARD G. JANEWAY recalled a number of instances in which departure from the usual rules regarding diet produced results other than might have been expected. In one case of gout in which a seizure was occurring every two weeks, the patient had been on an absolute milk diet for nine months. Prior to that the seizures had occurred about once every month or six weeks. A change of diet was instituted, and it was a year before the patient had another seizure. He recalled another case of gout in which a characteristic seizure came on while the patient was under treatment for duodenal hemorrhage. He had never drank alcoholic liquor or smoked in his life, was on a very restricted diet, and had never before suffered from gout. Dr. Janeway also recalled a case of pernicious anæmia in a vegetarian who had not eaten meat for years. He was given laxatives, and instructed to eat red meat. When he returned in the course of a few months, greatly improved, he stated that he had disregarded the instructions regarding meat and had continued to live on a vegetable diet. The speaker said he knew of some cases of pernicious anæmia that had been markedly benefited by arsenic and red bone-marrow, while in others those remedies had failed absolutely. In regard to giving solid food comparatively early in the course of typhoid fever, Dr. Janeway mentioned two patients, a mother and son, who were making an uneventful convalescence and were first allowed solid food on the seventeenth day after a normal evening temperature had become established. Within two days a relapse occurred in each case. This might not have been due to the solid food, although the family attributed it to that, and it pointed in that direction. In regard to diet, no general rules could

be laid down. Each case had to be studied on its own merits. Milk did not agree with some persons, no matter in what manner it was modified; in some instances it invariably produced a diarrhœa, while in others it acted almost like a poison. Some persons had a disgust for milk, sometimes sin and pancreatin to aid digestion.

Dr. Peabody spoke of a porter in the laboratory of the New York Hospital who had an attack of typhoid fever. This was some years ago, when a rigid milk diet was strictly adhered to and no solid food allowed until many days after freedom from fever had set in. The danger of taking solid food had been explained to this patient, but he became ravenously hungry, and he induced one of the maids in the hospital kitchen to bring him surreptitiously a large piece of mince pie every day. This relieved his hunger and apparently gave rise to no disagreeable symptoms, as he made an uneventful recovery. Dr. Peabody said he was inclined to believe that many of the relapses that followed the administration of solid food in typhoid fever would have happened anyway, and that the solid food had put the patient in better condition to cope with the relapse.

Dr. Virgil P. Gibney said the dietetics in the treatment of arthritis deformans and chronic rheumatism had often proved a puzzling problem to him. Many of these patients came to him badly crippled, and gave a history of having been kept on a restricted diet for months and even years, until they had reached a stage of nervous exhaustion and helplessness that was almost appalling. His usual advice to those patients was to eat anything nourishing they liked, and avoid depressing drugs. Under this method of treatment he had seen some rather remarkable instances of comparative recovery. His favorite drugs in these cases were iron and arsenic, with hydrochloric acid, and perhaps pepsin and pancreatin to aid digestion.

Dr. M. Allen Starr said that in the treatment of the lithæmic condition that was not infrequently met with in cases of neurasthenia he thought it was wise to put the patients on a fruit and vegetable diet. This treatment was in line with the "grape cures" that were effected in certain parts of Europe. A fruit and vegetable diet, kept up for ten days or two weeks, could do no harm and was usually very beneficial in these cases. In organic nervous disease, however, restriction of the diet was apt to prove harmful. A patient with locomotor ataxia who began to lose weight usually developed many disagreeable symptoms and was always worse. He suffered more pain and the ataxia was more pronounced. An ataxic patient who was getting fat, was getting better. Various forms of sclerosis of the nervous system were distinctly aggravated by a restricted diet. It was very important, in all forms of organic nervous disease, to increase the nutrition as rapidly as possible, and sometimes even the use of alcoholic stimulants was positively beneficial to these patients.

Dr. Janeway, in reply to a question, said that in a patient with a high tension pulse and a weak, hypertrophied heart, when that organ was laboring, it was sometimes advisable to restrict the amount of fluids. This gave the heart less work. The same was true in some cases of Bright's disease.

Dr. Thompson, in closing, said that some years ago he made some laboratory experiments with various digestives in order to ascertain the relative digestibility of hard and soft-boiled eggs, and he found that while the former were more friable, they were not as digestible as the latter. A more flocculent coagulation resulted from acid digestion of albumin than from heat. Raw eggs, the speaker said, were partially absorbed without digestion, as could be shown by rectal injection. A moderate leucocytosis of twelve or fifteen thousand, such as that mentioned by Dr. Robinson, was quite within the limits of normal digestion; if it had been twenty or thirty thousand, some other explanation would have to be looked for. The most common error in dietetics was to keep the patient for too long a time on any particular kind of diet. This also applied to a continuous vegetable diet, which sometimes resulted in serious types of anæmia. The quantity of fluids taken should always be inquired into. In many cases of arteriosclerosis, the condition of the heart was a very important factor, and together with the arterial tension should govern the quantity of fluid ingested. Dr. Thompson said that any gouty patient would be apt to become anæmic if he was kept for any length of time on a milk diet, and by its long-continued use a large quantity of lactic acid was absorbed into the system. A milk diet was mainly useful in gout because it enabled the patient meanwhile to get rid of an excess of toxic products. Gout was not the uniform result of any particular kind of diet.

Philadelphia County Medical Society.

At a stated meeting held November 23, Dr. Randolph Faries read a paper entitled "Typhoid Fever in Philadelphia." He contended that typhoid fever is not so prevalent in Philadelphia as the reports would lead one to believe. In the first place, cases are reported as such that subsequently appear to be other diseases. In the next place, a not inconsiderable number of cases are imported, having originated elsewhere, as for example, at the seashore. Finally, a number of cases are reported twice, once perhaps by the attending physician and a second time by the resident physician of a hospital to which the patient is later admitted. Dr. Faries expressed the belief that if these three sources of error were eliminated the number of cases of typhoid fever would be reduced one-half, if not more. He held out the hope that with clean streets, good drainage, abolition of cesspools, proper construction and ventilation of dwellings, thorough disinfection of possible carriers of typhoid fever, vigilance with reference to impure milk, food adulteration, and impure water, and instruction of the public as to the foods through which the disease may be transmitted, a time would come when few if any cases of typhoid fever would exist in the city of Philadelphia.

Drs. W. S. Newcomet and J. T. Krall presented "A Case of Trachoma Successfully Treated with the *X*-ray." The patient was a girl, 18 years old, who had suffered from granular conjunctivitis since the age of three. The corneæ were cloudy and vision greatly reduced. Treatment of most varied kind had been employed, but without success; *x*-ray treatment was begun with one eye, for a time suspended in despair, and again resumed, the other eye being treated by other means. It was not, however, until a burn of the eye resulted that improvement in the cornea was observed. This continued until the cornea became quite clear and vision greatly improved, while the opposite eye remained much as it had been.

Dr. L. J. Hammond read a paper entitled "The Value of the *X*-ray in the Diagnosis of Obscure Pains in the Wrist-joint, with Skiagraph of an Old Ununited Fracture of the Scaphoid Bone." The patient was a medical student, who had fallen on the outstretched hand and complained of pains about the wrist-joint whose source remained for a long time obscure. *X*-ray examination disclosed a fracture of the scaphoid bone that had failed to unite, but satisfactory union was effected by means of wire, with relief of the previous symptoms.

Drs. Wm. E. Hughes and R. N. Willson, Jr., presented a communication entitled "Pulmonary Syphilis Simulating Tuberculosis." They reported the case of a strong, vigorous ironworker, who presented cough and hæmoptysis, with physical signs of consolidation of the lower lobe of one lung and an absence of tubercle bacilli from the sputum, and without a history or other evidence of syphilis. Improvement failed to take place until potassium iodide and mercurials were administered. The case was considered as one of syphilis of the lung on account of the exclusion of other causes for the condition and of the effects of treatment.

Chicago Medical Society.

At a meeting, held November 23, 1904, there was a symposium on "Criminal Abortion." Dr. C. S. Bacon read a paper on "The Duty of the Medical Profession in Relation to Criminal Abortion," in which he said it was estimated that from 6,000 to 10,000 abortions were induced in Chicago every year, a majority of which were in married women. Four reasons were given for repressing the practice of abortion: (1) It was an injury to the embryo or fœtus destroyed, for the fœtus was a living human independent being, and had the right to existence which belonged to all human beings, and it should be protected in this right. (2) It was an injury to the mother, for it was an unjustifiable risk to her health and life. (3) It was an injury to the relatives of the unborn child and to the father. (4) It was an injury to the State. To illustrate some of these points, a case of successful prosecution of a midwife for manslaughter was reported. It showed the necessity for obtaining unimpeachable evidence of the existence of pregnancy, and the importance of the dying declaration. The author pointed out the need of maternity asylums for the unmarried. Rev. Peter J. O'Callaghan said the Catholic Church had declared that no man had a right to destroy by any direct act the life of an innocent human being. In the face of a sentiment which had persuaded a large proportion of the medical profession that direct abortion was sometimes justifiable and commendable, that church had unflinchingly declared that the direct taking of an innocent human life was always murder, no matter what be the stage of its existence. He cited the decisions of authorities of the Catholic Church in regard to abortion. John E. Traeger, Coroner of Cook County, stated that the first year of his term he investigated forty-two cases of criminal practice, the second year the number fell to twenty-seven; last year it was reduced to eighteen; but this year it reached thirty-five. He had been instrumental in holding six midwives and one physician for the grand jury this year, and had convicted two. Dr. Charles B. Reed discussed "Therapeutic and Criminal Abortion." He said that in certain cases of beginning and advanced pulmonary tuberculosis, cardiac disease, insanity, severe nephritis, or serious and irreducible uterine displacements with dense adhesions, the operation was justly performed. In cases of absolutely contracted pelvis, when the patient refused cesarean section, abortion was sometimes desirable, although the relative dangers of the two operations did not greatly differ in skilful hands. The results of therapeutic abortion, when executed in a careful, scientific way, were generally good, and the indications for its performance were found both in and out of marriage. Let the legal and moral enactments be what they will, a broad humanity demanded the protection of the mother and the illegitimate unborn babe. He urged the establishment and maintenance of maternities. Dr. Rudolph W. Holmes discussed criminal abortion in its relation to newspaper advertising, and reported a medicolegal case of interest. He said the Society should take an active part in aiding the prosecution of notorious abortionists. Mr. J. M. Sheean, attorney for the medicolegal committee, spoke of the common and statute law of Illinois. He said the law itself was as far advanced as was the public conscience. It was further advanced apparently than the public demand for its enforcement would require, and if anything was to be accomplished, it was not by making appeals to the Legislature for a modification of the laws at this time, but public conscience should be so stimulated as to demand that the law as it stood to-day should be strictly enforced. Dr. Harold N. Moyer discussed the subject, "Shall Communications of Physicians be Privileged?" The communication of a patient to a physician was absolutely unrestricted in Illinois and open to the inquiry of the court; this absolved a physician from all legal responsibility in case he went into court with communications of this kind. He argued against privileged communications in Illinois as applied to the medical profession, saying that the courts would amply protect physicians. Mr. Fletcher Dobyns, Assistant State's Attorney, said the court instructed the jury that every material allegation in the indictment must be proved beyond reasonable doubt. It must be proved that a woman was pregnant, and that an operation was performed to induce abortion. It must be proved that such an abortion was not necessary to save the life of the mother, and that she died as a result of it. It was absolutely essential for a physician to make his examination carefully and preserve his data, so that he could refresh his mind, and be able to take the stand and say with absolute accuracy and certainty that the woman was pregnant. This would help the State's Attorney in proving to the jury beyond a reasonable doubt that pregnancy did exist. The next point to prove to the jury was that it was not necessary to perform an operation to save the life of the mother; and the physician must be able to tell the conditions he found, describe the treatment of the patient, and give reasons clearly to the jury to show why it was not necessary to induce an abortion to save the life of the mother. Furthermore, it was necessary to show that death resulted from the operation by which the abortion was produced. The symposium was further discussed by Dr. M. O. Heckard, Mr. H. H. Hart, Mr. Chas. Allen, Dr. Lucy Waite, and Dr. Rosalie M. Ladova.

Books Received.

Practical Dietetics, With Reference to Diet in Disease. By Alida Frances Pattee. Second Edition. 12mo, 312 pages, cloth. Published by the author, 52 West Thirty-ninth St., New York.

The Medical Epitome Series. Toxicology. By Edwin Welles Dwight, M.D. Series edted by Victor Cox Pedersen, A.M., M.D., 12mo, 298 pages, muslin. Lea Brothers & Co., Philadelphia.

Blood-Pressure as Affecting Heart, Brain, Kidneys, and General Circulation. By Louis Faugères Bishop, A.M., M.D., 12mo, 112 pages, muslin. E. B. Treat & Company, New York. Price, $1.00.

Twenty-Third Annual Report of the State Department of Health of New York, for the Year Ending December 31, 1902. 8vo, 925 pages, illustrated, muslin.

Maps—State Department of Health. Parts 1 and 2. Plates I.—LIX. Sewer System and Sewage Disposal Works. For the year 1902.

Transactions of the Association of American Physicians. Nineteenth Session, Held at Washington, D. C., May 10 and 11, 1904. Vol. XIX. 8vo, 560 pages, illustrated, muslin.

Mental Defectives—Their History, Treatment, and Training. By Martin W. Barr, M.D. 8vo, 368 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $4.00 net.

Medical Laboratory Methods and Tests. By Herbert French, M.A., M.D., M.R.C.P. 12mo, 152 pages, illustrated, muslin. W. T. Keener & Co., Chicago. Price, $1.50 net.

Physiological Economy in Nutrition, with Special Reference to the Minimal Proteid Requirement of the Healthy Man. An Experimental Study. By Russell H. Chittenden, Ph.D., LL.D., Sc.D. 8vo, 478 pages, illustrated, muslin. Frederick A. Stokes Company, New York.

Transactions of the American Climatological Association. For the year 1904. Vol. XX. 8vo, 292 pages, illustrated, muslin.

Diseases of the Lungs, Bronchi, and Pleura. By H. Worthington Paige, M.D. 12mo, 165 pages, muslin. Boericke & Tafel, Philadelphia. Price, $1.00.

The Diseases of the Uterine Cervix. By Homer Irvin Ostrom, M.D. 8vo, 386 pages, muslin. Boericke & Tafel, Philadelphia. Price, $2.50.

Erste Arztliche Hülfe bei plötzlichen Erkrankungen und Unfällen. Bearbeitet und herausgegeben von Prof. Dr. George Meyer. Second Edition. 8vo, 466 pages, muslin. August Hirschwald, Berlin. Price, 8 M.

Poverty. By Mr. Robert Hunter. 8vo, 382 pages, muslin. The Macmillan Company, New York. Price, $1.50 net.

A Laboratory Guide in Elementary Bacteriology. By William Dodge Frost, Ph.D. Third Edition. 8vo, 395 pages, illustrated, muslin. The Macmillan Company, New York. Price, $1.60 net.

A Laboratory Manual of Human Anatomy. By Lewellys F. Barker, M.B. 8vo, 583 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

Therapeutic Hints.

Lumbago.—The local treatment should not be neglected. A good liniment is as follows:

℞ Salicylate of methyl..... ℥ ij
Tincture of belladonna..... ℥ ij
Laudanum .....℥ ij
Spirit of camphor..... ℥ iv

—*Medical Press.*

Earache.—Drop into the ear a few drops of cocaine, 2 per cent. solution; this will stop the pain at once; should the pain return after an hour or two, repeat the application. —*The Medical Summary.*

Syphilis.—Delker says that the following prescriptions for use in syphilis never cause salivation or diarrhœa, if carefully used:

℞ Hydrarg. proto-iodidi..... 1-4 gr.
Pulv. opii..... 1-6 gr.
Resin. guaiaci..... 1-2 gr.
Quin. sulph..... 1-2 gr.
Ext. taraxaci..... 1-2 gr.
" belladonnæ ..... 1-24 gr.
" trifol. pratens ..... 1-2 gr.
" stillingiæ ..... 1-2 gr.
" xanthoxyli ..... 1-8 gr.
" lappæ ..... 1-2 gr.
" phytolaccæ rad..... 1-2 gr.
Iridis ..... 1-4 gr.
M. ft. pil. No. 1.

℞ Ext. fld. sarsaparillæ.....℥ ss
" " lappæ ..... ℥ ss
" " stillingiæ ..... ♏ xv
" " xanthoxyli ..... ♏ xv
" " phytolaccæ rad..... ♏ i
Pot. iodidi..... gr. xv
Glycerin ..... ℥i
Aquae dest..... ℥ ss
Syr. simplicis q.s. ad. ℥ ss

This prescription may also be used combined with 1-12 of a grain of the biniodide of mercury in cases in which there is a prejudice or inability to take pills. Great care must be exercised by the pharmacist in its preparation, as a precipitate is liable to form.—*The Therapeutic Review.*

Vomiting of Pregnancy.—

℞ Sod. bicarb. ..... ℥ ii
Tr. nucis vomic..... ♏ xlv
Syr. cinnam. ..... ℥ i
Aq. distillat..... ℥ v
M. et. sig.: A tablespoonful every two to three hours.

OEHLSCHLÄGER.

Rectal Alimentation.—Drueck describes Leube's nutrient enema as follows: One part of fresh pancreas and three parts of beef are finely minced and rubbed together into a paste with the addition of a little water. All the fat must be carefully removed. A large-nozzled syringe is needed to inject the mass. The principle underlying this treatment, according to Leube, is that digestion begun outside is continued within the rectum, and only rarely are the products absorbed irritating, and they may be retained ten or twelve hours. Mayet suggests practically the same formula, but with the addition of the yolk of one egg, and adds, "mix and let stand two hours before administering." It is occasionally recommended to add HCl to beef solution and also to milk, but the acid is too irritating and all such artificial digestion must be carried on outside the body. To make the enema recommended by Ewald, beat the whites of two eggs with a tablespoonful of cold water, add one or two teaspoonfuls of boiled starch in one-half teacupful of twenty per cent. glucose solution, a wineglassful of claret, and a teaspoonful of peptone solution. Mix at a temperature below the coagulating point of the albumin. The author has had good results with injections consisting of milk, one-half pint, and two whole eggs, alternating with an enema of pancreatized meat solution.—*The Medical Standard.*

Pain in Gastric Cancer.—

℞ Lactose 1.0
Calcined magnesia..... 1.5
Prepared chalk..... 0.7
Codeine 0.01
Sodium bicarbonate..... 1.0
M. for one dose. —A. ROBIN.

Neurasthenia.—

℞ Sodii glycerophosphatis..... ℥ ss
Calcii glycerophosphatis..... ℥ ii
Acidi phosphorici dil..... ℥ vi
Aq. cinnamoni g. s..... ℥ iv
M. et S. ℥ i.—t. i. d. after meals.

—THOMPSON.

New Instruments.

A METHOD OF GASTROINTESTINAL ANASTOMOSIS.*

BY
J. ALLEN GILBERT, PH.D., M.D.,
PORTLAND, ORE.

WITHOUT discussing the relative merits and demerits of various methods of gastroenterostomy and enteroenterostomy, the present method will merely be stated as briefly and concisely as possible, giving some of the advantages in its favor.

The Anastomosis Forceps used (fig. 1) is merely a Péan's straight elastic forceps in which I had a groove cut in each jaw so that when the forceps blades are closed there results a groove a little less than one-eighth of an inch wide extending through the center of and to the full length of the jaws, as represented in *a* and *c*. The jaws of the forceps are so constructed that the outer ends meet first (*b*), and then as the handles are closed the jaws close to

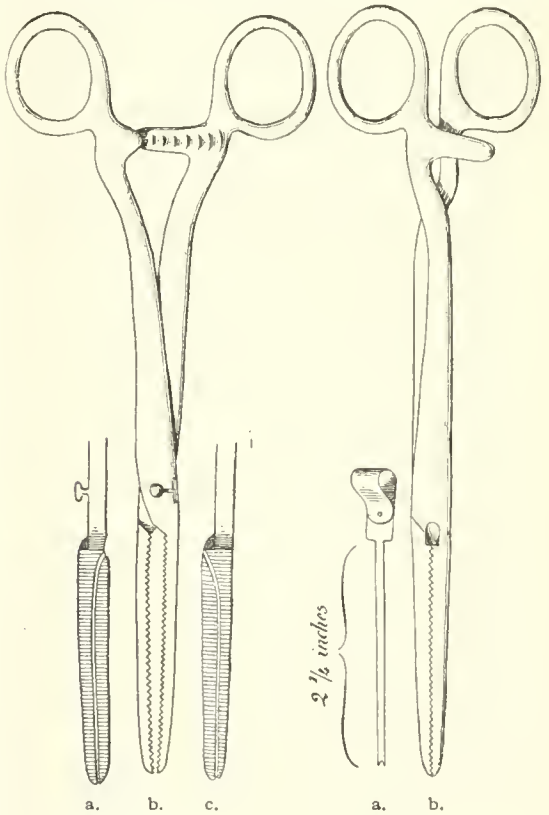

Fig. 1.

Fig. 2.

their entire length under high pressure throughout (fig. 2*b*). An elastic knife made of spring steel (fig. 2*a*) is made to fit the groove when the forceps is closed and is prevented from being pushed in farther than just to the end of the jaws of the forceps by a shoulder on the knife, which also serves as the handle. Thus, with the forceps closed tightly, the knife when introduced into the groove (fig. 3) will cut any tissue in the grasp of the jaws of the forceps.

*During the interval between submission of the present article for publication and receipt of the proof for the same, my attention was called to an article in the *Journal of the American Medical Association*, September 27, 1902, by E. M. Lundholm, of Milwaukee, presents practically the same idea. In explanation of my own position, I can do no better than quote the words of Dr. Lundholm in the article cited: "When I first had my instrument made I was satisfied that it was something entirely new, until a friend of mine directed my attention to an instrument constructed on the same principle by Dr. Ferguson of Chicago. He again claims that his instrument is a modification of a similar one devised by Dr. Grant of Louisville, Ky." Repeated reproduction of the same idea, though precluding claims to priority, is at least some endorsement of its value.

The cutting edge of the knife is in the fork at the end and not on the sides.

Steps in the Operation.—(1) Open the abdomen and bring out the stomach and loop of intestine with which anastomosis is desired.

(2) With a narrow, sharp-pointed knife or with scissors cut a small opening in the intestine just large enough to admit one jaw of the forceps.

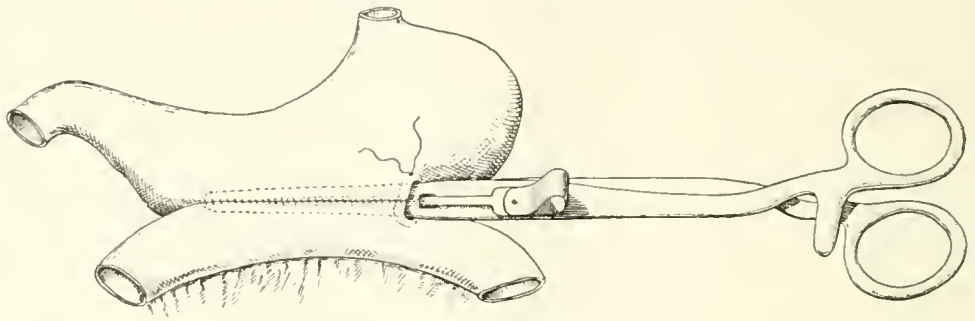

Fig. 3.

(3) Introduce one jaw of the forceps into this opening. (It is best not to take the two blades of the forceps apart.)

(4) Cut a similar small hole in the posterior wall of the stomach where the anastomosis is desired.

(5) Introduce the second jaw into this opening.

(6) Slip the two jaws of the forceps into the intestine and stomach respectively to a depth corresponding to the length of the opening desired in the anastomosis (fig. 3).

(7) Clamp the forceps till the inclosed layers of stomach and intestine are thoroughly crushed.

(8) Introduce a purse-string suture about the openings made in the stomach and intestine and tie the purse-string about the forceps as a whole (fig. 3). (This prevents the contents of the stomach and intestine from exuding, as well as preventing the hole in the viscera from tearing larger during subsequent steps in the operation.)

(9) Commencing at the openings into the viscera and on the side of the forceps opposite the side in which the opening to the groove is found introduce a continuous suture, sewing together the coapted stomach and intestine as far as the end of the forceps. After reaching the end, turn the forceps, together with the stomach and intestine, upside down (fig. 6) and extend the same continuous suture around the end and back to where the forceps entered the viscera.

(10) Push the knife into the groove, thus cutting the tissues grasped by the jaws, viz., the walls of the stomach and intestine (fig. 3).

(11) After withdrawing the knife, unclamp and withdraw the forceps. While withdrawing the forceps push the jaws successively into the cavity of the stomach and intestine. This insures the severance of all the tissues. After releasing the tissues from the grasp of the jaws the forceps may be again closed sufficiently merely to bring the ends of the jaws together and then withdrawn, thus insuring absolute severance of all tissues. These two precautions are really unnecessary, for the knife of my instrument has never failed to cut completely the tissues in the grasp of the forceps.

(12) Cut and pull out the temporary purse-string suture which was introduced to hold the stomach and intestine around the forceps (see fig. 3).

(13) Continue the continuous suture till the hole is closed from which the forceps was withdrawn (fig. 4). Here, in order to turn in the edges, use the Lembert suture, only two or three stitches of which, however, will be needed.

(14) Carry the sewing beyond the knot tied in starting the suture (see fig. 4) and then tie the suture in the usual way, thus leaving only one knot exposed (fig. 5).

(15) Return the viscera to the abdomen and close the incision.

Instruments Needed in the Operation.—Besides those necessary for the laparotomy only the following are needed:

(1) Sharp-pointed narrow knife or a pair of scissors.

(2) Anastomosis forceps.

(3) Straight cambric needle and silk thread.

Advantages of the Method.—(1) Ease and rapidity of making the anastomosis.

(2) Avoidance of contamination by escape of the contents of stomach or intestine.

(3) *Any* sized opening can be obtained. My forceps makes a two-inch opening, but should larger be desired longer jawed forceps can be used.

(4) Minimum handling of the parts. They can be held by the forceps entirely after being clamped.

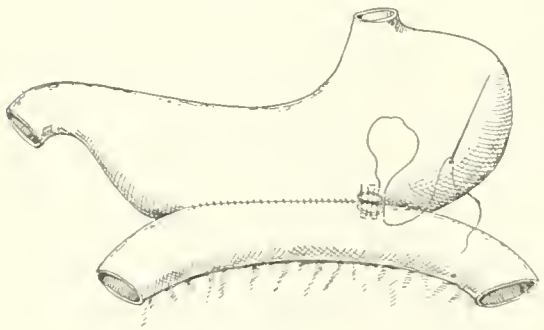

Fig. 4.

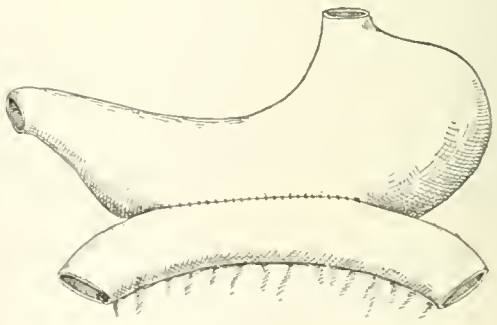

Fig. 5.

(5) Cutting is done within the forceps and therefore within the lumen.

(6) Edges of the opening are smooth and straight and are also crushed everywhere except at the opening for the forceps, where the Lembert stitch is used. This crushing not only helps to prevent hemorrhage and subsequent adhesion of the cut edges, but also

gives more intimate coaptation of the two layers of peritoneum, and thus promotes healing.

(7) Adaptability to viscera of different size, shape or thickness.

Fig. 6.

Suggestions.—(1) Use straight ordinary round sewing needle. It needs no needle-holder and is easily manipulated.

(2) A thimble is a desirable aid to those accustomed to the use of it.

(3) Let the thread and needle be as small as possible.

(4) Be sure to have the needle pierce all the coats of the viscera, for danger of hemorrhage is the principal objection to the method.

(5) Do not make the anastomosis too near the mesentery.

(6) Be sure to get the jaws of the forceps inside the viscera and not between the coatings.

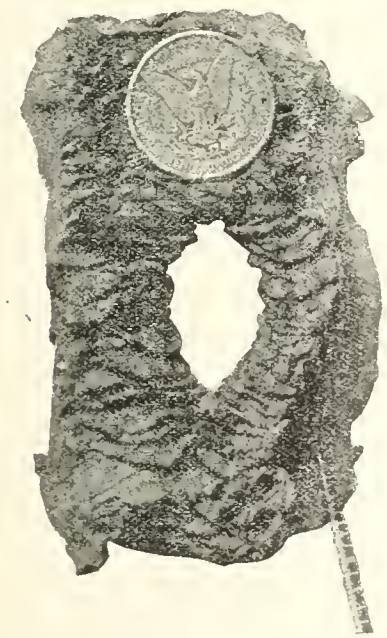

Fig. 7.

(7) Be sure to clamp the forceps to the crushing point before introducing the knife.

(8) The method can be used in enterenterostomy as well as gastroenterostomy.

(9) The method could be used for resection of the intestines by closing the cut ends with a purse-string and then applying the above method for anastomosis. However, there are other methods for this which I consider superior.

Figures 6 and 7 represent two views of intestine and illustrate the stitch and the size of the resulting opening made. The coin, introduced for comparison, is a silver dollar. The process of cicatrization would probably reduce the opening as represented in this specimen, which was obtained from a cadaver and introduced for illustration, and is therefore not the result of an operation on a living subject.*

Surgical Suggestions.

Furuncles.—Hunter describes the following nonoperative plan of treatment of boils: The objects to be borne in mind are: (1) soothing and protecting the inflamed area; (2) the exclusion of air; and (3) antisepsis. To accomplish these take a thick layer of absorbent cotton considerably larger than the inflamed area; on the center of the cotton spread with a spatula an appropriate quantity of the following ointment (Bulkley); this to be laid over the inflamed surface and held in place by strips of adhesive plaster across the ends, but in no case passing over the boil:

Carbolic acid	gr. v-x
Fluid extract ergot	ʒ i-ii
Powdered starch	ʒ ii
Zinc oxide	ʒ ii
Rose-water ointment	ʒ i

The relief which this dressing affords is oftentimes surprising. The ointment soothes and protects the irritated and inflamed area, and the absorbent cotton prevents external friction. If the patient is comfortable the dressing may be allowed to remain intact for twelve to twenty-four hours, and when removed another spread with fresh ointment should be immediately applied. If discharge of pus has occurred, the surface should be gently cleansed with absorbent cotton, but squeezing for purpose of evacuation must not be permitted. In many instances under this treatment the boil is aborted and subsides apparently without suppuration; in others it ruptures spontaneously in a comparatively short time.—*The Medical Age.*

Penile Pain.—Sir Wm. Bennett says that pain in the glans penis may be caused by the following conditions independently of any vesicle disease: (1) Stone impacted low down in the ureter; (2) phimosis with a single small adhesion; (3) anal fissure; (4) rectal polypus; (5) sarcoma of the inguinal region; (6) tuberculous testis. When occurring in conjunction with the latter condition the affection is probably localized in the body of the organ, and the epididymis is not invaded. No other disease of the testicle causes pain in this situation.—*Clinical Journal.*

Epididymitis.—The prophylaxis of this complication consists in the use of a well fitting suspensory bandage during urethral disease, together with attention to keeping the urine unirritating, and the avoidance of all sexual excitement. When late in gonorrhœa, or during the treatment of stricture, complaint is made of a dragging, uneasy sensation in the groin or testicle, the patient should be immediately placed upon his back, with the testicle elevated, and painted with guaiacol and thus the threatened attack may often be averted.—Keyes.

Green Soap for Sterilizing Instruments.—According to Gerson the blades of cutting instruments may be sterilized by rubbing them well with pledgets of absorbent cotton saturated with tincture of green soap. Even infected bougies and larger gynecological instruments may be rendered aseptic by continuing the rubbing for three minutes. If the instruments after being sterilized in this way are firmly wrapped up in the absorbent cotton moist with the soap solution, they may be preserved indefinitely in an aseptic condition. As the solution dries, the fibers of the cotton are closely glued together, forming an air-tight covering, while the surface of the instrument is coated with a thin film of soap left behind by the evaporation of the alcohol.—*Deutsche med. Wochenschrift.*

Beware of small sponging pads in big operations. The larger the sponge the more quickly you can remove blood and discharges, and the less chance there is of leaving one behind in a cavity.—*The Woman's Medical Journal.*

Cystoscopy.—The following points are essential in order to perform a successful cytoscopic examination: First that the urethra will allow the passage of the cystoscope; second, that the passage is clean so that the lens of the cystoscope is not smeared with blood, pus, mucus, etc.; third, that the fluid of the bladder is clear; fourth, that the bladder is distended; fifth, that there is sufficient light; sixth, that the mucous membrane be not touched with the lamp after the current is turned on.—*Medical Standard.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 3, 1904:

	Cases.	Deaths.
Measles	83	6
Diphtheria and Croup	378	30
Scarlet Fever	200	10
Smallpox	.....	.....
Chickenpox	155	.....
Tuberculosis	326	165
Typhoid Fever	85	17
Cerebrospinal Meningitis	.....	13
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,227	241

Induced Radioactivity and Aluminum.—M. Metzenbaum gives the following summary of his investigations: Many aluminum articles were placed on bare photographic plates, and in every instance they produced their own image in from forty-eight to ninety-six hours. The same aluminum articles, when placed on photographic plates, covered with black paper, did not produce an effect on the plate in ten days. The same aluminum articles, when placed on the reverse side of the photographic plate, or when separated from the film by a plate of glass, did not affect the film in ten days. The summary of the experiments of placing aluminum salts, of which there are many, on bare photographic plates is that in no instance was the plate at all affected after ten days. The inferences to be drawn are that when metallic aluminum is placed on the bare photographic plate in the dark, it will produce its own image. Also aluminum will not affect the photographic plate when separated from the film of the plate by black paper or glass, or when placed on the reverse side of the plates. Therefore, aluminum is not radioactive. The action of metallic aluminum on photographic plates is probably either a chemical action or an electrical action between the metal and the albuminate of silver of the plate. This observation, that metallic aluminum, when placed on a bare photographic plate, produces its own image, has heretofore not been pointed out. Tubes of radium were placed in various powders, as bismuth subnitrate, for several days; then these powders were placed directly on the film of the plate, and in no instance, even after ten days, did they show the slightest effect on the plate. The writer believes that these conclusions give positive proof that by suspending tubes of radium of varying strength for long periods in various solutions and various powders, neither the solutions nor the powders are rendered capable of affecting photographic plates. It was not possible to show the supposed induced radioactivity by means of an electroscope.—*Scientific American.*

Pathology of Malignant Growths of the Upper Air Passages.—In a recent discussion on this subject, D. Braden Kyle observes that these growths belong to sarcomatous tissue, and those of connective tissue by the carcinomata or the epithelial type. There has been a great deal of confusion in regard to malignant growths from the fact that we have certain benign tumors that become the seat of malignant growths. That is easily explained. For instance, we may have a benign tumor of the connective tissue type or of the epithelial type. For example, papilloma is of low-grade tissue. It has its type in adult tissue. Papilloma has its type in the epithelial structure, and adult connective tissue tumors, as, for instance, fibroma, has its type in the adult connective tissue. Take adenoma, and it gives us a reproduction of the gland structure. It falls short in one thing, and that is physiological function. That tissue is of lower grade than true tissue, and under irritation predisposes to a malignant condition, whether it be carcinoma or sarcoma. Papilloma occurs at the junction of the skin and mucous membrane, or it occurs at the junction of a fold of mucous membrane. It may occur freely on the surface from such points. It may not always be at the junction, but usually is. There is nearly always a location where it is subject to irritation. The irritation will tend to produce carcinomatous or sarcomatous tissue. One will frequently see, even in this day, articles in journals in which a benign tumor is said to have become malignant. It never became malignant, because a benign tumor is never turned into a malignant one any more than measles turns into smallpox or typhoid fever turns into pneumonia. One predisposes to another. A benign tumor at the point where it is subjected to irritation, a tumor which is not quite up to the standard of type or tissue, will more likely be the seat of malignant growth than if there was no tumor there.—*The Laryngoscope.*

Prof. Röntgen's Modesty.—One of the least self-advertised of scientific authorities is Prof. Röntgen. He has never been interviewed, has never been banqueted, and is even said to have refused immense sums of money offered him by American publishers for a book on what he himself modestly styled "a new kind of ray." Like many other investigators of his race, he carries his years gallantly, and, though sixty, looks more like a man who has led a healthy outdoor life than one who has spent the whole of his manhood in investigating strange physical problems.

Health Reports: The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 2, 1904.

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
District of Columbia, Washington	Nov. 13–26	2	
Illinois, Chicago	Nov. 20–26	14	
Louisiana, New Orleans	Nov. 20–26	4 Imported.	
Michigan, Bay City	Oct. 1–31	..	1
Calhoun County	Oct. 1–31	..	1
Detroit	Nov. 20–26	1	..
At 62 places	Nov. 20–26	(Present.)	
Missouri, Saint Louis	Nov. 20–26	16	3
New Jersey, Camden	Nov. 20–26	1	..
New York, New York	Nov. 20–26	3	..
Ohio, Cincinnati	Nov. 4–25	3	1
Toledo	Nov. 20–26	3	..
Pennsylvania, Johnstown	Nov. 20–26	3	..
Philadelphia	Nov. 19–25	2	..
Steelton	Nov. 20–26	2	..
Williamsport	Nov. 20–26	1	..
South Dakota, Sioux Falls	Nov. 13–19	2	..
Utah, 7 localities not named	Oct. 1–31	103	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Oct. 30–Nov. 12	31	..
Brazil, Rio de Janeiro	Oct. 24–Nov. 6	427	175
Cuba, Sagua la Grande	Nov. 13–19	1	..
Ecuador, Guayaquil	Nov. 3–9	(Present.)	
France, Lyons	Oct. 30–Nov. 5	5	..
Paris	Nov. 6–12	12	1
Great Britain, Bristol	Nov. 13–19	1	..
Dundee	Oct. 30–Nov. 5	1	..
Leeds	Nov. 7–19	3	1
Manchester	Nov. 6–12	7	..
Newcastle-on-Tyne	Nov. 6–12	6	..
India, Bombay	Oct. 26–Nov. 1	1	..
Italy, Catania	Nov. 11–17	..	4
Palermo	Oct. 23–29	6	1
Russia, Moscow	Oct. 23–Nov. 5	8	3
St. Petersburg	Oct. 23–Nov. 5	11	4
Warsaw	Oct. 2–15	..	24
Spain, Barcelona	Nov. 1–10	..	13
Turkey, Beirut	Oct. 29–Nov. 5	(Present.)	
Constantinople	Nov. 7–13	..	15

YELLOW FEVER.

Brazil, Rio de Janeiro	Oct. 31–Nov 6	2	2
Mexico, Coatzacoalcos	Nov. 13–19	1	4
Merida	Nov. 13–19	1	1
Texistepec	Nov. 13–19	30	3
Vera Cruz	Nov. 13–19	3	1
Panama, Colon	Nov. 20	1	..
Venezuela, Laguaira	Nov. 12	(Present.)	

CHOLERA.

India, Bomaby	Oct. 26–Nov. 1	..	1
Calcutta	Oct. 23–29	..	8
Russian Empire, Baku	Oct. 19–25	26	9
Kilsit-Arwat	Oct. 17–24	1	..
Merv	Oct. 17–24	1	..
Serachs	Oct. 17–24	1	..

PLAGUE.

Brazil, Rio de Janeiro	Oct. 23–Nov. 6	62	28
British South Africa (urban)	Oct. 1	1	..
Egypt, Alexandria	Oct. 22–28	..	1
Formosa, Taihoku	Sept. 3–10	1	1
India, Bombay	Oct. 26–Nov. 1	..	60
Calcutta	Oct. 23–29	..	4
Karachi	Oct. 17–23	9	8

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Original Articles.

ALCOHOL IN THE TROPICS.

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PRIOR to the Spanish war the medical profession in the United States was profoundly ignorant of tropical diseases and conditions, and ignored them in the literature and in the college curricula. This negative fault would not have been so harmful were it not for the absurd opinions they posesssed in matters upon which they were not entitled to have any opinion at all. It was an article of faith in physiology, for instance, that wherever we go in the world we should imitate the native in food, clothing, houses, and methods of work. Upon acquaintance with the native we found him poverty-stricken, weak, undersized, underfed, even half-starved, badly housed, filthy, diseased, and of such lack of vitality as to average less than fifteen years of life. To imitate him as our physiologies taught was merely to die twenty or twenty-five years before we should, and we have been compelled to ignore our alleged authorities.

The false notions are now gradually disappearing in the light of new facts. Take for instance the matter of meat in the tropics. A great blot on the record of the Medical Department of the Army was our stupidity in blindly accepting the orthodox theory that we must cut down these foods below the limit found necessary at home, because, forsooth, the native, dying of nitrogen starvation, did not, could not, get as much as he should. An essay advocating this vicious doctrine was actually awarded a prize, and an Army Surgeon was on the Board of Award. We tried the theory with disastrous results, and nowadays every army officer knows that to avoid the awful exhaustions caused by tropical climates, and the consequent infections, such as tuberculosis, we must have as much animal food as we do at home, or even more.

The stupidity which has brought upon us the most contempt of laymen is that of our former advice as to alcohol. We have long known that a man who takes too much alcohol is poisoned thereby, and that he may die of the acute poisoning or of diseases contracted while intoxicated, for excessive indulgence reduces his resistance to invasion, or he may die of the changes brought about in his tissues by continued over-indulgence, whether he is ever intoxicated or not. We jumped to the conclusion that all alcohol is harmful and useless—a conclusion as silly as it would be to advise a man to take no exercise whatever because many men have died of overexertion.

When we found out that a little alcohol, daily, was oxidized harmlessly and produced energy like the other carbon compounds, we all concluded that in such small doses it was a harmless, though unnecessary, food—barring, of course, Prof. W. S. Hall, of the Northwestern Medical School of Chicago, who claims that nothing is a food unless it can become a part of the material substance of cells, and according to whom some of the foods we eat are not foods. (See *Journal of the American Medical Association*, July 14, 1900.)

Prof. Atwater, in commenting on his own experiments, which prove that alcohol burns in the organism and supplies energy, but does not build up tissue, says it would be called a food according to one's way of looking at it—that is, according to the definition of the word food.

The dean of the Medical Faculty of Paris prepared a paper on the damage done by the excessive indulgence in alcohol, and asserted that alcohol has no use and is always harmful in all amounts, big or little. This was approved by the Academy of Medicine, February 17, 1903, and adopted by the Council of Public Assistance. It excited much wrath among the physicians, and Dr. Léon Meunier, of Paris, published in *Cosmos* (July 4, 1903) a denial of so much of these assertions as relates to small amounts (a quart of light wine in twenty-four hours as a maximum), and asserts that the experience of centuries is to the effect that such an amount is not only harmless, but is a beneficial food, which can take the place of an equal energy in butter and similar fuels, irrespective of the state of rest, work, or any circumstance relating to the consumer. He calls attention to the fact that alcoholism (acute poisoning or chronic disease) never results unless there is immoderate use of alcohol.

The great majority of the medical profession have concluded that alcohol is like every other chemical, whether it be a poison like strychnine or a food like protein—that is, there is an amount below which it is not a poison and above which it is poisonous. Too much table salt is a poison; a little is not. Then we had to change our tactics, and though we advised every healthy man to abstain from all alcohol, we were compelled to confess that a little every day did no appreciable harm. A respectable number of physicians went a step further, and taught that for elderly men, those of feeble health, diseased, exhausted, or in enervating environments, a little alcohol was necessary, as the digestive powers were not capable of digesting enough fuel, and therefore some absorbable fuel ready for burning was necessary, and the alcohol filled the requirements and also assisted the digestion of other foods.

That is where we stand to-day, but there is now another drop in the barometer, a change of wind and other evidence of another storm, which may carry away some of our sails and masts and lay us in the trough of the sea of laymen's ridicule, a butt for their jokes, until we can rig up new masts and sails and head up into the wind again. We need not abandon ship and rebuild, we have merely to reconstruct and repair our theories.

Biologists are pretty well agreed now that animal cells and vegetable cells are not essentially different, except in their methods of obtaining food. The protoplasm is the same in each kind of cells, the functions are alike, and food is used in similar ways. Plant physiologists are coming to the opinion that

a plant cell cannot utilize the hydrocarbons derived from the leaf activities until it has changed them into alcohol, by means of an enzyme, an action identically the same as that of the yeast plant in which an enzyme does the work of fermentation (see *Science,* December 12, 1902). Animal physiologists are now startling us out of our wits by a similar disquieting series of facts, pointing out the same as to animal cells. In the higher animals, the pancreas cells have been specialized to produce this enzyme, which attacks the digested carbohydrates received into the blood, and changes them into alcohol. The body cells, like the plant cells, are wholly incapable of utilizing as a fuel any carbohydrate except alcohol, and if the pancreas is so diseased as to be unable to produce its enzyme, or if it is extirpated, all these sugars drain off through the kidney, producing one form of diabetes. The organism, though bathed in good fuel, is unable to use it, and it dies of lack of energy, unless the diet is so arranged as to present to the cells protein fuel, which they can use. (Dr. Carl Ramus in the *Journal of the American Medical Association*, Feb. 6, 1904.) In other words, we get nearly all our energy from alcohol manufactured in the body in tiny, non-poisonous doses.

In view of these facts what a curious statement for the editor of the *Journal of the American Medical Association* (December 6, 1902) to make when he says: "Alcohol is an irritant of tissue;" whereas, alcohol is probably the chief fuel food that tissue has had for millions of years. Indeed, alcohol may be and probably is the basis of all fat making.

"It is now known that fat is synthesized in the cell from the alcohol and fatty acid that compose it, but is again split up into these components before it can be further utilized or carried away," and this comes from the same journal of February 28, 1903.

If all these investigations are confirmed, they certainly are going to dismantle our present ideas and make us come around to the sensible view that a little alcohol is a good food in our modern civilization which is an environment for which we are physically unfitted as it is so vastly different from the one in which we were adjusted and in which we lived when nature, by natural selection, gave us our present apparatus. We have to eat salt because we are still marine organisms bathed in salt solution, though out of the salty environment in which we lived when animal cells were evolved. A man who would kill himself with too much salt is as great an ass as he who kills himsef with too much alcohol, and the sooner they both die the better.

We are gradually finding out that alcoholism is not causing so many things as we once thought. Dr. R. C. Cabot of Boston, for instance, finds that in arteriosclerosis there is quite a small percentage of cases in which there is evidence of alcoholism as a cause. We are learning that many conditions are coincidences and not the results of alcohol, that alcoholism itself is generally a result of a diseased nervous system, so that, though we believe it to be a potent cause of disease, it is not as great a cause as we once thought.

Now all this applies to the tropics. We know that men who took too much were apt to die just as at home, and that chronics were just as apt to contract erysipelas, pneumonia, or typhoid fever as at home. We also found out that the old hard drinkers were carried off sooner than at home, and jumped to the unwarrantable conclusion that every drop was harmful, even to those who could or should take it at home. Total abstinence in the tropics was an article of faith derived from our teachers. We preached it, and when the laymen found out the truth, how they jeered at us and made ribald remarks about the fool doctors, and how we blamed our teachers and medical editors in the cool north, who, while sipping a glass of claret, wrote smug articles on the necessity of total abstinence in the tropics.

We found out that nearly all tropical people depend on a little alcohol and have little or no drunkenness, which is a fault of northern countries; we found out that Europeans who have been in the tropics for many years instinctively and almost universally used a little; we found some excessive drinkers in young men, but noticed that they didn't die any sooner therefrom than at home, and we found out that the exhaustions of the tropics are so dreadful that a little alcohol is necessary, though we did not believe the Spanish doctors who first told us so. (See fuller details in an article in the *Philadelphia Medical Journal,* April 2, 1900.) We found that the tendency to drink some kind of mild alcoholic beverage was a normal, natural craving of an exhausted nervous system crying out for help. It is precisely like the craving which every race has for some cerebral stimulant, caffeine, coca, kola, betel nut, etc., and every nation has its stimulant.

Then some of us were bold enough to announce the facts, and what a noise was immediately made by the medical wiseacres at home who had never been near the tropics. One doctor actually wrote me that all alcohol was very bad in the tropics, and that he disagreed with me entirely; but he naively said: "I do think that some claret with meals is necessary." A dear lady in Manila said it was nonsense to claim that alcohol was necessary in the tropics, as she found that the only thing she needed and depended upon to keep her up was some Scotch and soda at lunch and dinner.

In spite of the fact that in the above paper it was distinctly stated that the Spanish physicians in the Philippines told us that they had found out that a little wine was necessary, the editor of the *Boston Medical and Surgical Journal* coolly remarked (June 21, 1900) that it was my individual opinion; but, then, had he read the paper he set himself to criticize he would have seen it was not. He evidently belongs to the class of men who cannot enter into the alcohol discussion with an open mind. He also stated that I made little effort to sustain "my views by the opinion of others." Of course I made no such effort. If many of them had the same view the paper would not have been written. It was because we all were wrong and the Spanish surgeons correct that the matter was published. He also stated it was an audacious attempt "to brush aside the results gained by bitter experience during the past centuries." There he was incorrect again in his assertion, for it was an attempt to bring to light and to benefit by the bitter experience gained during past centuries. If he had backed up his opinion by quoting others, he would have been highly successful, for he could get hundreds of testimonials from physicians who had had tropical experience that abstinence is necessary in the tropics, and I do not mean the opinions of physicians who have never lived in the tropics, for their views are, of course, worthless.

We could quote learned ancient astronomers who proved that the sun revolved around the earth, but by reason of new data the orthodox view for some centuries has been the opposite.

Since the old orthodox views on alcohol in the tropics were formulated, new facts have been discovered, and up-to-date tropical experts are taking opposite views to those held fifty or even twenty-five years

ago. Not all of them, of course—that would be impossible. Men over forty accept revolutionary ideas as rarely now as they did in Jenner's time, when it was a notorious fact that in spite of the proofs no physician over forty ever accepted the "fool theory" about vaccination. Under the influence of this ridiculous medical idea the War Department actually issued a warning to the army in 1898 to the effect that experience showed the necessity for total abstinence in the tropics. Nothing has reflected so adversely upon the doctors as that unfortunate lay opinion—a matter which has come back to worry us now that we want and need some alcohol in the canteens in the tropics to keep the soldiers from the awful vino, and the official warning is being quoted by those opposed to the canteen.

But let us see if there are any men who believe that alcohol is needed in the tropics. I cannot quote the numerous physicians who have informed me privately that they accepted my views, nor can I quote the laymen who have told me personally that they have found a little alcohol necessary, for their unprofessional views are worthless as expert evidence. Let us seek further.

Dr. Frederick Semeleder, of Cordoba, Vera Cruz, who was surgeon-in-chief to Maximilian in Mexico, and who was a vice-president of the International Medical Congress in Philadelphia in 1876, and who has had vast experience in the tropics, says (MEDICAL RECORD, October 28, 1899) that alcohol in moderation is a necessity for whites in the tropics.

Henry M. Stanley, in one of his works, the exact page unfortunately cannot be given, states that he found that wine was positively necessary with his meals in Africa, though quite harmful in the day time.

In a discussion on alcohol at the Edinburgh Medico-Chirurgical Society (*Scottish Medical Journal*, 1901) it was said that well-fed Europeans in India generally escape or recover from plague in spite of universal use of alcohol to greater or less extent, while the total abstaining Hindu succumbs to the disease promptly. It is not an argument to use alcohol to prevent plague, but an argument for generous feeding, nutrition being assisted by alcohol to a greater degree than the feeble digestive powers could accomplish unaided.

Sawyer (a layman) in his book, "The Inhabitants of the Philippine Islands" (page 184), mentions the exhaustions of immoderate drinkers, quick onset of delirium tremens, and its frequent fatality, the dangers of drinking in the day, and adds, "Whatever *spirits* you drink, let it be after sunset. I am a believer in drinking *wine* at meals. Having lived for more than twenty-five years in the tropics and having kept my health remarkably well, I feel warranted in giving my opinion."

Science (1891, p. 3) states that alcohol in moderation is said to be beneficial in the tropics, and "Dr. Clark even asserts that light wine is an indispensable part of a hygienic diet." (*Journal Royal Statistical Society*, XIX, p. 75.)

Dr. C. L. G. Anderson (*American Medicine*, March 22, 1902), as a result of his personal experience, concludes: "To those who feel the need of it, I believe a reasonable allowance of alcohol is beneficial in the tropics."

The British *Quarterly Review* (quoted in the MEDICAL RECORD, 1899) states that "alcohol is not more deadly in the tropics than in any other climate," and calls attention to the almost universal opinion that none at all can be safely taken. (See also MEDICAL RECORD, December 22, 1900, for similar statement.)

Drs. Burot and Legrand, of the French Navy, state, in their work on the "Hygiene of the Soldier in the Tropics" (English translation published by Hudson-Kimberly Publishing Company) that wine is an excellent and hygienic drink which forms a part of the ration of the colonial soldier (half-litre), though it is not issued at home except in war. "We are of the opinion that it has its marked place in the ration of the colonial soldier," and that on days of march or fatigue "there is no harm in doubling the wine ration at one of the meals." They are much opposed to rum or brandy, which should be reserved for the sick or those suffering from cold or wet, and even then given mixed with tea or coffee. They consider that in the French Army in the tropics there is an increase of illness from the drinking of undiluted spirits. In the absence of wine they advise that spirits be added to the coffee or tea.

Dr. H. G. Byer, U. S. Navy (*Boston Medical and Surgical Journal*, August 22, 1901), does not believe that alcohol should be given to men exhausted by a tropical climate, but he confesses that he gives it to sailors exhausted by a tour of duty in a hot fire room of a man-of-war. Curious mind has Dr. Byer to reason that what is scientifically correct for sailors is scientifically wrong for soldiers. He had better be sent to Cavite to study tropical exhaustions, as it so happens that in the last twelve months eight officers have been invalided home by reason of it from that most dreadful station. He will learn something of tropical exhaustion there. In the discussion of Dr. Byer's paper (*ibid*) Dr. Edes brought out with approval the fact that it was the unanimous opinion of officers and men in Wolseley's Ashanti campaign that alcohol was harmful on the march, but taken in the evening, when exhausted, it was of some value, and Parkes agreed with these officers that alcohol taken at night might ward off certain diseases occurring with fatigue.

Dr. Byer also mentioned the benefit of keeping alcohol from Malays in Van Heutsz's campaign in Sumatra, and the benefit of giving a very little to the white soldiers, as described by Surgeon M. Filbij (*Archiv für Schiffs- und Tropen-Hygiene*). Yet Byer thinks that in the Philippines, an identical climate, it would not be beneficial.

Now let us get at some new facts. In 1902 I obtained a mass of data as to the physical condition and drinking habits of a regiment of infantry which had been about three years in the Philippines, to which was added two troops of cavalry of about fifteen months' service. Each company commander divided his men into four classes as to health: (1) Those who retained health; (2) those who deteriorated in health; (3) those who were invalided home for disease, and (4) those who died of disease. The drinking habits of each man were also given, as (1) total abstainer, (2) moderate drinker, who was never drunk; (3) excessive drinker, who was occasionally or periodically intoxicated. I know the figures to be as near the truth as it is possible to make them, because officers gave me the data, and their minor personal equations were neutralized; that is, some reported many more men deteriorated than in other companies in identical conditions. The number of total abstainers (1 per cent.) is not as great as in former days, and the percentage who drink excessively is, I believe, about the same as among young men of this age and type in civil life. About 60 per cent. are moderate drinkers.

I must confess to being somewhat disconcerted and disheartened at first by the totals; the excessive drinkers were far healthier than the abstainers, only one-half as many were sent home sick, and only one-

sixth as many of them died. I had hoped to prove the opposite.

	Numbers.			Percentages.		
	Excessive.	Moderate.	Abstain.	Excessive.	Moderate.	Abstain.
Retained health	243	534	56	68	66	46
Deteriorated	86	179	38	24	22	31½
Invalided	22	65	16	6½	8	13½
Died	5	32	11	1½	4	9
	356	810	121	100	100	100

Calculating the percentages of each class according to health gives the following:

	Percentage.			
	Excessive.	Moderate.	Abstainers.	
Retained health	29	64	7	100
Deteriorated	28	59	13	100
Invalided	21	63	16	100
Died	10	67	23	100

We have seen now and then statements from surgeons who have been with volunteer companies in a few days' or few weeks' campaign in Porto Rico or Cuba that the abstainers retained health best of all, the moderate drinkers not so well, and all the heavy drinkers got sick or died. This for a campaign, short enough to be mentioned in hours, rather than days. Here we have prolonged residence, and the figures are the exact opposite; one cavalry officer indeed informed me that in his old volunteer company in the Philippines he was astonished to see all the "soaks" thrive and all the abstainers go under.

If these figures prove anything, they prove that in the terrible depressing, neurasthenic, anæmic conditions brought about by living in a tropical climate, against whose onslaughts we have no protection like the dark-skinned native, a white man who is not assisted by a little alcohol is more harmed by the climate than the man who does get it. Moreover, the damage done to these young men by occasional sprees is not so great as the damage done by the climate to the abstainers. What a lot of mis-statements have we received from our teachers, textbooks, and authorities.

I suppose some medical editors would advise hiding these figures on the ground that they would be an advantage to the whiskey dealers who buy Kansas corn from prohibition farmers. He would no doubt rather see our soldiers die than let them know that a drink of wine at meals might save their lives. Think of the statement that "the claim that the use of alcohol is desirable in the tropics is refuted beyond the possibility of discussion" (*Boston Medical and Surgical Journal*, June 21, 1900), a statement for which there is no basis in fact. There are no figures, statistics, or trustworthy data in existence upon which such a statement could be based.

This attitude in defense of current opinion is dangerously near to the old one, which we hoped had disappeared from New England forever; we can almost hear the echo of that short dark period when its people said: "The claim that there are no witches is refuted beyond the possibility of discussion."

It is a well-known fact that in certain diseased states such as puerperal septicæmia, far more alcohol can be harmlessly and beneficially taken than in health, and the figures seem to show that in the exhaustions of the tropics the same rule holds.

When yellow fever first broke out among the army officers in Havana, it came as a shock to find that the only ones who died were total abstainers, and the drinkers recovered, or escaped entirely. This refers to the first outbreak. I do not know about later statistics.

Only two officers died of cholera in my brigade. One was an ignorant scout officer who allowed his company to drink unboiled water, with frightful loss of life. The other was a careful man and a total abstainer, and was the only officer infected in that neighborhood. There was a notorious little outbreak of cholera among officers near Cavite, in which the abstainers died, the moderate drinker recovered, and the heavy drinker escaped.

But the facts are explained by the experiments of M. Roos, reported to the Paris Academy of Science (*Chemist and Druggist*, April 6, 1901). He experimented with six pairs of guinea pigs, four pairs of which were given wine daily, while the others were provided with the usual food only. He found that in "regard to endurance, weight, strength, number of offspring, and longevity, the tests were altogether in favor of the wine-fed animals." A man, similarly, by reason of a little wine in the tropics is better in endurance, weight, and strength, and is also evidently better able to resist bacterial invasion than the abstainer. Indeed, the symposium on alcohol in the *Boston Medical and Surgical Journal* of March 13, 1902, brings out these facts as proved: (1) Alcohol in moderation aids digestion; (2) first it increases nitrogen waste and then lessens it, and is reflexly a nitrogen food; (3) it burns and gives up energy, and takes the place of the fats and carbohydrates; (4) it is valuable in certain conditions of disease and exhaustion, as after profuse diarrhœa.

The evidence is clear-cut then that by reason of the increased nutrition, alcohol enables men to resist disease in the tropics, and Mircoli even goes a step further, for his experiments with the blood of alcoholics show that it has a greater antitoxic power over tuberculin than the blood of abstainers (*Münchener Medizinische Wochenschrift*, March 4, 1902). Whether the drinkers in the Philippines resisted tuberculosis in greater number than the abstainers, I do not know, but Mircoli's experiments would seem to prove that they would, except those whose tissues had become injured by long continued overindulgence, for Mircoli shows that in such men the blood lost its antitoxic power. Experiments innumerable have been made with other animals, and always with the same result—overdosing with alcohol invariably increases the animal's susceptibility to infections. But these figures show that the slight overdosing of soldiers is not as harmful to the tissues as is the climate of the Philippines to the abstainer.

Dr. W. J. Simpson (*Journal Tropical Medicine*, April 15, 1903) states that alcohol is harmful for newcomers at any time of the day, but worst of all, before exposure to the sun, but is often necessary after some years' residence and must be taken with the meals, preferably with an evening dinner. It is quite likely that during the first few months' residence, while newcomers are in that curious condition of stimulation, due to the climate, which makes them feel so comfortable and energetic, alcohol is harmful as Simpson says, but as soon as the inevitable re-

action occurs and neurasthenia results it is needed, but experience in the Philippines shows that it is needed sooner than Simpson believes.

Dr. Jas. Cantlie (*ibid*) mentions the peculiar stimulation which newcomers experience in the tropics, increasing all physiological processes and making people feel better than they did at home. After six months the initial stimulus wanes and the opposite maintains, which may even need alcohol. He evidently refers to the dreadful and universal neurasthenia, for he mentions the loss of rest and sleep, impaired digestion, and insufficient nitrogen from the absence of fresh meat. These conditions demand alcohol, and yet he says: "Alcohol is a curse in the tropics as at home, and its effects on economy are even more pronounced in a warm than in a temperate climate. The total abstainer has an enormous advantage in the tropics from the point of view of health, and every one who tastes alcohol in any shape before the sun goes down is certainly injuring his health." These two statements are mutually contradictory, for if it is harmless after sundown, the total abstainer cannot have such an immense advantage, and our statistics show Cantlie's opinion to be unfounded.

Perhaps there is an advantage in the water taken in such large quantities by the drinkers. It is a well known fact that those who drink large quantities of water in hot weather or in the tropics are far less liable to sunstroke than others. There is a constant flushing of the kidneys and great elimination of products of the excessive metabolism going on when exposed to heat and light, and it is evidently a great advantage, no matter what we think is the cause of sunstroke. Consequently numerous writers advise tropical residents to drink largely of water. Walffert and also Rubner (*Archiv für Hygiene*, XXXVIII, p. 154) advocate 4½ quarts a day, including the water of fruits. As total abstainers are not likely to consume as much water as the others, they are thus at a disadvantage as to health; nor can plain water be taken in as large amounts as the mineral waters so popular with drinkers, as it causes indigestion and is not so easily absorbed.

People rarely appreciate how bad the climate of the Philippines really is. A few mountain resorts are cool and comfortable, but there are few soldiers there. They must be kept in the hot lowlands, where they are needed. Newcomers praise the climate, for they are in the preliminary stage of stimulation, when they feel extra well and extra vigorous. The newspaper correspondent, Wm. E. Curtis, is the latest recruit to this list of men who consider that the climate has been maligned. The British claim that there is nothing in India so bad as the Philippines, but indeed the most of India is in the temperate zone, and the hill stations are cooler and better than the mountains of Kentucky, nearly as far north, cooler, higher, and with a longer winter. But in the bad stations, they never retain a regiment longer than twelve months, so it is said, the remaining four years of the India tour being spent in the cool stations. It is necessary in our service to keep troops two years in the Philippines and staff officers three years, so that as they have no cool stations as good as in India to go to, it is necessary to resort to every precaution which is likely to enable them to get through unscathed.

In order to be quite sure of the facts in the case, I collected statistics from two more regiments of soldiers who had been more than two years in the Philippines, twelve companies of infantry, and eight troops of cavalry, a total of 1,347 men, and found that the percentages were practically the same as in the previous lot. In this case I separated a fifth class, of men who had actually improved in health.

	Numbers.			Percentages.		
	Excess.	Mod.	Abs.	Excess.	Mod.	Abs.
Improved	10	60	10	3.2	7.0	6.6
Retained	194	471	70	62.2	54.0	46.0
Deteriorated	71	218	24	22.7	25.0	15.9
Invalided	30	95	29	9.6	10.8	19.0
Died	7	29	19	2.3	3.2	12.6
	312	873	152	100.0	100.0	100.0

Calculating the percentages of each class according to health, gives the following:

	Percentages.			
	Excessive.	Moderate.	Abstain.	
Improved	12.5	75	12.5	100
Retained health	26.4	64.1	9.5	100
Deteriorated	22.5	69.9	7.6	100
Invalided	19.3	61.7	19.0	100
Died	12.8	52.7	34.5	100

The abstainers died or collapsed in higher ratios than the moderates and excessives, and deteriorated or retained health in less ratio, but have an advantage in that nearly double the percentage improved than of the excessives; but this advantage is lost again, in that the moderate drinkers showed a higher per cent. of improved health than abstainers. These figures are still more significant in that they include many deaths from cholera, which was believed to be far more fatal to the drinkers than to the abstainers.

Silly people, who have no facts, but who have positive opinions in lieu thereof, generally bolster up their crude ideas by quoting British army statistics, showing that whereas the deaths from alcoholism present a gradual decrease decade by decade, both in India and at home, yet the Indian figures are always slightly the higher. Of course they are, and that brings us to the fallacy in deduction from them.

It is an axiom that none but healthy men should go to the tropics, for the experience of all observers is unanimous that the enervation and destruction of vitality from climatic causes sooner or later breaks down an ill man, no matter what his complaint is, nor how long he has had it. This applies to healthy elderly men, too, for they age rapidly as a rule after one or two years. It applies with startling frequency to the men whose tissues have become sclerosed or fatty—the conditions of chronic alcoholism. Hence, as a rule, the men who had over-indulged for many years and whom we would call alcoholics, whether they had sworn off or not, broke down or died after a short residence. This applies to men who were apparently healthy and good for many years of life at home—only fair insurance risks in the temperate zone, but bad ones in the tropics. The rule also applies to tropical residents who, through over-indulgence, have developed alcoholic tissues since going to the tropics. It is almost impossible to predict how soon an old alcoholic will break down in the tropics. Such a man demands great care at the best to keep him alive, and even healthy men over 35 show morbidity and mortality increasing with age, so that men over 45 should stay home anyhow. In one sad case, a man of 62, who had been an alcoholic for 30 years or more, we predicted a 12 months' stay, and in 17 months his active career was ended by a cerebral apoplexy, though the

preliminary stage of stimulation had caused him to feel better than he had for years.

But what a perversion of the truth, to say that if over-indulgence to the extent of tissue degeneration is far more deadly than at home, then also must every single drop be harmful, and to doubt whether it be possible to obtain scientific proof that it can be beneficial. According to the old orthodox view, too much meat was the cause of liver abscess in the tropics, and, to be logical, one should advise tropical residents to abstain from all meat. There were no deaths from alcoholism reported to me among these men. From the fact that they were all young soldiers, mostly from twenty to twenty-eight years of age, who had not had time to develop alcoholic tissues, we can repeat the assertions, that while some alcohol is necessary in the tropics, and excessive drinking by young men is not any more deadly than at home, nevertheless men with alcoholic tissues die much sooner than in temperate climates.

The young men in the tropics who drink too much are harmed thereby—of course, they are. No one denies that a man is a fool to get drunk anywhere, but a great fool to get drunk in the tropics. The figures only show that the harm done to them by alcohol is less than the harm done to abstainers by the climate. It is a frightfully bad climate for white people, in which, in less than three years, 38 per cent. of the Americans die, are invalided home, or deteriorate in health. Many companies, by the way, reported no men improved in health, and a few companies reported that no one had retained his usual health, irrespective of drinking habits.

Of course some brilliant statistician will venture an opinion that as the figures show that nearly 99 per cent. of the men took alcohol, more or less, it is evident that if they had taken none at all the health record would have been far better. In anticipation we can answer that the asses, mules, and horses have died in far greater proportion than the men, because they were more exposed to the deadly climate and its diseases and could not get alcohol to help them; and at the opposite extreme, the business men and other civilians who can and did avoid the worst effects of the climate by working in houses or in the shade, while soldiers had to be exposed to the sun's rays, had far less sickness and death than soldiers, even though they consumed much more alcohol than soldiers. It is the climate which kills, and now that the war is over and the soldiers are housed more at mid-day, the death and sick rates are decreasing markedly, while the alcohol consumption, as far as I could determine, was increasing. Soldiers in the field cannot get as much as those in garrison.

Formerly, in war times, and probably also at present, there was more drinking in the Philippines than at home, but there has always been less drunkenness. The stories of the increase of drunkenness in the tropics in the daily press are simply inventions. The admissions for acute alcoholism in the United States are 24.63 per 1,000 and only 17.63 in the tropics, and for chronic alcoholism there were 1.21 and .84 respectively. Likewise delirium tremens is less, being .14 at home and .08 in the tropics. There are no records of deaths from chronic alcoholism, as such cases are invariably reported under the name of the terminal infection. All statistics show that drunkenness as a national vice increases from the tropics to the north and is greatest in the north of Europe.

Statistics do not show the relative morbidity of troops at home and abroad; for instance, our reports state that in the last year 12 cases of abscess of the liver occurred in the United States, and 13 in the Philippines, but we are moderately certain that they all arose in the Philippines; nevertheless, the statistics as to acute alcoholism can be relied upon, as the cause is immediately followed by the disability.

A volunteer surgeon is quoted by the *Journal of the American Medical Association* as saying that "the use of liquor in any form in the tropics is unnecessary, except it be the red wine issued by the Spanish Government to their troops," in which the editor makes the comment: "Judging from the condition and efficiency of the Spanish troops this [red wine] would not seem to have helped them much." Let us see! General Shafter's army of regulars was declared by all experts to be the finest and most efficient army ever organized in the history of the world. Nevertheless, about five thousand of these men were successfully fought nearly all day long at El Caney by about five hundred Spanish soldiers, who subsequently withdrew with honor. Later our whole army was brought to a standstill by inferior numbers of these same inefficient Spaniards. Not only was retreat talked of, but General Shafter was compelled to advise allowing these inefficients to withdraw from Santiago, and he held on by reason of orders from the President. (See Col. Wiley's book, "With Shafter in Cuba.") If a little red wine can be even suspected of accomplishing such wonders in these undersized, half-starved, Spanish peasants, why didn't we send a ship-load of it to our men. It would have lessened that awful sickness, which later compelled the return to Montauk. Military experts are unanimous in praising the high efficiency of the Spanish soldiers who inflicted such loss upon our men. But the editor calls them inefficient, and his opinion on such military matters is, of course, far more valuable than that of a mere army officer.

In the tropics a long time ago people were advised not to look upon wine when it is red, and were told that no drunkard could enter the Kingdom of Heaven. But the Apostle Paul, from his experience in the sub-tropics, wrote this to Timothy: "Drink no longer water, but use a little wine, for thy stomach's sake and thine often infirmities." After all these centuries this is the attitude of the men of the present, who have investigated it.

Now let us get down to the practical application of all this. It is reported that the President of Harvard University, in addressing some candidates for positions as teachers in the Philippines, told them that any one who drank alcohol need not apply, as only total abstainers would be accepted. What dreadful and deadly advice! I have been repeatedly called in professionally to see these teachers, and a more horrible condition of health I have never encountered in any people as a class. They were anemic, neurasthenic, and enfeebled. A high percentage have broken down completely, though I haven't the exact data. I only know personally that every woman among them whom I saw was in a wretched state. President Eliot would have had fewer deaths and fewer people in broken health to account for if he had told them that no one would be accepted unless she promised to take a little wine with her meals. His fanaticism has had deadly results. It is dreadful to send women to the tropics to work anyhow. Ripley, the anthropologist, says it is next to murder; but to send them over without the wherewithal to combat the dreadful exhaustions is a felony. Almost all the women come home in a dreadful condition, even though they have had the greatest care. A man who publicly reported that we could safely stay five years has lost his wife and

had a daughter go insane from a fever. I have heard people praise the climate who were themselves in a marked condition of anæmia and exhaustion.

The most important practical point is in relation to restoring beer and light wines to the Army canteen. A few years ago there was an attack upon the canteen system, in which such violent and false assertions were made that the W. C. T. U. combined forces with the whiskey interests and had the wine and beer excluded by law. Then there sprung up around every army post the old liquor shacks, which had been driven out of business by the canteen some years earlier. In these low dives drinks of the vilest kind are kept, and drunkenness is encouraged, so that the soldier has been very seriously injured. Instead of lessening drunkenness, the W. C. T. U. have actually been so misled as to join with the whiskey sellers to increase it. Some of these women have been imposed upon no doubt by the violent assertions made in the heat of that campaign. One dear old lady was so wrought up by the reports that she went to the War Department to know what they were going to do about it. As she seemed befuddled as to the facts she was asked what she meant by the Army canteen. "Why," she said, "that awful tin thing the soldiers carry on a strap over the shoulder and is kept filled with whiskey by the officers so that the soldiers are always drunk." Its real use was explained to her, but it didn't budge her an inch. "I don't care, we want it abolished anyhow."

This is always the result when petticoats interfere in war—a man's business. The poor soldier gets the worst of it.

The W. C. T. U. has done such grand work in other directions that it is a shame they should blot their own record and increase drunkenness anywhere. At present the results are so bad that there is a demand from all parts of the army for the abolition of the law. One doctor in Pennsylvania (*American Medicine,* 1903) wants the army officers to go outside the reservations and break up the saloons—like Carrie Nation—but we do not want to do anything so illegal.

The great obstacle to restoring beer and wine to the canteens in the Philippines is the false attitude of the medical profession, who, without any facts, are asserting that the soldier in the tropics should not have any alcohol, even though it might be tolerated in the canteens in the United States. This paper is written in great part to prove that it is really needed, and urgently needed, in the tropics, and the sooner it is supplied as a hygienic necessity the better it will be.

The soldier, like all other men in the tropics, wants light wine or beer, but at present he takes to vino, which he doesn't like and doesn't want, because it is the only thing available and is very cheap—5 cents a quart. It is a spirit distilled from anything containing sugar or starch, certain palms, rice, molasses, sugar, cocoanut juices, potato, mouldy flour, etc., and its action is that of the worst kinds of new whiskey at home. Having no age nor artificial purification, its harmful effects are dreadful. "Blind pigs" exist everywhere, and cannot be found, as the liquor can be hidden in the jungle. It is doing so much harm, and the establishment of the canteen for beer and wine is such a hygienic necessity that it is a pity we cannot have the law abolished at once. But nothing can be done until the medical profession ceases its foolish and false assertions, that alcohol in small amounts is harmful in the tropics, and will publicly preach that a little is positively needed.

The effects of vino, by the way, are exactly the same as those of new whiskey made from inferior materials at home. There is a general impression that it creates a peculiar nervous condition, and insanity and all sorts of troubles, but there is no truth in such popular ideas. It is nothing but raw whiskey distilled from a fermented sugar. It causes an intense gastritis, and a debauch is thus followed by a thirst which water will not relieve. The sufferer finds no relief until he takes more vino to anæsthetize the irritated nerves. Thus is the spree prolonged, and alcoholism results—that is, the alcohol habit. There is more alcohol taken than in a spree at home, because it is so cheap, and the nervous effects are purely in proportion to the amount of alcohol, and differ in no respects from the acute cases in cooler climates. Vino contains a little wood alcohol and other products from the destructive distillation of cellulose and starch, but the nervous effects are those of ethyl alcohol.

All sensible people, except the liquor men and the farmers, who sell the grain to the distillers, are anxious to put a stop to drunkenness in the United States. But we must make up our minds that we can do no good if we conceal scientific facts. We should know that every fact will aid us, and that we must have the truth, the whole truth, and nothing but the truth. If we conceal the truth we must expect drunkenness to increase in the Philippines. This paper merely refers to health conditions, but from all over the army the cry goes up from officers that the new canteen law has made it more difficult to control soldiers, and has damaged discipline.

It is quite common to hear that the universal opinion of tropical physicians is that no alcohol should be used in the tropics, whereas on investigation we find that they have merely stated that *spirits* in the daytime are bad, and all alcohol in excess is harmful, but that they said nothing of small doses of wine or beer at or near meal time, or may have actually said they were useful and harmless. Consequently, as this is a very vital question to the welfare of the army, we should warn writers to confine themselves to facts and not give groundless hearsay. These questions should be asked of the hundreds of physicians who have had extended experience in the tropics—not a few hours merely:

1. Is alcohol in moderation useful, harmless, or harmful in the tropics; if not harmless, what is the limit of safety; if useful, what is the limit where it becomes excessive? Do you refer to diluted spirits, or to light wine or beer? Do you refer to it taken between meals, at meals, or at night? Give opinions based on facts, and no others.

2. Is total abstinence in the tropics more or less desirable than moderation? Give opinions based on facts and no others.

3. Is excessive drinking more harmful than at home? Give opinions based on facts, and be sure you know how harmful alcohol really is when taken in excess in northern latitudes.

4. Are men with alcoholic tissues destroyed sooner in the tropics than at home, whether they continued drinking or not? Give opinions based on facts and no others.

There are two other views of the alcohol question—the ethical and sociological, both of which are so wholly dependent upon scientific investigation as to be jeopardized unless we publish the whole truth. Every sensible physician is aware of the awful destruction of life, health, happiness, and prosperity by over-indulgence, and he also knows that though he cannot truthfully say that moderate drinking is harmful, he can say that it often, perhaps generally, leads to occasional, or frequent, or even habitual over-indulgence, which may be fatal to a man's pros-

perity, happiness, health, or even his life itself. Hence, good ethics demands that we should preach total abstinence, and give our hearty support to all societies which have this ideal in view—universal abstinence, except for those for whom physicians advise it—the aged, sick, or those in exhaustive surroundings. It is utopian, of course, but not a whit more so than our frantic efforts to prevent all diseases and exterminate every plant or animal which is inimical to man. We cannot accomplish the ideal for a very long time, and it is merely a matter for one's own conscience to determine, whether he shall strive for the unpractical ideal at once, or join the ranks of those who desire the same eventual end but who strive in the present to limit the evil by less drastic means. In the army we are forced, whether we like it or not, into the latter column of workers. We know by sad experience that we cannot bring about total abstinence among soldiers, but we do know by happy experience that we did limit excessive drinking to a very marked degree until we were checked by the extreme wing of the temperance agitators. The army has been agitating for temperance since long before the W. C. T. U. was organized, and it is a shameful falsehood to state that we encourage drunkenness. We have the same end in view, but we know we can accomplish only a restriction at present by driving out of existence the low dives which the W. C. T. U. have caused to spring up.

The temperance reform we are fighting for in the army is on the identical lines found so successful in the great temperance movement in England—the Public House Movement, so carefully fostered by the clergy of the Established Church. It is ably defended by Bishop Henry C. Potter, of New York, who very sanely remarks that as the saloon cannot be abolished, and as it is a very great evil, we must find a substitute for it. He says that "nothing which has occurred during this century has done more to restore to the Church of England the sympathy of the common people and the friendship and respect of the multitudes who are not of her fold than the organization and work of the Church of England Temperance Society." The Bishop advocates in New York City exactly what we advocate in the army as a substitute for the wretched conditions and drunkenness fostered by the vile saloons around army reservations.

In Raleigh, N. C., churches have organized "dispensaries" on the same plan as our old army canteen, and for the same purpose. The people share the profits, the low saloon is driven out of existence, and drunkenness has been decreased nearly 50 per cent. Bapists, Methodists, and other Christians are handed together in this work. Now why cannot the Christian workers of the United States at large join in and help us to reduce in like manner the drunkenness brought about by the W. C. T. U. interference with the identical plan in the canteen.

The conditions of modern society will probably settle the question for us in its own way, in its own time. The sociological view then is all important. A century or two ago a drunkard injured only himself and his family. Society did not bother about it. But in the modern coöperation of society we are wholly dependent upon each other. We are finding out gradually that the moderate drinker is apt to take a drop too much at a critical time, and that the fine adjustment of mental faculties is so disturbed that he is liable to blunder and ruin or kill others. Scarcely a day passes that we do not place our lives in the keeping of a ferry-boat pilot, a locomotive engineer, or a motorman, who might, by a slight defect of judgment, due to alcohol, kill us and scores, hundreds, or thousands of others. As a matter of property interests, railroad owners have long found it necessary to insist upon total abstinence in engineers. Such high wages are offered that they can afford summarily to dismiss the drinker. The result is that railroad engineers are probably the finest body of laboring men in the world. We can trust ourselves to their care and sleep peacefully while whirling along at sixty miles an hour. Business men also are finding out that their interests are better served by abstainers and that they make more money by employing abstainers, even if they pay more wages. Hence, in many walks of life abstinence means higher wages and permanent employment. There are now scores of employments which could not possibly be filled if men drank as they did one hundred and fifty years ago, or even seventy-five years ago. But this is all business. The real sociological point follows.

We are now so congested in cities that even a drunken teamster may kill pedestrians, an elevator man, chauffeur, motorman, electrician, or, indeed, any one of the thousands of men serving the public, may kill us. We see the handwriting on the wall already, and the time is nor so far off when we shall, in self-defense, be compelled to insist that any one who has the power to injure or kill the public by reason of defect of judgment from alcoholic excess shall be an abstainer like a locomotive engineer. If he drinks, he will violate law and be imprisoned like an habitual criminal. So we see that the whole drift of civilization is towards compulsory abstinence in public servants, and by public servant is meant any one who serves the public, even though hired by private parties. If he becomes so feeble from disease or age as to need alcohol, he shall then be pensioned as of no further use to society, and shall pass the remnant of his years in comfort.

Whether society will ever dare to go further and make it criminal for any one to drink, on the ground that a moderate drinker is a menace to society should he accidentally over-indulge, is extremely doubtful, though possible. Stranger things than this have happened. Our forefathers of a century ago would have laughed a man to scorn if he had told them of a coming time when such public servants as locomotive engineers would have to be abstainers.

Many observers think that drunkenness will cease soonest if we only let those with the tendency have all they want and thus destroy themselves, and the race be temperate by natural selection. But this is doubtful, because drunkenness is merely a symptom of a serious nervous condition—practically a disease which is produced newly and constantly in the high pressure of modern society. The symptom is not hereditary in any sense of the word, but the underlying nervous condition is, and there may be some other symptom than drunkenness.

But it is more likely that when society becomes so complex that all of us fall into the category of locomotive engineers, unable to find employment if we drink, then drinkers will eliminate themselves, for they are the least fit for survival. It will be a natural selection due to a new environment.

It is perfectly safe to teach our school-children that, though we cannot prove that alcohol in small amounts is of the slightest harm to the body, the time is not far off when any man who drinks is liable to lose his employment and be ruined. It will be far safer than to tell them the awful things now published in some of their text-books, and which cause them to have so much contempt for temperance agitation.

Now all this applies to the army. A drunken officer is so dangerous that society long ago willed that if he was drunk on duty he should be discharged, no matter whether Lincoln approved of some drinking or not. Lincoln had a different problem—he wanted generals to replace the worthless ones he had, and when he got one he held to him in spite of his drinking, for he accomplished things that the more sober ones were too stupid to do. Drowning men never care whether or not their savers are abstainers. It is now rumored that the early Russian losses in Manchuria were due to the lack of judgment of a drunken officer. So the time is not so far off when the law will go a step further, and society shall say to its soldiers what the railroad corporations said to its engineers: "You must not drink at all; we will pay well to get the proper men, but we must have them." This will come about when society is willing to pay its soldiers the same amount which railroads pay their engineers. But as long as they limit the pay to $13 a month the army will never have that grade of men for its soldiers. If we are too mean to give good pay to our life-savers and guardians, who are constantly risking their lives that we may stay home and make money in safety, then we cannot insist upon total abstinence. Therefore, in army temperance agitation we must do the best we can and limit the drunkenness and fight the W. C. T. U., which has increased it. The American Public Health Association recommended the repeal of the iniquitous canteen law, and this opinion is of greater value than that of a few fanatical women.

But we can do no good whatever if we lie about tropical conditions, tell soldiers they should not drink a drop, and then let them find out we are not telling them the truth. As a little alcohol is needed in those terribly exhausting conditions, we are murderers to keep it from them, no matter what we desire at home, and cowards not to come out openly and advocate it. Let us advocate abstinence for the great majority of people, who, we know, can get along with the internal alcohol manufactured from corn and rye by their own pancreas.

There is still some uncertainty as to the attitude of life insurance companies to drinkers, for the first reports seemed to favor moderate drinkers as better risks than the abstainers, but the statistics have been so violently assailed that one gathers the impression that healthy abstainers are longer lived. But the discussion will not subside, and it is evident that more data are needed, and a separation of different classes. The young and healthy do not need it, and by abstinence are saved from occasional harmful excesses, while there may be an actual prolongation of life by its judicious use by the feeble, in the unnatural environment of civilization. The London *Lancet* apparently advocates the use of light red wine, to counteract the growing tendency to revert to spirits, brought about by modern life.

The editor of the *Journal of the American Medical Association* actually warned his readers against saying a good word for alcohol, and more deplorable advice cannot be imagined. This paper has shown that there is not the slightest inconsistency in advocating total abstinence in the young, and showing its future necessity, and yet advocating the use of alcohol where it is needed. One need never be afraid of facts.

Some years ago we stated that we were not prepared to recommend the addition of alcohol to the ration in the tropics, but from a study of the facts presented in this paper there seems to be no doubt that it would be a wise measure to add about a half pint or a pint of red wine to the ration, and in addition supply the company commander with money to purchase foods locally, in situations where it is impossible to supply the men regularly from the base with fresh meat, and that in every case they should have 2c. or 3c. per man daily for extra purchases to keep their nutrition up to the highest point.

This paper has been given for criticism to two officers, Major Edwin F. Glenn and Chaplain G. H. Jones, of the Fifth Infantry, neither of whom uses alcohol or tobacco. The former has seen men fail in health in the tropics until they used wine at meals under a physician's advice, and he was formerly opposed to the beer feature of the canteen, but from the results of the present system he cordially supports the attitude of this paper. Chaplain Jones, before entering the Army was naturally much opposed to the old canteen, but from his experience in the army in his efforts to save the soldier and protect his morals, he has come to the view that the beer feature of the canteen, though an evil, is infinitely to be preferred to the present conditions, and he now advocates its restoration. I am quite sure that all clergymen who will look into the matter will support him. This paragraph is added with the consent of these two officers.

Among the periodicals which advocate the present system with the low dives which take so much of the soldier's money, is a prohibition organ. The copy before me asserts as its purpose, "to keep calling attention to personal ideals in political life," but its ideals must be very low, for it contains numerous swindling advertisements of quack medicines for the cure of incurable diseases. Of all the swindlers, those who swindle dying men by promises of cure, certainly are the lowest. We must expect such a paper to advocate what is harmful to the soldier, but why it should have any weight with law makers, and why its opinions are considered better than those of army officers who have the soldier's welfare at heart is a mystery.

TWENTY YEARS' EXPERIENCE WITH MANUAL DILATATION OF THE OS AND CERVIX UTERI TO EFFECT IMMEDIATE DELIVERY IN THE LATTER MONTHS OF PREGNANCY.*

WITH PRESENTATION OF A NEW OBSTETRICAL UTERINE DILATOR.

By PHILANDER A. HARRIS, M.D.,
PATERSON, N. J.

More than twenty years ago, while endeavoring to dilate the cervix uteri for the purpose of immediate delivery in a case of placenta prævia, I discovered that with the hand within the vagina, I could with the thumb and the first finger exert a very great dilating force upon the cervical ring. After the uterus, which had first barely admitted my first finger, had thus been dilated sufficiently to allow two fingers to be introduced, I found that, by resting the extended first finger (which was in the uterus) upon the thumb and flexing the second finger (which was also within the uterus), a still greater dilating force could be exerted on the cervical ring.

The power thus obtained is owing to the fact that traction upon the cervical ring is effected by the strong flexor muscles of one or more fingers, while the point of counter traction is upon the dorsum of the first finger, which finger is sustained in a position of incomplete extension by resting upon the ball of the partially extended thumb. In this

*Read at the American Gynecological Society, 1904.

maneuver the flexor muscles of the thumb are the chief factors in the counter traction. So considerable is the dilating force which may be thus applied by anyone who understands this method, that the os and cervix of any uterus of seven or more months gestation may be enlarged, and the child and placenta delivered in an average time of one hour or less, provided the cervix uteri fully admits the first finger at the beginning of operation.

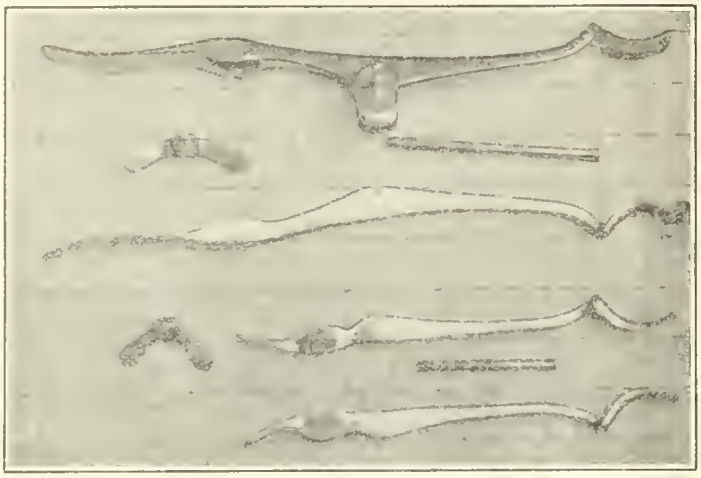

Fig. 1.—The various parts of the dilator. The lines breaking the field into squares are one inch apart, by which the dimensions of the various parts of the instruments can be readily determined.

So far as I know, or have been able to learn, the first written description of this method of dilating the cervix uteri, formed a part of a paper written by me, and read at the Pan-American Medical Congress at Washington, in 1893. I then reported a series of nine cases of placenta prævia, all more or less aided and consequently delivered by this method and without maternal mortality.

After the reading of my paper in Washington, I occasionally met with a physician who told me he had long used the method described in my paper. I always insisted that any such show me the method. Not one, however, has been able to demonstrate it. I am particular to mention this fact to prove that the profession has had many misconceptions regarding this method of dilating the cervix. For such misconceptions I perhaps am more to blame than anyone in that I did not in my original paper succeed in writing a very clear description of the method. A few evidently succeeded in understanding my description, and they have since learned from experience that they can place almost any patient seven or more months advanced in gestation, upon the operating table, manually dilate the cervix, and safely deliver the woman in the average time for all cases of less than one hour.

Having brought out and practiced this particular method of dilatation for more than twenty years, I now wish to make record of some of the more important impressions which much experience has left upon my note-book and memory.

Manual dilatation of the cervix and immediate delivery have been performed mainly for placenta prævia and eclampsia.

In more than one-half of the cases of eclampsia and placenta prævia, I have found the os and cervix uteri at least slightly and often one-third or one-half dilated. In less than one-half, of all the cases in which immediate delivery was advised and practised, there had been an entire absence of both labor pains and appreciable dilatation of the os uteri.* Of the sixty or more cases wherein I employed manual dilatation, not more than twenty-five can be placed in a class wherein neither labor pains nor appreciable dilatation of the os and cervix uteri preceded operation and delivery.

Nine years ago, I collected for presentation (in discussion) at the Philadelphia Obstetrical Society my first ten cases of this class. Six were immediately delivered on account of placenta prævia, and four of them because of eclampsia. General ether anæsthesia was employed in every instance, the anæsthetic being withdrawn at the moment the cervix uteri was sufficiently dilated to encircle the expanded fist. The membranes were then ruptured, and a foot was brought down. Uterine contractions usually rapidly ensued, and the delivery of the child and placenta was accomplished in a very short time. The time employed to dilate the cervix uteri in the cases of placenta prævia varied from sixteen to twenty-two minutes, the average for the six cases being nineteen and one-half minutes. The average time required to dilate the os and cervix in the four cases of eclampsia was twenty-eight and one-half minutes. Of the ten cases, it may be said that the average time required to dilate the os and cervix uteri, from the time the index finger could be introduced, until the cervical ring was made to encircle the expanded fist, was exactly twenty-three minutes.

The average duration of the second and third stages of the six cases of placenta prævia was twenty-three and one-half minutes, while the average duration of the second and third stages of the eclamptics was twenty-seven and three-quarter minutes.

The average time for the three stages of labor in the placenta prævia class was forty-two and three-quarter minutes, while the average time for the four eclamptics was fifty-six and one-fourth minutes for the whole operation.

The average time for dilating the cervix in all ten of these cases was twenty-three minutes, with an additional twenty-five and two-tenth minutes as the average time for the second and third stages of the delivery.

Thus it will be seen that the average time of all cases for the manual dilatation of the cervix, together with the delivery of the child and placenta, was forty-eight and two-tenth minutes. The most speedily delivered case was operated upon in forty minutes, while the longest one required seventy-five minutes. All of the women in this class of ten lived, excepting one, a case of eclampsia. As you will

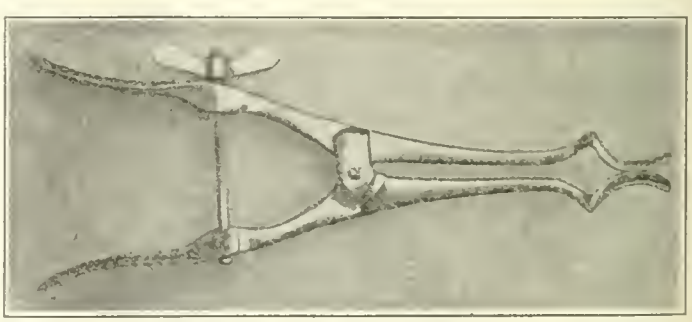

Fig. 2.—The two long or working levers with terminals closed.

* Most of these patients, especially in the past ten years, have been referred to me by their regular attendants.

notice by the appended table, she had been comatose for sixteen hours prior to the delivery.

Although some bleeding occurred from cervical lacerations, in one case only did the loss of blood especially annoy me, or cause apprehension of any particular danger. The case speedily recovered. Of this series of ten cases, only four of the children ultimately lived. The infant mortality is readily accounted for, when we appreciate that the average duration of gestation for these ten cases was less than thirty-four weeks.

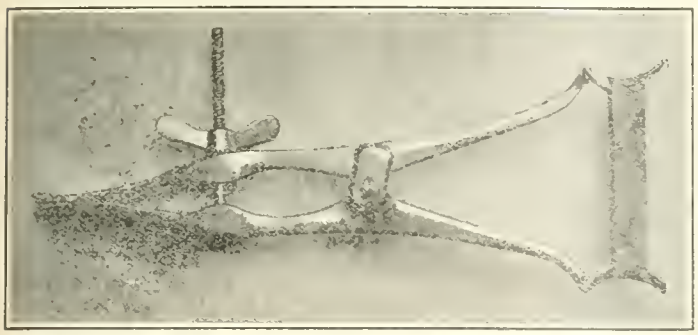

Fig. 3.—The terminals of the long levers opened to the limit of their movements. The rubber band upon the terminals indicates the relation of the cervical ring to the instrument.

Since the ten cases just referred to were reported to the Philadelphia Obstetrical Society, I have performed fifteen other purely elective deliveries. By purely elective delivery is meant, delivery by operation where neither labor pains nor any appreciable dilatation of the cervix uteri had occurred.

The method of manual dilatation, which I have employed, presupposes the possibility of introducing the whole hand within the vagina, and the index finger into the cervix to the metacarpophalangeal knuckle.

I have met with three women, all primiparæ, whose vagina did not admit my hand without laceration of the perineum, and to some extent the vagina. (My hand measures about seven and three quarters of an inch glove measurement.)

For want of a proper lubricant and a Goodell or other cervical dilator, I once failed in the attempt fully to introduce my first finger into the cervix uteri. The anæsthetic was withdrawn, the patient sent to the hospital, and successfully delivered as an elective operation one week later.

I prefer sterile soapsuds or sterilized and diluted tincture of soap as a lubricant for the hand. The perineum and vagina are less likely to be lacerated if the hand is slippery.

The fingers of the dilating hand should exert so far as is possible tonic strain upon the cervical ring. Spasmodic jerks or momentary out-thrusts of digital strength should never be practised. When the first hand grows tired, withdraw it, and introduce the other. When this becomes fatigued, change to the first hand, thus maintaining, as far as possible, a tonic strain upon the ring.

While the tonic strain upon the cervical ring is being properly exerted, the fist of the working hand itself occupies a perfectly passive position in the pelvis. On one occasion, having exhausted much of the strength of both my hands, I asked a most intimate friend and colleague, who chanced to be present, to relieve me. He and I both supposed that he was familiar with the particular method which I employ, but from the continual alternating, inward and outward movement of his arm at the vulva, and a more particular examination of his capabilities, I found that he did not at all understand the method.

There is danger of lacerating the cervix uteri by this method. I have myself, in a few instances of the sixty or seventy women thus operated upon, caused appreciable laceration of the cervix. Inattention to certain cautions which I am now trying to emphasize might surely result in embarrassing if not dangerous lacerations.

There is probably little risk of lacerating the cervix until after it has been sufficiently dilated to admit three or four fingers. When the cervical ring is enlarged to that degree, the amount of force which was hitherto necessary and safely employed begins to become dangerous if continued. So that, from the time three fingers and the thumb are admitted to the uterine cavity (when the circumference of the cervical ring will be found to measure from six to seven or eight inches), the cervical ring will not only be found to dilate with less force, but it is desirable that less force be applied in order that tearing or undue lacerations may be avoided. I am convinced that in my earlier operations I generally used too much force in effecting the dilatations. Some uteri can doubtless be safely dilated from the size of one's first finger to a circumference of eleven or twelve inches in twenty-three minutes, which was the average time for my first ten cases of purely elective delivery. Other cases, especially such as have not advanced much beyond the sixth and one-half, or seventh month, yield so slowly that one hour or one hour and a half may be required to effect full and harmless dilatation. I should say that fifty minutes might be taken as an average time for safely fully dilating the cervical ring in purely elective delivery, and twenty or twenty-five minutes more for the completion of the second and third stages of labor.

My experience with placenta prævia embraces twenty cases, with but one maternal death. In a small proportion of the cases only was very much blood lost while dilating the ring. If in any case of placenta prævia alarming hemorrhage should occur while effecting dilatation, I should at once withdraw the anæsthetic, rupture the membranes, bring down one foot, and allow the uterine contractions to effect the delivery. In no instance have I thought it necessary to resort to this encroachment upon the application of the Braxton-Hicks method.

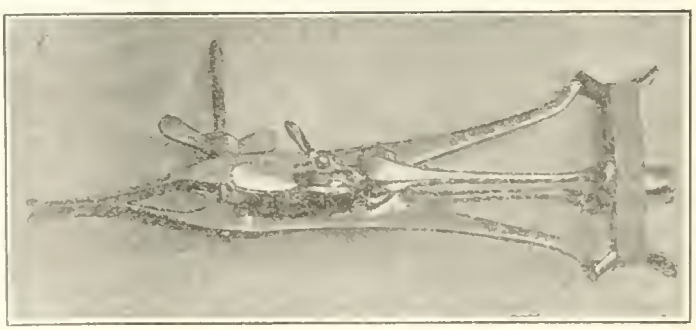

Fig. 4.—The short levers set in place on their fulcrums.

My tendency in more recent years to employ a longer time for the dilatation is but the result of experience, which has taught me that the risk of lacerating the cervix is greatly diminished by less speedy work.

It is the continual or tonic strain upon the cervical ring which dilates it. If the fingers and hand tire,

so that they cannot exert a moderately equable and continuous pressure, the work of dilatation lags. He whose hand can only exert a pressure for one minute, and must then be rested for three minutes, resumes the strain for one minute more, and rests again for three minutes, and so along until the uterus

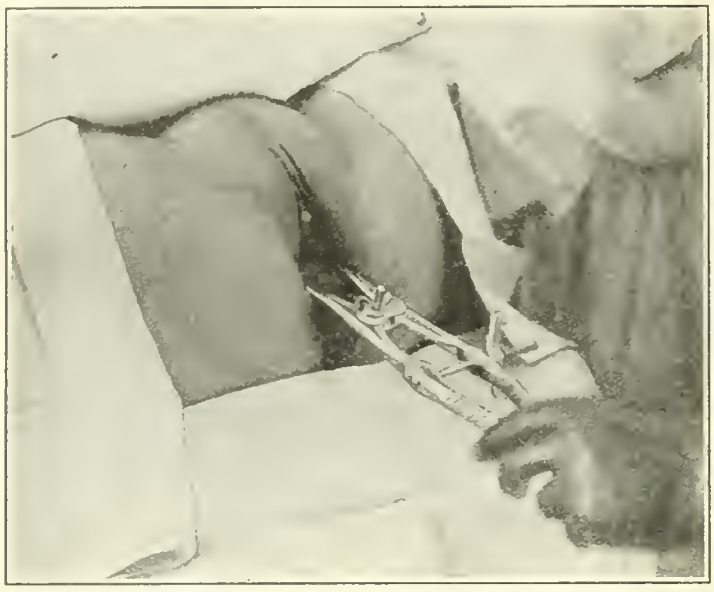

Fig. 5.—The proper position of the long levers while in action. About one-half of the dilatation possible with them has already been effected. (Taken in the preparation for delivery on account of placenta prævia.

is fully dilated, should take about three times as long to safely dilate the cervix as the operator whose hand can exert the necessary unremitting pressure for three, five, or seven minutes, and can find that hand rested after the other hand performs a similar task. Probably some hands are weak, or tire so rapidly, that they are illy suited to the performance of manual dilatation of the uterus.

If at any stage in the task of dilatation the operator finds the cervical ring suddenly yielding, he is entitled to the presumption that he has unintentionally lacerated the cervix uteri.

It has been my custom in all cases so fully to dilate the cervix that it is not likely to offer any obstruction to the passage of the larger portion of the child.

I prefer, and have usually employed, general anæsthesia, produced by sulphuric ether, and have always entirely withdrawn the anæsthetic at or before completion of the dilatation. It is doubtless an advantage to allow the patient to recover somewhat from the anæsthetic before rupturing the membranes. I seek to bring down one foot, and turn the child while the waters are escaping. Version, however, is often uncalled for, and might be dispensed with. The chief object in having the patient partly out of the anæsthesia before rupturing the membranes is that nature may exert more of its force, to aid not only the expulsion of the contents of the uterus, but that the physiological contractions of the uterus may be more pronounced and the dangers of intrauterine hemorrhage thereby lessened.

Any condition of the patient calling for an immediate or elective delivery is from the very nature of things in itself serious, consequently any art which must be resorted to for the purpose of lessening the danger to the life or lives in interest should be skilfully and cautiously practised.

I believe that general anæsthesia in labor predisposes to intrauterine post-partum hemorrhage. My preference for ether to chloroform is based upon a belief that the latter is more injurious to uterine muscular tonicity than is the former. Whether previous post-partum hemorrhage follows a physiological or manual delivery, it has been my custom to at once widely open the vagina with a speculum or retractors, drag down the always patulous cervix uteri and ascertain the source of bleeding. If the blood pours from a laceration of the cervix, I insert with a curved needle the catgut ligature at bleeding points. If needles and suture material are not at hand, and the demand for action appears very urgent, I grasp the bleeding point or points with one or more vaginal hysterectomy clamps. The forceps are removed on the day following. The amount of blood already lost, as in placenta prævia, or the rapidity and weakness of the pulse at the wrist, may require that we not only avoid any further waste of blood, but that we also support the circulation by throwing a quantity of normal salt solution in a vein.

In no instance can I remember of having accidentally ruptured the membranes while accomplishing manual dilatation of the cervix. One inexperienced in this work would suppose that the membranes would frequently be unintentionally ruptured while effecting the manual dilatation.

In total manual dilatation one must change from one hand to the other from five to ten or more times, according to the rapidity with which the hand fatigues.

For many years I have not reintroduced a hand without rewashing and resterilizing it. If gloves

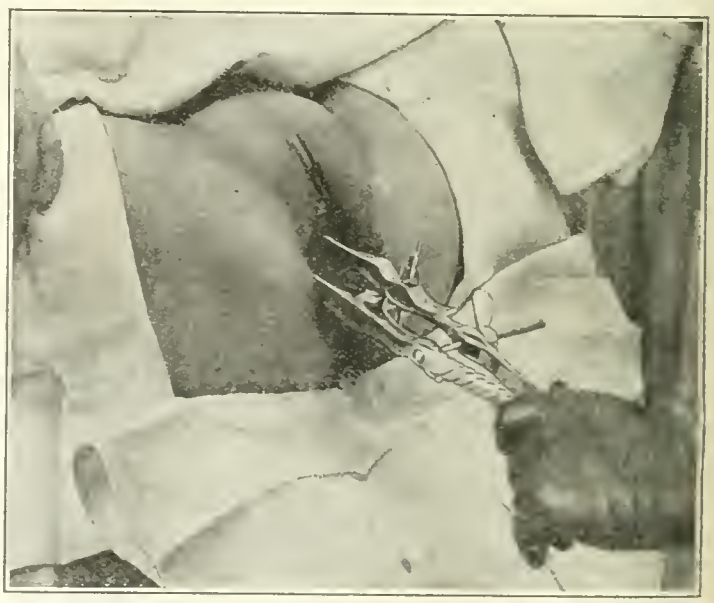

Fig. 6.—Full expansion of long levers with the short levers placed in position and ready for the transference of the partly dilated cervical ring from the long levers to them.

were worn, a freshly boiled glove was put on for each succeeding introduction of the hand, while the vulva was frequently irrigated with physiological salt solution, and occasionally with a solution of bichloride of mercury. The especial reason for irrigating the vulva with salt solution was that any escape

from the rectum might be carried downward and away from the vagina. The stretching of a towel to cover the anus is of little value in protecting the ingoing arm from any discharge from the rectum, unless it is of several folds, and its upper border held by the fingers of the assistants in such manner as to

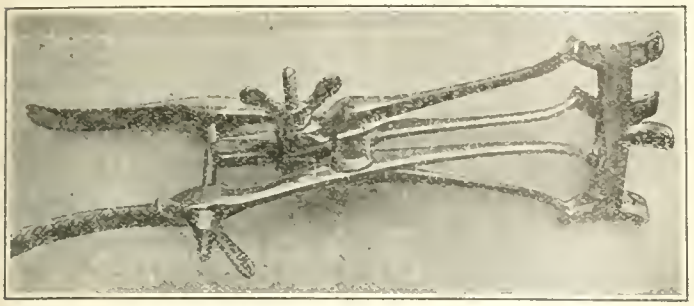

Fig. 7.—Transference of the partly dilated cervix from long to short levers.

effectually form a dam across the perineum between the introitus vagina and anus. No attempt should be made to cover the rectum, but the energy of the assistants should be directed to thus draping a few folds of sterilized linen and holding it by firm pressure against the perineum. Notwithstanding all this care, however, the nearness of the rectum to the ingoing hand and arm would seem to expose the patient in a degree at least to the dangers of septic infection. I regard the necessarily repeated introduction and withdrawal of the hand as the most objectionable feature of manual dilatation.

With this brief review of my own work, which has been and may be so easily imitated by others, and which has the one and very great characteristic advantage of being non-instrumental, I wish to direct your attention to another method of effecting dilatation, but which possesses one very serious disadvantage, and that is that, unlike the hand, we may not always have it with us when required for use.

The instrument which I present was recently devised by me, and with it I have since effected two purely elective deliveries. One for a case of small and contracted pelvis, where in the interest of the child the birth was precipitated at the thirty-seventh week. The other, a case of placenta prævia between the sixth and seventh month of uterogestation.

The instrument consists of two levers about twelve inches long, with a fulcrum near the center of each. One of these long levers has a pin through its center, either end of which serves as a fulcrum for the two short levers, which move in transverse plane to that of the long levers. Each pair of levers is provided with a bolt and thumb-nut, with which to hold all advancement gained. The spring or resiliency of the levers effects the tonic strain upon the cervix ring.

The limit of expansion upon the two long levers is about four inches, which, of course, effects a dilatation of the cervix, amounting to about eight and three-quarter inches circumferential measurement.

In the middle months of gestation the cervix may be dilated sufficiently by this pair of levers to permit the escape of the uterine contents; but for purely obstetrical purposes, from the thirtieth week of gestation onward, the cervical ring should be dilated from eleven to twelve inches in circumference. When the limit of expansion possible with the long levers is attained the two short levers are introduced.

By the combination of the two pairs of levers the cervical ring can be dilated to twelve inches. The levers are introduced one after another in the following manner: While the vagina is being held open with a speculum or retractors, grasp the cervix with a hook or traction forceps. If the cervix will not admit both the long levers, it must first be sufficiently dilated with a Goodell or other cervical dilator.* So soon as the cervix will allow introduction of the two long levers, lock them at the fulcrum, set the bolt in the handles, approximate the hand-parts, and hold them in place with the thumb-nut.

About every two minutes by the watch reapproximate the hand-parts of the levers, turning the thumb-nut by the merest touch of one finger until it is again arrested upon the lever. The spring or resiliency of the levers bears such relation to the naturally yielding character of the cervix that renewed pressure upon the proximals of the hand-parts, after each succeeding interval of two minutes or less, will permit the thumb-nut to be turned for about one-quarter of a revolution.

My dilator as at present made is without a pelvic curve, so that from the moment it is applied until the dilatation is completed the operator or his assistant should maintain a slight but constant pressure downward upon the perineum; but he should also at the same time steadily but slightly continue to press the instrument upward in the pelvis and against the cervix, in order that the cervical ring may not slip off the terminals.

All my experience in manual and the slight experience in instrumental dilatation of the cervix in the latter months of pregnancy convinces me that at the beginning of dilatation far greater force is required than at later stages of the task.

From a series of tests of the strength of my own hand as applied in manual dilatation, and also from a study of the force exerted upon the levers of my

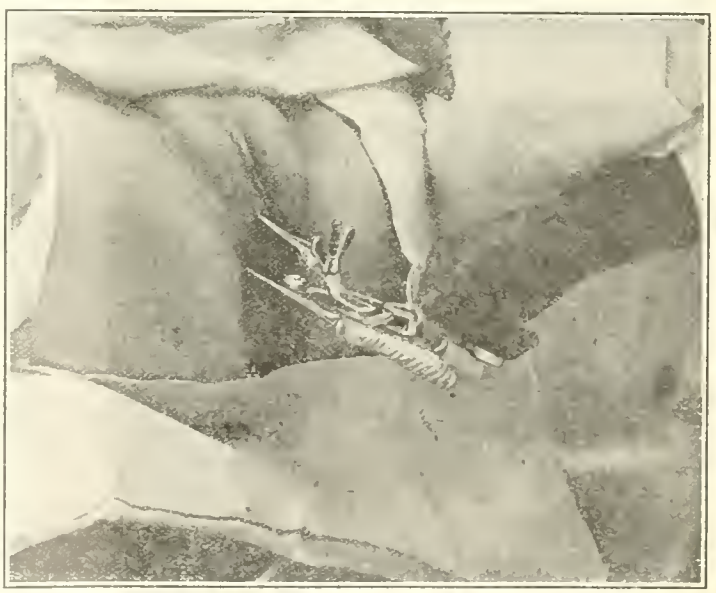

Fig. 8.—The position of the short levers after transference to them of the strain from the long levers. The hand-parts of the long levers appear widely separated and are ready for their reapproximation required for a continuance of the dilatation.

dilator, I judge that in the beginning of dilatation of the cervix uteri from fifteen to twenty pounds of

* The writer has already devised extension tips for this instrument, which may be momentarily attached to it, and used to dilate the cervix sufficiently to first admit the long levers, thus dispensing with the need for a Goodell or other dilator to begin the dilatation.

counter traction are probably not only bearable, but requisite, for the proper advancement of dilatation. As the cervix grows larger less force is required.

So that when the cervical ring has been dilated to a circumference of six or seven inches I judge that a counter traction force of from ten to fifteen pounds is not only sufficient to carry along the work of dilatation, but that this compression may be reapplied after shorter intervals than was possible in the earlier stages of the task. A gradually diminishing force is not only advised in the finishing stages of the dilatation, but this lessened force will be found to increase the dilatation more rapidly than the greater force which was applied at either the beginning of dilatation or in the middle stages thereof.

I am particular to direct attention to my assumptions in this relation, for by so doing I may prevent the inexperienced from applying undue force in the latter stages of dilatation, whereby unnecessary lacerations of the cervical ring might be effected. This caution is directed even more to the manual than the instrumental operator, for the reason that the strain exerted by the fingers upon the cervical ring cannot thereby be so definitely gauged as by that exerted by one finger and a thumb upon the proximals of such an instrument as I have devised.

When the limit of dilatation possible with the two long levers is reached, the two short levers are introduced, and the bolt set and tightened with the thumb-nut. The next step is to gradually release the strain upon the long levers, and to just as rapidly take up with the short levers every particle of slack in the cervical ring. In this manner continue the transference from the long to the short levers, until the proximals or thumb-parts of the short levers are together. We thus, without much risk of dislodging the cervical ring from the instrument, practically transfer the strain and distention of the cervix from the long to the short levers.

Fig. 9.—Position of fall levers when the cervical ring has been fully dilated by opening for the second time the terminals of the long levers.

This accomplished, renew the intermittent approximation of the hand-parts of the long levers, holding every succeeding gain with the gentlest turn of the thumb-nut, to which must never be applied more force than is possible with the touch of a single finger. Almost before the full limit of the four levers is atained the unruptured membranes will present themselves to view at the vulva.

Thus the work of dilatation, if slowly effected, is accomplished easily and safely, and the uterus afterward so rapidly emptied that I feel as though I should never again employ manual dilatation, if this dilator is at hand.

By the use of two simple levers, with the fulcrum near their centers, the dilating strain upon the cervical ring nearly equals the pressure exerted by the hand upon the tips of the hand-parts. The instrument thus constructed when used at once becomes an educator of the senses required for its proper employment. Obstetrical dilators, in which the strains are effected with a screw, are undoubtedly open to the very serious objection raised by Dr. J. Whitridge Williams, and possibly others, that one has no idea of the amount of force or strain thereby exerted upon the cervical ring.

Conclusions.—If the condition of any patient is such that elective delivery is desired and advised for her, the delivery can be effected by first fully dilating the os and cervix uteri, either with the hand or by a simple multi-lever dilator.

The strain upon the cervical ring should not be too strong, and as nearly equable and constant as possible. Some uteri may safely yield to the mechanical strain exerted by the operator, and dilate as much in thirty minutes as will others in ninety minutes.

The greatest strain, possibly fifteen to twenty pounds, is needful in acquiring the first four or five inches of dilatation. As the cervical ring enlarges beyond this point the strain should be gradually diminished.

Any strong hand employing the particular method practised by the writer is doubtless capable of lacerating the cervix after its ring has been one-third dilated.

Fifty minutes may be taken as the average time required to dilate safely the os and cervix uteri from the size of one's finger to a circumference of twelve inches. Twenty-five minutes should be the average time for rupture of the membranes and delivery of the child and placenta.

The hand can never be made to exert the continuous and equable strain upon cervical ring which may be imparted by a properly constructed simple lever dilator.

The instrument which effects a moderate but steady and unremitting strain, and in which the operator balances the strain on the proximals of the levers, is probably the ideal method of effecting rapid dilatation.

In the latter months of gestation the cervical ring should be so enlarged that it is not likely to offer any obstruction to the birth of the child. The occurrence of alarming hemorrhage in placenta prævia may demand more rapid enlargement of the cervical ring than is generally advised for other purposes, while version and bringing down one foot before very much dilatation is effected may be the measure requisite to avoid further loss of blood and save the mother.

This instrument will be provided with movable tips, so constructed that they can be momentarily attached to the terminals of the two long blades, and so shaped that they will serve to dilate any cervix which is not large enough to admit the broader terminals of the two long levers, as you now see them. Furthermore, the instrument will also be provided with a dial to register the number of pounds of strain upon the cervical ring, and this weighing device will be so adjusted that the amount of tension will be shown at any stage of the dilatation.

Although I have assumed that a given number of pounds of strain are requisite for the accomplishment of dilatation of the cervical ring, I wish to emphasize the assertion that such estimations may be open to considerable modification by me, or by others who may hereafter work with my improved dilator, whereby the exact number of pounds of strain may be noted as frequently as the operator desires from the very beginning to the completion of dilatation.

ADVANTAGES AND DISADVANTAGES OF MANUAL AND INSTRUMENTAL DILATATION OF THE OS AND CERVIX UTERI IN THE LATTER MONTHS OF PREGNANCY.

The Hand Method.	*The Instrumental Method.*
The hand is always with the operator.	It is an instrument for which the general practitioner would have but little and infrequent legitimate use.

Most but not all hands are strong enough to apply the force required for dilatation. Because of the fatigue, the counter traction strain is more or less irregular.	Always ample in force. Maintains a continuous and equable strain upon the cervical ring without fatigue to the operator. Constantly indicates the strain in pounds as shown on the dial.
Can not be sterilized by boiling, although the rubber gloves, if at hand, can be thus sterilized and worn.	May be sterilized by boiling.
Hands must be rested, thus requiring, in some cases, twelve or fifteen introductions of the hand within the vagina, loss of time, and some risk of infecting the patient.	Unless the cervix is so small as to require the tips to begin the dilatations, the instrument is introduced but once, and is not removed until dilatation is completed. With vaginal retractors and a hook the instrument can be introduced without passing the fingers into the vagina.
Some vaginæ are too small to admit the hand without laceration.	Every vagina should admit the instrument, and tolerate its expansion, so far as its use for dilatation may be necessary, without injury.
The operator forms indefinite ideas of the amount of force exerted on the cervical ring.	The operator may read at any moment the amount of force exerted on the cervical ring.

26 Church Street.

AN INTERESTING CASE OF TUBERCULOSIS OF THE LARYNX.

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LECTURER ON DISEASES OF THE NOSE AND THROAT IN THE NEW YORK UNIVERSITY AND BELLEVUE MEDICAL COLLEGE.

Tuberculosis of the lung may run a course of years, resulting either in the recovery or the death of the patient. Tuberculosis of the larynx generally runs a short, quick course of a few months, or a couple of years, ending usually one way. This is especially true when the disease has not been early diagnosed and proper treatment advised. I had one clinic case of laryngeal phthisis, when the ulceration was held in abeyance for three years. The tuberculous sore in the larynx never completely healing during this period. It would partly heal, then reulcerate, and then partly heal again, this see-saw condition lasting for three years.

Patient A., male, aged 23, was brought to my office some five years ago, complaining of a severe cough, loss in weight, night sweats, and an inability to swallow on account of the intense pain produced in his throat, when he attempted either to drink or eat. The patient was very much emaciated, and had to be supported to my chair for a laryngeal examination. His face and feet were swollen, indicating the last stage of the tragedy. His voice was so low that it amounted to only a whisper. He had his hat on while his friends were helping him to my chair, and it had sunk low down on his neck, so that the hat extended from the frontal bone in the front to the lower part of the occipital bone in the rear, a mark generally of old age or of extreme emaciation. His eyes were dull, and seemed to be covered with a film, showing that dissolution was fast approaching.

An examination of his throat showed the pharynx, the soft palate, and the larynx involved in tuberculous ulceration. There was no prognosis. He had been brought to my office by his friends, to see if it was advisable for him to be sent to the mountains to obtain a cure. I opposed this suggestion, and told them to retain their brother at home, as the end was only a matter of a few days. The patient was admitted to the St. Joseph's Home for Consumptives, where he died four days afterwards. This patient had had his cough for one year, pain in his throat (one of the first attending symptoms of laryngeal phthisis) for three months. Thus the tuberculosis of his larynx had a rather rapid course. Treatment in his case had been neglected until the last moment, when medication was fruitless.

Laryngeal phthisis can be divided into three stages: first, the œdematous, or primary stage; second, the deposit of the tubercle, or stage of infiltration; third, the breaking down of the tubercle, or stage of ulceration.

Five days after this visit, Mr. A.'s brother applied at my office to have his throat examined, as he also had been complaining of a cough for the past two months, had had night sweats, had lost over ten pounds in weight, and had had pain in swallowing.

He was rather a small man in stature, very slight of figure, weighing not more than one hundred pounds. An examination of his chest showed marked dulness on percussion, and slight cracked-pot sound at the apex of the right lung. In both sides of the chest, anteriorly, there were numerous coarse râles. The respiration was exaggerated, and the expiration prolonged. The patient had a fever ranging from 101° in the morning to 103° in the evening, and was taking little nourishment, as he experienced such pain in degultition.

An inspection of his sputum showed innumerable tubercle bacilli. An examination of his larynx disclosed a thickening of the mucous membrane, and some œdema of the arytenoid bodies, with a deep ulcer on the right arytenoid cartilage. His epiglottis showed an extension of the tuberculous process, with an ulceration at its lip. The mucous membrane was bathed in a profuse purulent secretion. His voice was reduced to a low whisper. The general condition of this patient was far from favorable. I treated his larynx at my office, and directed him to give up his business, which was in Brooklyn, and to move permanently to Colorado. He followed my instructions to the letter. He took up his residence in Denver, and stayed there eight months, when he came East to sell out his business.

An examination of his larynx at this period showed a thoroughly normal membrane, and free from an œdema or inflammation. The ulceration had entirely subsided.

He felt so well, upon his return, that he postponed selling his business from month to month, and rarely came to my office, as his health was so robust.

A year and a half after his return, he had an attack of influenza, and was confined to his bed for some days. His recovery left him with a hacking, harassing cough, and the pain returned to his throat.

He again paid me a visit. An examination of his larynx now showed a return of the œdema of the arytenoids and epiglottis, with a ragged ulcer secreting a tenacious mucus situated on his left arytenoid. The ulceration of two years previous had been on his right arytenoid. This patient now had a return of his night sweats, and his cough. I advised an immediate trip to the Adirondack mountains, his general condition being so grave that I did not think a trip to the West justifiable. He remained in the mountains for four months, when he came back and called for an examination. I was surprised to see the ulceration healed and the larynx again normal.

The subcrepitant râles were still present in his right chest at the apex.

He was again advised to move to the West, and to make it his permanent home. He now paid short visits to the mountains, and stayed there three months at a time; very little medicine was given, but strict attention was paid to hygiene. My patient had a cold bath every morning upon rising, slept with the windows open, winter and summer, and ate as many eggs and took as much beef as possible. By these means he was able to attend to his business and kept his weight to the normal.

Five years from the time of his first visit to my office, he developed typhoid fever. Upon his recovery, he came to see if I could do something for his throat. His voice was reduced to a whisper, and he was able to swallow milk and blood pressed from beef only with the greatest difficulty. The epiglottis and the arytenoids were œdematous, and an extensive deep ulcer involved the left arytenoid and extended high up on the epiglottis. He had a most distressing cough, which sent a pain to his left ear every time he coughed.

The patient was very weak, and appreciated his serious condition. I advised him to leave the city in a week's time, and to make his home permanetly in the West. In five days he was on his way to Denver, but was so weak that he was compelled to rest at several points on the road.

It is now over a year since he left New York. I have heard from him, he is still alive; his throat has again healed, and he has gained in weight and is able to attend to business.

The interesting points in this case are the three attacks of laryngeal phthisis, every attack running into the third stage, namely, the stage of ulceration; and the rapid recovery upon his leaving the city. The internal treatment in this case consisted of a creosote preparation, and small doses of morphine in tablet form, namely, one-twentieth of a grain, repeated every one to five hours as required to keep the cough in abeyance.

The local treatment was the same as I have used for the last fifteen years in clinic and private practice, namely, to treat the throat as little as possible. Any violent or rough spraying into the larynx tends to inflame and spread the ulceration. I have looked upon this ulceration very much the same as a surgeon looks upon a fracture of a bone. Keep it quiet until it has healed. Morphine I have found less objectionable than any other drug; it is given in small doses, often repeated, and an occasional large dose to quiet a paroxysm of coughing. The tablet, allowed to dissolve in the mouth, has a most quieting effect, both on the cough and the throat. Cocaine is an excellent anæsthetis, but it is prone to disturb the digestive system much earlier than morphine. The patient also becomes tolerant to its effects, and the dose has to be increased again and again to produce local results. Thus, to-day I use very little cocaine in the treatment of laryngeal phthisis, unless as a last resort for the period, when hope is out of the question.

Hygiene, that great exponent of nature, plays the principal rôle in these cases who recover. Open windows day and night, proper clothing, not too warm, the cold bath every morning, and sponging with alcohol or cold water when the patient has his thirst (another name for the fever), eggs, beef juice, blood, anything that will support the impoverished system and help nature to do her part in the great drama, unshackled and unconfined.

I have seen more of these cases recover, lately, under this treatment, than when we looked at laryngeal phthisis as a local trouble and ignored the fact that the platform upon which this disease rests is an impoverished constitution, and a general depreciation of the patient's health.

Give Nature plenty of ammunition in the shape of fresh air, the daily cold bath, eggs, beef, and the best hygiene possible, and she then has the best means of waging war upon that most painful and distressing disease, laryngeal phthisis.

112 West Forty-fifth Street.

THE TRANSMISSION OF SYPHILIS BY BARBERS.

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CHICAGO.
ASSOCIATE PROFESSOR OF SURGERY, RUSH MEDICAL COLLEGE.

In 1893 a man, 47 years old, sought treatment for a skin eruption. Examination revealed the typical lesions of recent syphilitic infection in throat, tongue, skin, and lymph-glands, and a small ulcer with indurated border and base below the angle of the jaw, left side. The genitals were free from disease. He stated that about two months earlier a barber had cut the skin at the site of the present ulcer, and had checked the bleeding with a styptic pencil; about two weeks later the cut, which had never entirely healed, began to develop the features of the present ulcer. There was marked enlargement of the cervical glands on that side.

In 1903 a man, 39 years old, had an indurated ulcer on the chin. Two weeks earlier his barber had removed an ingrowing hair with a forceps, and had checked the ensuing bleeding with a styptic pencil. The wound thus created had enlarged, its edges had hardened. Glands on each side of the neck were much enlarged. Under the local and internal use of mercury the ulcer promptly healed. About nine weeks after the inoculation, during which period the patient had continuous fever and lost about 20 pounds in weight, constitutional syphilis became manifest in the throat, on the tongue and skin, and in the accessible lymph-glands; the genitals showed no lesion.

Our text-books give no definite information as to the manner or the frequency of the transmission of syphilis by barbers, most of them merely stating that a few instances are known in which chancres have developed at the site of razor-cuts. Bulkley's elaborate study—Syphilis in the Innocent—published ten years ago, contains only one fairly definite instance of such transmission.

In 1898 Robbins[1] reported an initial lesion of the chin just below the border of the lip, with constitutional syphilis, the infection having apparently been acquired in a barber-shop through a razor-cut. He compiled also the following seven cases reported in the literature: A chancre of the scalp at the site of a wound made by a barber's clipper, and a chancre of the eyebrow infected from a papular syphilide of a barber's hand—both cases observed by Judkins[2]; a chancre developing at the site of a barber's razor-cut, reported by Fleischer, and a similar case by Chudnooski; infection through a cut on the chin by a razor borrowed from a syphilitic subject, observed by Catrin[3]; a chancre of the lip of a young lady, who ascribed it to a rouge-stick used by a hair-dresser whom she had patronized. This stick—a firm, red ointment—was regularly moistened (sometimes in the mouth of the hair-dresser) and drawn along the lip of successive patrons as a final touch to the toilet; the case was reported to the California Academy of Medicine, September 18, 1897, by Montgomery; a chancre of the lip of an actress who applied to her lip the same rouge used by a companion suffering from syphilis, reported by Griffin.

In order to secure further information on this subject, a request for his personal observation was addressed to each of twenty-five well-known syphilographers of this country; and to most of these gentlemen I am indebted for the courtesy of a reply.

A chancre at the site of a wound made by a barber whose razor cut off a protuberant mole, and who made various styptic applications to the bleeding surface, was observed by E. Fuller, New York, and another such by W. L. Baum, Chicago; one following the use of the forceps in extracting an ingrowing hair, by Baum; one of the scalp, probably though not certainly inoculated by a barber, by Fuller.

Chancres developed at the site of razor cuts, most of which were treated with styptics and failed to heal, have been rather numerous: one each is reported by Horwitz, Philadelphia; Fanoni, New York; Keber, St. Louis; Baum, Chicago; Post, Boston; Gilchrist, Baltimore; Schmidt, Chicago (a linear chancre, 3 to 4 cm. long); "at least half a dozen" by Morrow, New York—in one the initial lesion, as large as a silver dollar, had been treated as ringworm; "certainly over a dozen instances of chancre of the bearded face—presumably through shaving," but exact method of transmission uncertain—by Bulkley, New York; "probably eight to twelve," by White, Philadelphia.

Drs. Keyes, Sturgis, Otis, and Hayden, New York; White, Boston; Hardaway and Burnett, St. Louis; Chismore, San Francisco; Hyde, Zeisler, and Anthony, Chicago, state that they do not recall an instance of the undoubted transmission of syphilis through the manipulations of barbers, though several of these gentlemen suggest the possibility that some of the numerous chancres of the lip may be acquired in this way rather than by the usually assumed kiss of an infected person.

These returns would seem to indicate that the transmission of syphilis by barbers must be a rare incident. Yet when it is remembered that the victims of such inoculation, because they have no suspicion of the nature of their sores, naturally consult not specialists but family physicians, it seems probable that most of these cases are prescribed for by general practitioners. The prevalence of syphilis among barbers and their patrons, and the general neglect to sterilize their tools, warrant a doubt of the extreme rarity of such transmission.

Of all the barbers' tools the razor seems, for obvious reasons, the least likely to convey the infection, while the alum-stick, forceps and clipper are the most frequently culpable.

The object of this note is, not to inaugurate a crusade for the education of barbers and the protection of their patrons, but to call attention once more to certain facts that are familiar to all in theory, but are forgotten by some in practice.

1. Sore throat and fever are not infrequently, especially in women, the first discovered symptoms of syphilis. I have known recent syphilis of the throat in each of two married women whose respective husbands were under my care for syphilis, treated as diphtheria—in one the antitoxin had been injected. In another case sore throat with fever was called tonsilitis, until a pink eruption on the chest was noticed, whereupon the diagnosis was changed to scarlet fever and the house was quarantined. A girl just recovering from alleged quinsy and canker-sores—really syphilis of the throat and mouth—inoculated her lover's lip with a chancre. Examination confirmed her assertion of virginity, but revealed a scaly, indurated papule on her left nipple, to which she admitted having applied, on several occasions, the sickly, fretful infant of her married sister with whom she lived. This child had mucous patches and snuffles; its father was syphilitic. It behooves us, then, not merely to divorce our conception of the chancre from sexual immorality and from the genitals—which most of us do—but also to eliminate the chancre from our conception of the essential clinical features of syphilis—which some of us do not; and to regard a sore throat with fever, especially in adults, as a possible manifestation of acute syphilis, as well as of tonsilitis, diphtheria and scarlet fever.

2. Syphilis could be minimized, if not virtually eradicated, far more quickly, surely, and easily than can tuberculosis; not by licensing prostitutes nor by educating youth to chastity, but by making the acquisition of syphilis practically impossible through the general practice of circumcision. That the notorious infrequency of syphilis among the Jews is not due to their superior continence is shown by their acquisition of their full share of gonorrhœa. That it is due to the toughening of the penile covering resulting from early circumcision is obvious, and is illustrated by the rarity of syphilis among all other circumcised races. The Egyptian practice of circumcision just before puberty is one of several facts suggesting that the general adoption of this measure by the early Semitic races was for protection against syphilis.

3. The later evils of syphilis can be restricted by impressing upon the subjects of the disease two injunctions: to take antisyphilitic remedies for two months in every year after the termination of active treatment; and (especially) to inform any physician consulted for relief from an obscure, chronic ailment, of the earlier syphilitic infection.

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1. *Maryland Medical Journal*, January 29, 1898.
2. *Journal of Cutaneous and Genito-Urinary Diseases*, December, 1893.
3. *Presse médicale*, June 20, 1896.

REPORT OF A CASE OF TETANUS FOLLOWING LABOR.

By A. STRACHSTEIN, M.D.,
NEW YORK.

Mrs. E. M., 34 years of age, admitted to the Beth Israel Hospital, August 27, with the following history: Three weeks prior to admission, patient was delivered of a mature child by a midwife; labor was normal, without complications. The puerperium was apparently normal, the lochia were not foul, and the woman left her bed at the end of eight days. Two weeks after the delivery, the patient began to complain of severe, continuous pains in the sacral region. The same day she began to experience rigidity in the lumbar region, which soon became more marked and extended upwards along the spinal column, and by the following day the posterior neck muscles were involved. Some trismus set in, with difficulty in speech and increasing trouble in swallowing. These symptoms grew progressively worse, and there were frequent paroxysmal pains. There was no fever or chilliness, and the mental condition was bright, but later both upper and lower extremities became rigid, and the woman complained of occasional left-sided hemicrania. She had no convulsions, but any disturbance, as change of position or examination, caused a clonic spasm, which after a few seconds terminated in a tonic spasm; the patient was in constant agony.

On admission, the patient had a profuse bromide rash over the entire body, and all the above signs were well marked; she could not separate the jaws

more than one-quarter of an inch. The temperature was ranging between 99° and 101°. Vaginal examination showed a moderate, thin, greenish-yellow discharge, not foul. The cervix was closed, the uterus somewhat enlarged. Microscopical examination of the discharge showed a number of streptococci, numerous micrococci, and many rod-shaped bacilli, also a few pus cells.

We at once procured tetanic antitoxin, and began giving subcutaneous injections in quantities exceeding that recommended by the Board of Health. The woman received an initial dose of 40 c.c. in the arm, and seven subsequent injections of 20 c.c. per dose every three hours into different parts. As some improvement was shown, the injections were now given every four hours, then every six hours, until marked improvement was seen; we then continued to give her 20 c.c. per day for fourteen days, so that when complete disappearance of symptoms was obtained, we had used 720 c.c. of the serum.

Other therapeutic measures were vaginal douches of bichloride 1-5000 three times a day, followed by saline solution, while internally the patient received occasional doses of chloral and morphine. Towards the end, her temperature has gradually risen to 104° F., but this was due to a gluteal abscess, and the temperature subsided when this was incised. There appeared on the skin, at various periods, blotches of erythema, which in places were ecchymotic. This was probably due to the effects of the serum; the kidneys at no time showed signs of irritation.

Orthostatic Albuminuria.—According to M. A. Courcoux, authorities have ranged, under the name of orthostatic albuminuria, a variety of cases, certain ones of which ought to be eliminated. It is not sufficient for a case to be called orthostatic, that the albuminuria be influenced by the upright position. It is necessary that only the change from the horizontal to the vertical position provoke it. Albuminuria consecutive to muscular fatigue, to strong emotion, or that which is due to certain digestive troubles, does not belong to the class of orthostatic albuminuria in case of which affection it is sufficient that the patient merely arise, whatever be the hour of the day, in order that the albumin may appear in the urine. By no method is it possible to discover the least renal lesion. Little influenced by the diverse intercurrent infectious maladies, true orthostatic abuminuria never ends in nephritis. It disappears without leaving any traces, at the end of a longer or shorter period. Pure orthostatic albuminuria should be diagnosed from the albuminuria of fatigue, from cyclic, digestive, intermittent, and functional albuminuria, in which there exist, nearly always, gastric, hepatic, or renal troubles, and in which the albuminuria is subject to daily variations which are not at all like the conditions of orthostatic albuminuria: and from the orthostatic albuminuria of floating kidney that may be perhaps recognized by separating the urine of the two kidneys. As to treatment, it is admitted that in pure orthostatic albuminuria, rest in bed and the milk régime are not only useless, but often harmful. The patient should live at a moderate altitude, and avoid intellectual fatigue. Muscular exercise, practised with moderation, is to be highly recommended. The digestive functions should be carefully looked after. When the orthostatic albuminuria is associated with a renal lesion, the treatment should be along the customary lines.—*Gazette des Hôpitaux Civils et Militaires.*

Physical Condition of American Hebrews.—In an address delivered before the annual convention of the American Federation of Zionists, Dr. Maurice Fishberg spoke of the physical condition of the Jews in the United States. The average circumference of the chest of the Jews in Eastern Europe, he said, is about 32 to 34 inches, and is less than half their body height, but the girth of the chest in a healthy man exceeds half his stature. In Russia, however, the military authorities have learned by experience that the narrow, flat chest of the Jew does not incapacitate him (other things being equal) and does not predispose him to consumption. In fact, the proportion of men affected with this dread disease is much lower among the Jewish soldiers in the Russian Army than among the Gentiles. It is remarkable that while the stature of the Jews born in the United States is much superior to that of the foreign Jews, this is not true of the girth of the chest. While investigating the physical conditions of the younger generation of Jews in New York City he was struck by the fact that Jews of the first generation are, on the average, taller than their parents, but their girth shows little, if any, improvement. Their chest is almost flat, the ribs are just as oblique, and the general contour of the chest is just as bad as those of their foreign parents. In order to assure a muscular Judaism, Dr. Fishberg told his hearers they must encourage physical culture among the younger generation of American Jews; they "must preach to them the gospel of the utility of a healthy body, which will shelter their intellect to a better advantage to themselves and to the community in which they live."

Burning Foot, or Erythromelalgia.—P. N. Gebhard defines this disease as one of the plantar nervous or arterial supply occurring in Eastern natives accustomed to working barefooted on roads and plantations. It commences with a "pins and needles" sensation affecting the soles of the feet, and progressing to an acute burning sensation, which becomes so severe as to prevent walking and necessitates the administration of narcotics to produce sleep. In the histories of the six cases upon which his paper is based he notes that although a previous history of malaria could usually be obtained, there was no such history occurring during the progress of the erythromelalgia. This suggested the possibility of the disease being a neuritis of malarial origin. The blood supply to the nerves may have been cut off by a deposit of malarial pigment. The duration of the disease at the time of presentation was from three days to three months, from which a chronic course may be argued. It also seems that the affection is not any form of acute local disease occurring in a given place after a fixed incubation period. Length of residence in this particular country seems to have no influence on the production of the disease. In two out of the six cases sugar was found in the urine. Usually there is a variable amount of swelling and occasionally slight sclerodactylia. The author is inclined to the view that the disease does not exist so much in the congestive as in the cellulitic form, although it may commence with the congestive form. Aside from a possible malarial origin, it may be due to arteriole fatigue. Paralysis of the sympathetic, excitation of the vaso-motor nerve fibres and general toxic vaso-motor derangements do not seem to be factors in the disease. A varied treatment was employed. Narcotics and sedatives give only temporary relief; various lubricants and ointments, general tonics, with or without strychnine, failed to give any relief. In two cases relief was experienced by immersing the feet in hot salt water.—*Dublin Journal of Medical Science.*

Operative Opening of the Mastoid Bone in Otitis Media Purulenta with Extension of the Disease Beneath the Mastoid Process.—F. Leimer analyzes a series of 17 cases observed in a series of 97 cases of acute middle-ear suppuration extending over a period of 9 years, which required operative opening of the mastoid. Of these 17, 13 were discharged cured, 3 died and 1 discontinued treatment. The mortality of acute middle-ear suppuration with burrowing of pus in the neck is, therefore, if we include the missing case, 18.7 per cent., whereas the operated cases of mastoiditis that did not present this complication showed a mortality of 8.8 per cent. If there be the further exclusion of one case, which ended fatally, independently of the aural condition, on account of myo-degeneration of the heart and pulmonary œdema, there still remains a mortality of 13.3 per cent. for Bezold's mastoiditis against 8.8 per cent. for simple mastoiditis.—*Archives of Otology.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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REPORT OF THE SURGEON-GENERAL OF THE NAVY.

THE annual report of the Surgeon-General of the Navy has been recently issued. It is a well-compiled and instructive document and contains several recommendations which, if acted upon, cannot fail greatly to increase the efficiency of the service. The health of the Navy during the year was good, although the ratio of admissions to the sick list per 1,000 of strength was slightly higher than for the previous year. The average strength of the active list during the year 1903 was 37,248, a small increase over that of 1902.

The total number of admissions for all causes was 28,569, the ratio per 1,000 of strength being 782.24. as compared with a ratio of 767.63 for the previous year, and 797.10 for the eight preceding years. There were 24,545 admissions for disease and 4,024 for injury, giving ratios of 671.82 and 110.4, respectively. The admissions for injuries were less and for disease greater, during the present year than for 1902.

The daily average of patients was 1,289.03, and the ratio per 1,000 of strength 35.23, both being greater than the previous year. The total number of sick days was 470,496, or an average of 12.88 sick days for every man in the Navy and Marine Corps, and the average duration of treatment for each case was 16.49. These figures differ but slightly from those for 1902.

The number of persons invalided from the service during the year for disease and injury was 1,541, giving a ratio of 41.37 per 1,000 of strength. This ratio is much higher than that of the previous year or than the average ratio for the eight preceding years. This result is due to the large number of recruits admitted into the service during the year. The discharges for disability include 1,348 for disease and 193 for injury, with ratios per 1,000 of strength of 36.19 and 5.18, respectively. The corresponding figures for 1902 were 1,001 and 143, with ratios of 33.09 and 4.72 respectively. The deaths during the year numbered 224, giving a ratio of 6.01 per 1,000, considerably less than that of the previous year. One hundred and sixty-four deaths occurred from disease, with a ratio of 4.40, and 60 from injury, with a ratio of 1.60.

There was a general increase in admissions for diseases of the digestive apparatus, while malarial diseases, diarrheal affections, dengue, dysentery, and alcoholism showed a marked decrease, and smallpox a relative decrease.

A feature of the report is the statement that venereal diseases continue greatly to impair the fighting strength of the Navy. With the exception of the class of "general infectious diseases," venereal diseases during 1903 gave a greater number of sick days than any other class, namely, 114,571, equal to the entire loss of the service of 314 men for the year. As the report remarks, this has the same effect upon the fighting strength of the Navy as the loss of a second-class vessel yearly. Gonorrhœa had 1,052 and syphilis 816 admissions, as compared with 771 and 606, respectively, in 1902. The total admissions for venereal diseases during the year were 1,207 in excess of 1902, a fact not to be accounted for by the increase in strength.

Epidemics of cerebrospinal fever, diphtheria, epidemic catarrh, mumps, and pneumonia occurred during the year, and account for the increase in admissions for these diseases. Pulmonary tuberculosis showed a marked increase, and typhoid fever was slightly in excess of 1902. It is satisfactory to note that while the admissions to the sick list per 1,000 of strength were greater than in 1902, the mortality was not only less than that of 1902, but lower than the average for the past eight years.

The two preceding annual reports have called attention to the inadequate capacity of the naval hospitals for the needs of the rapidly growing navy. Nearly every one of the present hospitals requires to be remodelled and renovated and brought up to date. The naval hospitals, with the single exception of the New York hospital, compare unfavorably in all respects with the best civil hospitals. The report recommends, therefore, that radical changes—even to practical reconstruction in several instances—be initiated in order to modernize the hospitals and make them satisfactory and creditable institutions.

The question of properly housing recruits is one of pressing importance. Suitable, ample and sanitary barracks are urgently needed. The report dwells upon the point that sanitary barracks, with every modern convenience, can promptly be made insanitary by overcrowding. Consequently, the number of men housed in any barrack should not exceed a fixed maximum based on well-established laws of hygiene.

The report lays special emphasis upon the desirability of having trained women nurses as a part of the medical department of the United States Navy. It is pointed out that, in addition to supplying better and more efficient nursing to the sick, valuable assistance could be rendered by the woman trained nurse in teaching the men of the Hospital Corps of the Navy their special duties, and in the event of war the men could be, in large part, released from hospital duty and assigned to vessels of war.

Recommendations made in two preceding reports for the enactment of legislation authorizing the employment, under the control of the Bureau of Medicine and Surgery, of skilled dentists for service in the Navy, is renewed.

The experiment made by the Bureau of Medicine and Surgery of the Navy, of treating consumptives in tents at Pensacola, Fla.,—despite many draw-

backs—has been attended with such conspicuous success that the Bureau strongly advises an extension of this system, and recommends that Congress be asked to make special provision for the acquisition of an appropriate site for a camp for tuberculous sailors.

The necessity for having an adequate number of properly constructed and equipped hospital ships is urged in the report.

The question of obtaining competent surgeons for the Navy is discussed at length. The report insists that the naval medical officer should be treated as generously as his brother of the army, and states the case as follows: "There has always been difficulty in securing qualified medical men for the Navy, recent legislation giving assistant surgeons of the Navy the rank, pay (less 15 per cent. for shore duty), and allowances of assistant surgeons of the army, has more nearly equalized the advantages offered by the two branches of the military service. There is sound reason for a comparison of the status and pay of these two grades, inasmuch as they perform the same kind of service for the Government, are drawn from the same civilian source, have practically identical qualifications, and it would seem best for the public service that there be equalization of their emoluments in every detail. The highest interest of the entire naval personnel, official and enlisted, is too seriously involved in the success of the effort now being made to secure and maintain the highest state of professional efficiency in the medical corps for it to be wise to place it at a disadvantage, in comparison with the medical staff of the army, by offering inferior inducements to civilian medical men who might be inclined to enter the naval service." The foregoing is very true, and there would seem to be no valid reason why the naval medical service should not be on exactly the same footing as that of the army.

THE TRAINING OF THE SURGEON.

This was the subject of an address delivered by Dr. William S. Halsted, at the Yale Medical School, last June (*Bulletin of the Johns Hopkins University*, September, 1904). In this address, after a brief review of the progress of the art of surgery during the second half of the nineteenth century, the speaker dwelt upon the needs of the present day, that, namely, of an organic connection of the medical school with a university and that of a prolonged hospital training of the surgeon. While it may be that the rise and multiplication of the proprietary medical school was a necessary incident of the development of medical education in a new country, such schools are not able to give the training that can be given in schools affiliated with strong universities and permeated with the university spirit. "Although we now have in the United States," he says, "several (five or six) moderately well-endowed medical schools with a university connection, the problem of the education of our surgeons is still unsolved. Our present methods do not by any means suffice for their training. Nowhere, certainly, can a surgeon in a given period acquire so much and mature so rapidly as in a hospital with an active and well conducted service. The time for training should not be curtailed, but students who wish to become surgeons should begin to specialize as early in life as possible." After describing at some length the German system of training surgeons, Halsted says: "The faults of our system of educating surgeons begin almost at the bottom and continue to the very top."

Every important hospital, he contended, should have on its resident staff at least one surgeon not only able to deal with any emergency and perform any operation, but also able to recognize the gross appearance of all the ordinary pathological tissues and lesions. But the interne leaves the hospital unequipped, to become eventually attending surgeon, when he is expected to teach others what he has not learned and pronounce at the operating table on conditions unfamiliar to or possibly unheard of by him. We need a system which will produce surgeons of the highest type, who will stimulate the best students to devote their energies and lives to raising the standard of surgical science. Reforms, the need of which are apparent to every American teacher of surgery, must come from the side both of the hospital and of the university. It is eminently desirable, if not absolutely essential, that the medical school control a hospital of its own, with such an organization as will provide for the prolonged and thorough training of those preparing for the higher careers in medicine and surgery and permitting close and stimulating relations between chief and assistants.

The author quotes with approbation from Barker: "I should like to see what the result would be if men with these capacities were bred to university careers, were placed in charge of hospitals especially constructed for university purposes, and were sufficiently paid to permit them to give up private practice entirely and to devote their whole time and strength to teaching and investigating in such hospitals." Halsted then discusses the difficulties arising out of such an arrangement, such as that of apportioning the pay for such high-grade professional work among the professors, concluding that the surgeon or physician could not receive a larger salary than the chemist or physicist. He would favor a compromise by which the hospital surgeon and physician might receive compensation from certain of their patients.

The speaker closed by saying that while American surgery has been hampered by the lack of such training as he desires to see it have, still the courage, ingenuity, dexterity, and resourcefulness of our operators have made it renowned throughout the world. In particular in the field of appendicitis, are its achievements conspicuous, the continental surgeons having been for several years unable fully to grasp the teachings of their American co-workers.

Immunity Against Streptococci.

Dr. D. H. Bergey, Assistant Professor of Bacteriology, University of Pennsylvania, has recently been undertaking investigations, published in the University of Pennsylvania *Medical Bulletin*, July-August, 1904, primarily with the view of obtaining information as to the identity of the streptococci found in cows' milk, and their relation to the streptococci encountered in the human organism in health and disease. The results obtained by Dr. Bergey were at variance with the usual inference, held up to a comparatively short time ago, that in different diseases distinct species of streptococci exert their influence.

Dr. Bergey states that the studies upon strepto-

coccus infection and the immunity that can be conferred against such infection indicate that the immunity against streptococcus is of a somewhat more complex nature than that encountered in some other infections. It is probable, thinks Dr. Bergey, that in this respect the infections by staphylococci and the pneumococcus are closely related to that by the streptococcus. The relatively small amount of toxin produced in streptococcus cultures indicates that the formation of antitoxin is of minor importance in the immunity. Again, the absence of any evident bactericidal properties in the serum of an animal treated with streptococci indicates that the immunity is different from that which is seen in typhoid fever, for instance. The investigator therefore is of the opinion that it is most probable that in streptococcus immunity there is a stimulation of phagocytosis, which plays an important rôle in the process, though Dr. Bergey is inclined to believe that this is not the sole factor involved.

The following deductions may be drawn from the investigations: (1) The serum of animals immunized with cultures of streptococcus acquires an agglutinating power for all varieties of streptococci, though the agglutination occurs in somewhat higher dilutions for the homologous culture than for those derived from other animals. (2) The agglutination reaction affords no means of definitely differentiating between cultures of streptococci of human and animal origin. (3) The serum of an animal immunized with cultures of streptococcus shows no definite bactericidal action against such organisms. (4) The serum of an animal immunized with cultures of streptococcus possesses some antitoxic effect against the action of the filtrates of streptococcus culture. (5) The protective and curative properties of antistreptococcus sera, as at present prepared, are of very slight value, as indicated by animal experimentation. (6) No great reliance can be placed on the statements of the efficacy of antistreptococcus sera in the treatment of streptococcus infections, until animal experimentation gives us more definite insight into the mechanism of streptococcus infection, and the manner in which the organism overcomes such infection.

Treatment of Erysipelas of the Face and Scalp.

Erysipelas of the head is always to be regarded as a dangerous disease, owing to its liability to extension to intracranial structures, because of the communications between the external veins and the superior longitudinal and lateral sinuses. In the *Journal of the Royal Army Medical Corps* for October, Major C. H. Hale says that carbolic acid is not resorted to frequently enough in the treatment of such infections as erysipelas and lymphangitis. Though bacteriology has advanced by leaps and bounds, the old treatment of dusting zinc and starch, or starch alone, is still too much in vogue, both in practice and even in the text-books. As in broken-down subjects, a rapid extension to the cerebral membranes, with an early fatal termination, is by no means out of the question, a more active local treatment is indicated than the dusting of innocuous powders. The streptococci must be vigorously combated, and the patient not left to fight them alone, or only with the aid of iron and other drugs. The chief indication, the reduction of pain and swelling, is best met incidentally by antiseptic treatment. The author employs pulvis cretæ aromaticus cum opio of the British pharmacopœia, rubbed with glycerin to the consistence of treacle, with 10 per cent. of liquefied carbolic acid added. This is painted over the surface with a camel's hair brush, and after about ten minutes the surface is covered with a single layer of lint. The result of the application is that pain very soon disappears, the swelling subsides, and a fair amount of water exudes through the application (much as perspiration oozes through theatrical paint), and the part is thoroughly protected from the air. More important, as showing that the streptococci are being successfully attacked, is the ensuing reduction of the fever, which often falls from 105° to normal in twenty-four hours, and is rarely higher than 99° after forty-eight hours. In twelve hours the application should be washed off and the mixture reapplied. The application gives rapid relief, the patient often saying, before the painting is finished, "How beautifully cool and soothing!" The author concludes by describing a case of erysipelas of the greater part of the scalp with several areas of bogginess, a temperature of 105°, and a very rapid pulse, in which the application was followed by a practically normal temperature and the establishment of convalescence the following day.

Pipe Galleries for New York.

The subject of pipe galleries for New York is discussed by James C. Bayles, M.E., Ph.D., in Bulletin No. 2, of the Municipal Art Society of New York, just published. The fact is obvious that the underground engineering of New York is in many respects defective. Especially is this true as regards the piping of the city for gas and water distribution and like purposes. The streets of New York are generally more or less in a state of chaos, largely due to the necessity of frequently opening them to repair gas and water leakages, damaged sewers, electrical communication, etc. The evils of holes in asphalt pavements from a health standpoint were catalogued by the Grand Jury in its presentment of July 28, 1903, as follows: "The sprinkling of the streets, in the summer, causes an accumulation of water and street refuse matter in these cavities, which necessarily resolve themselves into offensive and objectionable conditions to which the public should not be exposed. Prompt and proper sweeping and cleaning of the streets is an important municipal function, at all seasons of the year; but in summer time decomposition of street refuse is a distinct menace to public health, which is augmented by the existence of holes and breaks in the asphalt pavements. Many yards of pavement in good condition can be properly cleaned while a representative of the Street Cleaning Department is consuming time by excavating accumulated matter from the holes which should not exist." All this is self-evident, but so long as the present system of piping is adhered to there can be no remedy.

The pipe gallery has been in use in Great Britain and in Europe for years, and has served its purpose admirably. The almost perfect condition of the Paris streets is largely attributed to the excellent system of pipe galleries in that city. The contention of those opposed to pipe galleries in New York is that they are a menace to life and property. Mr. Bayles considers that this fear is simulated, and is of the opinion that the engineer who cannot conduct gas in a main through a tunnel without a measurable leakage loss, or one which involves any danger even to workmen in such tunnel, should go abroad and study foreign practice. Since then it has been proved that pipe galleries can be constructed without menace to life, and that they are an effective means of preserving the various pipes necessary in the economy of a great city, New York should assuredly have them. The manner in which

the streets of New York are kept is dangerous to health and the cause of serious interruption to traffic.

The Efficiency of Spark Gap Radiations.

The component parts of the emanations produced by the various sources of radiant energy that have so far been investigated seem to increase in complexity as our knowledge of them develops. H. C. Piffard (*Medical News*, December 3, 1904), shows that in the condenser spark we have three forms or types of energy in coincident action, namely, the intense and penetrating luminous ray, the more superficially acting ultraviolet rays, and a furious bombardment by ions. To this combined activity he applies the terms triradial or triergic. The author describes the steps by which it was demonstrated that the Piffard ultraviolet ray lamp gives off in addition to the ultraviolet rays another class of radiations which are not negative electrons, as they are not deflected by the magnetic field, and which perhaps are identical with the so-called *Entladungsstrahlen* observed by Wiedemann. The hypothesis held to be most probable is that they are ions, using the term in its physical and not in its chemical sense, and considering the velocity with which these are projected in consequence of the pressure behind them, and the rapidity with which they are developed, it is not surprising to find that clinical experience justifies the author's prophecy expressed in a previous communication to the effect that the "rays" in question would be found to possess a powerful influence on the skin. Various dermatologists have already expressed gratification at the results obtained by the author's method, and in addition to the high efficiency of these spark radiations, which is so marked as to require caution in their application, they present certain advantages in practical use. The author describes a "spark-ionizer" which may readily be introduced into the cavities of the body through a speculum, and gives details as to the technique of actuating the instrument. The great penetrating power possessed by the radiations is ascribed to their association with a large volume of the longer light waves toward the red end of the spectrum.

Acute Rheumatism.—James M. Beattie sums up his paper as follows: The present position is that an organism with distinctive characters from the ordinary bacteria with which we are familiar has been isolated from typical cases of acute rheumatism and chorea (which is admittedly rheumatic in character) by different observers. This organism has been cultivated outside the body, by injection into rabbits has produced typical acute rheumatism and chorea, and has been recovered from the infected animals. Streptococci, staphylococci, etc., do not produce these effects; and this organism, even when its virulence has been raised, does not, as Poynton and Paine have shown, produce the effects which are obtained by the injections of the ordinary pyogenic organisms. Therefore, the writer believes that he is justified in claiming that if not the only, at least it is one of the causal agents in acute rheumatism. This was the position taken up by Poynton and Paine in 1900. Their position has not been successfully assailed, but has been very much strengthened by further observations, and it seems extremely probable that we shall yet be able to give the Micrococcus rheumaticus the place in relation to rheumatic fever which the pneumococcus to-day holds in relation to pneumonia. The writer thinks it quite unnecessary to deal with a recent objection—that the organism is merely the cause of the terminal phenomena in cases of acute rheumatism.—*The Edinburgh Medical Journal.*

News of the Week.

Medical Appointments on the Isthmus of Panama.—The United States Civil Service Commission announces an examination on January 18, 1905, to be held at the usual places to secure eligibles from which to make certification to fill vacancies in the following-named positions under the Isthmian Canal Commission on the Isthmus of Panama: Surgeon, physician, pharmacist, hospital interne, trained nurse. Each applicant for the Isthmian Canal Service will be required to submit to the examiner, on the day he is examined, a recent photograph, not more than three years old, of himself, which will be filed with his examination papers, as a means of identification in case he receives an appointment. An unmounted photograph is preferred. The date, place, and kind of examination, the examination number, the competitor's name, and the year in which the photograph was taken should be indicated on the photograph.

The age limit for surgeons is 25 to 50 years; salary, $250 per month. The examination will be on anatomy, surgical bacteriology, surgical pathology and diagnosis, surgical practice, surgical gynecology, and practical experience. Special attention will be given to the quality of the applicant's experience, and applicants who have had extensive work in large hospitals will receive special credit. It is the desire of the Commission to appoint in this position only surgeons of thorough training and wide professional experience.

The age limit for physicians is also 25 to 50 years; salaries, $150, $200, and $250 per month. The examination will be on letter-writing, anatomy, therapeutics, physical diagnosis (including questions relating to tropical diseases), general pathology and practice (including questions relating to tropical diseases), bacteriology and hygiene, obstetrics and gynecology, and practical experience. Special attention will be given to the quality of the applicant's experience, and applicants who have had experience in hospitals, particularly in the treatment of tropical diseases, will receive special credit. Only those who have had extensive hospital experience and are familiar with the treatment of tropical diseases, will be selected for appointment to the highest salaried positions. Promotions may be made in the discretion of the Isthmian Canal Commission from the lower to the higher positions in this grade.

The age limit for hospital internes will be 20 to 30 years; salary, $50 per month, with board and quarters, provided that if appointees are retained in the position of interne after one year they will be paid $125 per month. Only graduates of reputable medical schools having a three years' course will be admitted to this examination. It is expected that within the next few months twelve or more vacancies in this position will be filled as a result of competitive examination. The examination will be on letter-writing (the subject-matter on a topic relative to the practice of medicine), anatomy and physiology (general questions on anatomy and physiology, and histological or minute anatomy), chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry; the physiological action and therapeutic uses and doses of drugs), surgery and surgical pathology (general surgery, surgical diagnosis; the pathology of surgical diseases), general pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of disease), bacteriology and hygiene (bacteriological methods, especially those relating

to diagnosis; the application of hygienic methods and prophylaxis and treatment), and obstetrics and gynecology (the general practice of obstetrics; diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical).

The age limit for pharmacists is 20 to 40 years; salaries, $900, $1,000, and $1,200 per annum, with board and quarters. The examination will be on letter-writing, chemistry, pharmacy, materia medica, and practical experience. Graduates of pharmacy only will be eligible to this examination. Experience will be rated upon the time spent in the general work connected with pharmacy, the preparation and compounding of prescriptions, and the making of official preparations.

The age limit for trained nurses (male or female) will be 20 to 35 years; salary, $50 per month, with board and quarters. Only graduates of schools for trained nurses having at least a two years' course will be admitted to this examination. Applicants having hospital experience in connection with the treatment of tropical diseases will be given special credit for such experience and will be preferred for appointment. The examination will be on anatomy and physiology, hygiene of the sick room, general nursing, surgical nursing, obstetrical nursing, and experience in nursing. Male applicants will not be required to take the subject of obstetrical nursing. The scope of the subjects in this examination is that covered by the customary course of study in recognized training schools for nurses or in the standard text-books prepared for the instruction of students in nursing.

These examinations are open to all citizens of the United States who comply with the requirements. The Isthmian Canal Commission furnishes free transportation to the Isthmus from either New York, New Orleans, or San Francisco, and also free return transportation upon completion of satisfactory service. The employees of the Isthmian Canal Commission are allowed six weeks' leave of absence annually on full pay. This leave of absence is not granted until after eight months of satisfactory service. In visiting the United States on leave, employees and members of their immediate families are granted special rates to the above-named ports. (The prevailing special rates are $25 between New York or New Orleans and Colon, and $70 between San Francisco and Panama.) The special rates also apply when members of the family of an employee accompany him to the Isthmus. All inquiries concerning examinations for competitive positions under the Isthmian Canal Commission should be addressed to the United States Civil Service Commission, Washington, D. C. Further communication relative to service, situation, climate, and conditions on the Isthmus should be addressed to the Isthmian Canal Commission, Washington, D. C.

Election at the Academy of Medicine.—The annual election of the New York Academy of Medicine was held December 15. The following were the nominees: *President,* Charles Loomis Dana; *Vice-President,* T. Mitchell Prudden; *Trustee,* Abraham Jacobi; *Treasurer of Board of Trustees,* Reginald H. Sayre; *Committee on Admissions,* William C. Lusk; *Committee on Library,* L. Emmett Holt; *Delegates to State Medical Society,* David Bovaird, Jr., James Ewing, Charles L. Gibson, Homer W. Gibney, Edward L. Keyes, Jr.

Award of the Nobel Prizes.—The winners of the Nobel prizes were announced in Stockholm on Saturday last. The medical prize was awarded to Prof. Pawlow, of St. Petersburg; that for chemistry to Sir William Ramsay, and for physics to Lord Rayleigh. The literature prize was divided between José Echagaray, of Spain, and Frederic Mistral, of France.

Falsifying Druggists.—It is said that a great number of Chicago apothecaries will be prosecuted for selling adulterated drugs. Chemical tests have been made and evidence procured which prove the presence of alien matter in many prescriptions calling for pure drugs. In nearly 20 per cent. of the samples obtained there was not even a trace of the drug called for in the prescription. The tests, conducted by Dr. John A. Wesener, showed the following: 23 prescriptions, no trace of the drug called for; 66 prescriptions, 80 per cent. impurities. 10 prescriptions, 20 per cent. impurities; 9 prescriptions, 10 per cent. impurities; 31 prescriptions, pure.

Hospitals on the Isthmus.—The following is the clause relating to hospitals in the agreement between this country and Panama recently, signed by Secretary Taft: "The United States will construct, maintain, and conduct a hospital or hospitals either in the canal zone or in the territory of the republic, at its option, for the treatment of persons insane or afflicted with the disease of leprosy and any indigent sick, and the United States will accept for treatment therein such persons of said classes as the republic may request, but this order shall not be operative unless, first, the Republic of Panama shall furnish without cost the requisite lands for said purposes if the United States shall locate such hospital or hospitals in the territory of the republic, and, second, that the republic shall contribute and pay to the United States a reasonable daily per capita charge in respect of each patient entering upon the request of the republic, to be fixed by the Secretary of War of the United States."

The National Association for the Study and Prevention of Tuberculosis.—The first annual meeting of this Association will be held in Washington, D. C., on the third Tuesday of May, 1905. Arrangements will be made for a two days' meeting, in which there will be one or two general sessions, with addresses upon the broad topics of tuberculosis, and special meetings of three sections, viz., Sociological, Pathological and Bacteriological, Clinical and Climatological. So far as possible, these sectional meetings will not conflict one with another. The membership of the Association includes a large proportion of workers in the subject of tuberculosis throughout the country, and it hopes to make its first annual meeting an important one in the crusade in this country against tuberculosis. The President of the Association is Dr. E. L. Trudeau, of Saranac Lake, N. Y., the secretary Dr. Henry Barton Jacobs, 11 Mt. Vernon Place, West Baltimore, Md.

Bellevue Diet.—The cooking system of Bellevue Hospital has been reorganized, and the diet kitchen is now under the direction of Miss Harriette Gorton, a graduate in domestic science of the Drexel Institute of Philadelphia. It is the aim of the new head of the department to establish a more scientific system of diets for the different classes of patients, and so assist the work of the medical staff. The cooking will be done entirely by gas, and the cost of the new plant which has been established will not amount to more than $500. Miss Gorton estimates that the cost of the new diet system will not be more than $50 a month beyond the cost of the existing kitchen, for the reason that the dishes she will supply will mean the sending out of a correspondingly less amount of food from the ordinary kitchen.

Research Fund for Columbia.—The trustees of Columbia University have announced a gift of $50,000

to establish a fund for physical research, from Edward D. Adams, father of Ernest Kempton Adams, who was graduated from the university in 1897. He died last July, and in his memory the gift is called the "Ernest Kempton Adams Fund for Physical Research." The income is to be applied to the stipend of a fellow of the university and to the publication of the results of his investigations. The research fellow may be appointed from among the faculties, teaching staff, alumni or students of Columbia.

Beriberi on a Ship from Java.—The British tramp steamer *Coulsden* came into Quarantine last week with five of the Chinese crew sick with what Health Officer Doty declares is beriberi. Four previous deaths occurring on the way from Java were alleged to be due to cholera by the authorities at Suez. The ship has been disinfected and the crew are under observation at Hofman Island.

Plague in London.—A report from London states that one of the crew of the steamship *Weybridge*, from the River Plate, which arrived in London on November 30, was taken with a suspicious illness, and bacteriological examination proves that he has the plague.

Cincinnati Hospital Site.—Since the matter of the new City Hospital and its site was brought before the Academy of Medicine, some weeks ago, a number of members of the staff and of the Tax Payers' Association have formed a party of opposition to the removal of the institution from its present site to the one purchased on the Hill Tops. A committee of staff officers, composed of Drs. George Fackler, P. S. Conner, J. M. Withrow and William F. Taylor, waited on the Board of Public Service and protested against the proposed removal. A committee from the Tax Payers' Association will carry the same matter before the board at an early date.

Cincinnati Branch Hospital—This institution for the care of consumptives has a capacity of 80 patients, but it is now looking after 113 patients, many of whom must sleep in the aisles of the wards and in store-rooms where the air and light are wholly inadequate. The members of the Board of Public Service made a tour of inspection and ordered that no more patients be accepted.

Physician Arrested for Negligence.—As a result of an investigation conducted by the grand jury in St. Louis, a physician of that city has been arrested on the charge of manslaughter in the fourth degree. The action followed the investigation by the grand jury into the death of a woman whom the accused attended when she gave birth to a child. Witnesses testified that at a time when the patient was in a critical condition the physician absented himself for forty-eight hours, and at another time he left the bedside when she needed attention and went out to look after his horse, being gone some time. The death certificate assigned puerperal fever as the cause of death.

A New Mode of Treatment of Pneumonia.—At a meeting of the Paris Académie de Médecine, held on December 7, Dr. Albert Robin is said to have reported remarkably good results attending the hypodermic injection of colloidal gold, silver, or platinum in pneumonia. By electrolysis these metals may be reduced to a peculiar state of subdivision in which they develop a ferment-like activity. By the use of these metallic ferments Dr. Robin claims to have produced defervescence in six cases out of ten before the seventh day, and that thirteen patients out of fourteen recovered. It is not asserted that the injections form a specific treatment for pneumonia, but simply that they hasten natural defervescence and so aid the other remedies usually employed.

Cincinnati Post-Graduate Medical School.—The Cincinnati Polyclinic and Post-Graduate School of Medicine was opened in a building at 911 Race street, about three weeks ago. The faculty is composed of Drs. H. A. Ingalls, Travis Carroll, H. D. Hinckley, F. L. Ratterman, W. E. Kiely, William Gillespie, M. H. Axline, William H. Wenning, Louis J. Krouse, D. I. Wolfstein, O. W. Spark, Th. R. Christen, William C. Harris, A. F. Morgenstern, T. V. Fitzpatrick, C. F. Winton, C. T. Pearce, E. Harlan.

Nurses' Home Destroyed.—The Nurses' Home, adjoining the Baptist Sanatorium in St. Louis, was burned to the ground early in the morning of December 3, the inmates narrowly escaping with their lives. There were forty nurses in the building, some of whom were saved by jumping from the upper windows. The Baptist Sanatorium was set on fire by sparks, but the fire was quickly put out.

Homœopathic Coalition.—What will probably be the largest homœopathic educational institution extant is to be formed in Chicago under the presidency of Dr. George F. Shears, by combining the Hahnemann Medical College and the Chicago Homœopathic College under the name of the Hahnemann Medical College of Chicago.

Professor Koch to Return to Africa.—Professor Robert Koch will start from Berlin for South Africa on December 17, in order to resume his interrupted study of rinderpest and other allied diseases.

Hospitals for Brooklyn.—The Bethesda Deaconess' Hospital of the East German Conference of the Methodist Episcopal Church was incorporated with the Secretary of State at Albany, on December 6, for the purpose of maintaining hospitals in Brooklyn.

Dr. J. A. Schmitt was elected president of the German Medical Society of the city of New York at the annual general meeting of this society, held December 5.

Fined for Using Disinfectant in Milk.—A dairyman of St. Louis, and the driver for a condensed milk company, of the same city, were fined recently for selling impure milk. One was fined $25 each on two charges of using formaldehyde as a preservative for cream, and $25 each on two charges of diluting unskimmed milk with 20 per cent. of water. The other was fined $25 on one charge of using formaldehyde as a preservative of cream.

Philadelphia Hospital.—The eighteenth annual banquet of the Association of Ex-President and Resident Physicians of the Philadelphia Hospital (Blockley) was held on the evening of December 6, with nearly eighty participants. Toasts were responded to by Drs. Horatio C. Wood, D. J. McCarthy, E. M. Wetty, George W. Guthrie and H. P. Calhoun.

College of Physicians of Philadelphia.—The Mütter lecture on Surgical Pathology was delivered on December 2 by Dr. George H. Monks, of Boston, the subject being "Studies in the Surgical Anatomy of the Small Intestine and Its Mesentery." At a stated meeting held December 7, Dr. J. W. Holland read "A Memoir of the late Dr. Roberts Bartholow," and Dr. Herman B. Allyn read a paper entitled "The Diagnosis of Tuberculous Cavities in the Lung."

Rock Island System Surgical Association.—This association held its second meeting December 7 and 8, in Chicago, with an attendance of nearly 150.

Twenty-two papers were read and discussed. Most of the papers dealt with subjects of special interest to railway surgeons. A surgical clinic was given in honor of the association by Dr. Weller Van Hook at the Wesley Hospital. Several interesting surgical cases upon which Dr. Van Hook had previously operated were exhibited, and he also operated on four cases.

Sudden Deaths in Chicago.—The report of Coroner John E. Traeger, of Cook County (Illinois), shows that the total number of deaths investigated during the year was 5,960, and 3,821 inquests were held. There were 426 suicides, and 382 met death in railroad accidents. Of the suicides, 103 were between 40 and 50 years of age.

Pathological Society of Philadelphia.—At a stated meeting held December 8, Dr. Victor C. Vaughan, of the University of Michigan, delivered an address entitled, "The Relation of Food-preservatives to the Public Health, and the subject was further discussed by Professors C. B. Cochran, of West Chester, and Charles Harrington, of Boston.

Fourth Pan-American Medical Congress.—The secretaries of the Sections of the Congress for the United States are: C. W. P. Brock, of Richmond, Va., Railway Surgery; Henry P. Newman, of Chicago, Gynecology and Abdominal Surgery; A. H. Doty, of New York, Hygiene and Quarantine; Judson Daland, of Philadelphia, Medicine; R. Matas, of New Orleans, General Surgery; Bert Ellis, of Los Angeles, Diseases of the Eye; Hudson Makuen, of Philadelphia, Diseases of the Throat; Frederick Jack, of Boston, Diseases of the Ear; C. H. Hughes, of St. Louis, Nervous Diseases; George Goodfellow, of San Francisco, Military Surgery; John Ridlon, of Chicago, Orthopedic Surgery; D. W. Montgomery, of San Francisco, Dermatology; C. G. Kerley, of New York, Pediatrics; Noble P. Barnes, of Washington, Therapeutics; Walter Chase, of Boston, Pathology; Howard Morrow, of San Francisco, Cal., Dermatology. Communications from physicians in the United States interested in these branches can be sent directly to these different secretaries.

Obituary Notes.—Dr. Hugo W. Kohler died at his home in St. Louis, on December 5. He was born in St. Louis January 27, 1864, and graduated from the grammar school when but 12 years of age and immediately entered the classical department of St. Louis University. In 1883 he graduated from the St. Louis College of Pharmacy and entered the drug business. In 1900 he retired from the drug business and entered the Marion-Sims Medical College (now Medical Department St. Louis University), from which he was graduated in 1902.

Dr. S. S. Purmer, of Washington, D. C., said to be the oldest contract surgeon in the regular army, died on a Northern Pacific train, west of Fargo, N. D., yesterday. Dr. Purmer was seventy years of age and had been an army contract surgeon since 1861.

Dr. John Fidelle Fisher died at Philadelphia on December 9 of apoplexy at the age of sixty years. He was graduated from Jefferson Medical College in the class of 1872.

Dr. Wm. H. Bigler, a lecturer on pediatrics in the Hahnemann Medical College, died suddenly at Philadelphia on December 10, at the age of sixty-four years. He was graduated from Hahnemann Medical College in 1871. He was president of the Homœopathic County Medical Society, and at one time president of the Homœopathic Medical Society of Pennsylvania.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MEDICAL COUNCIL—PRESIDENT RETIRES—DISPLACEMENT OF EPIPHYSIS OF FEMUR—CHRONIC OSTEITIS—MULTIPLE SYPHILITIC JOINT DISEASE—HOSPITAL SUNDAY FUND—ACTOR ON DOCTORS—FADDISTS' HOSPITALS—ITEMS—DEATH OF DR. POORE.

London, November 25, 1904.

The eightieth session of the General Medical Council was opened on Tuesday, when Sir W. Turner presided, and delivered an address in which he summarized, as usual, what had passed since the last meeting, and the programme of the present one. There was, however, a departure from his previous addresses. Referring to the common seal of the Council, he said the design selected bore in the center the figure of Hygeia, robed and holding the serpent and cup, and on the one side was the device of a roll of parchment, on the other a mace. The roll might represent the literature of the Council, but up to the present the mace was nothing more than a device on paper, and he wished to give that emblem an objective form. He therefore offered to the Council the specimen lying on the table as a parting present, and concluded by intimating that at the close of the session he must resign the chair he had occupied for six years, in consequence of the heavy call on his time as the Principal of the University of Edinburgh. The best thanks of the Council were thereupon voted to the president for his conduct in the chair and his magnificent gift of the mace. His successor will be appointed before the close of the meeting, and there is talk of the members entertaining Sir William at a dinner. He has been an efficient president, with an intimate knowledge of the duties of such an office. I hope his successor will be equally efficient. I should hope, too, he will discontinue the useless practice of epitomizing the programme in an opening speech at each session. The Council spends so much time—and time in these meetings is an expensive item—in talking that the profession has long been dissatisfied with its "talking-machine," and as I have more than once remarked, the members are quite able to understand a printed programme.

Mr. E. Muirhead Little showed at the last clinical evening of the Medical Society a case of traumatic displacement backward of the lower epiphysis of the femur. The patient, a youth of 17, was admitted to the hospital on May 11, last, complaining of his right knee, which he had struck violently on the ground in a bicycle accident some six weeks previously. Skiagrams showed the displacement, and an operation was performed. The femur was fractured at the junction of the middle with the lower third; the leg was then straightened, and only half an inch of shortening resulted. Backward displacement of this epiphysis being much less common than forward, the case was worth reporting. A good recovery had ensued, but though the result was satisfactory, Mr. Little thought in future he would prefer to perform osteotomy of the lower end of the shaft rather than produce a fracture higher up. The president, Mr. Langton, thought the fracture was commonest under the age of 20. In all the cases he had seen the epiphysis was also displaced backwards, as in Mr. Little's case; one had been complicated with gangrene from pressure on the vessels.

Among other exhibits at the same meeting were two cases of chronic osteitis of the tibia, both in girls, aged 16 and 18 years, respectively, otherwise healthy. Some bone removed from one gave a cultivation of staphylococcus albus, to which Mr. Wallis attributed the affection. He had had five cases, all in girls, all mild, but he thought they belonged to the same category as the more serious cases of infective osteomyelitis. Mr. Langton mentioned a similar case occurring in a woman whose femur was affected. The disease was very intractable, and of long standing. Dr. Buckley had seen a case in which the fibula was affected. Mr. Waring referred to a case which resembled these, but turned out later to be tuberculous.

Another case was one of multiple syphilitic disease of joints in a girl of 15 years. The condition was one of very chronic, but painless, synovitis, having lasted seven years. There were various indications of hereditary syphilis, or the case might have been taken for osteitis deformans.

The Lord Mayor presided at a meeting of the Hospital Sunday Fund on Tuesday. The report was made up for the year ending October 31, and showed subscriptions, £63,064 19s. 10d.; collections in places of worship, £47,012 5s. 4d. Mr. George Herring's munificence in adding one-fourth to the collections was referred to. His check this year was for £12,000. The country clergy in the home counties have not taken up the fund with the zeal one would look for, considering that quite 25 per cent. of the patients in the metropolitan hospitals come from their districts.

Sir S. Bancroft distributed the prizes at Charing Cross

Hospital on Wednesday, and said he considered it a favor to be allowed in any way to pay a fragment of the debt, always owing and increasing, due by members of his precarious profession to the physicians and surgeons throughout the land. Actors were not ungrateful. They remembered with gratitude the help they received, as well as the allusion by the Princess of Wales, at the meeting of King Edward's Fund, to the help of the theatrical profession to the hospitals. Sir S. Bancroft congratulated the students on starting with the best stock in trade—youth and hope. He half believed opportunity knocked once at every one's door. When it came to them let them be ready. He wished them success in the noblest of all careers.

The "Lady Margaret" Hospital, started a few months ago at Bromley, celebrated, on Wednesday, the naming of four cots. There are thirty beds and cots altogether, and a donation of 25 guineas gives the donor the privilege of naming a cot, and 50 guineas a bed. The hospital itself is named after four patronesses bearing the name Lady Margaret. The institution is a vegetarian one—another example of faddists pushing their views by founding hospitals or charities. But the promoters avoid the word vegetarian and call it "fruitarian." The warden quoted a daily paper's correspondent to the effect that the meat-eating American soldiers in Cuba did not get over wounds so well as the almost vegetarian Japanese. As to that, we can wait for more authentic information. Perhaps many people eat more meat than is good for them, but I doubt if this hospital will act as a deterrent. At present the most remarkable feat of the institution is to be out of debt.

A more pernicious faddists' hospital is the antivivisectionists'. Their staff has already achieved some notoriety by the "demonstrations" of one of them before reporters of sensational papers of his cures of ocular defects by manipulation—thus making spectacles useless. A challenge by an optician to produce cases satisfactory to an ophthalmic surgeon was at first accepted, but has gone off by the conditions being refused. Meanwhile spectacle makers continue their labors.

The North Eastern Hospital for Children is in great straits for want of money. Notice has been published that £4,000 must be obtained before Christmas, or else fifty-seven beds will have to be closed. Only a few months ago a large extension was opened. The hospital is in a poor district, and one of the most deserving, but it is obvious the governors were not justified in making the enlargement. It is too common a case. Hospital managers seem always to be ready to run into debt.

The Surrey County Council has decided to erect a new lunatic asylum on a site of 350 acres which it acquired five years ago. The new buildings are expected to cost about £400,000. Poor rate payers! The present asylum accommodates above 1,300 inmates. The new one will hold almost as many.

Mr. A. A. Bowlby, C.M.G., has been appointed surgeon to the King's Household, in succession to the late Mr. Herbert Allingham.

Dr. Vivian Poore died on Wednesday, aged 61 years, at Andover, where he was born. He was a University College student, where he took the Atkinson-Morley scholarship in 1868. He graduated M.B. and M.S. at the London University and became university medical scholar, following with M.D. in 1871. He was surgeon to the *Great Eastern* steamship while she was laying the Atlantic cable. Afterward he became medical attendant to the late Duke of Albany, and then to the Prince of Wales (now the King). He was elected on the staff of the Charing Cross Hospital and served there and taught in the school, rising rapidly to distinction in consulting practice, and in 1877 was elected to the Fellowship of the R. C. Physicians. A vacancy occurring at his old school, he obtained the appointment, and so, in due course, became professor of medicine and clinical medicine at University College and physician to the hospital.

In 1901 he was secretary-general of the Sanitary Congress. Much of his literary work was on sanitary questions, as his "Essays on Rural Hygiene," and many contributions to the journals show. He wrote also "A Text Book of Electricity in Medicine and Surgery," and translated Duchenne's works for the New Sydenham Society. His "Treatise on Medical Jurisprudence" was the outcome of his lectures when he held that chair. He also wrote a volume on "Climate in Its Relation to Health." He received the Dannebrog order for professional services to Princess Thyra, Duchess of Cumberland, and was a member of various societies.

Field Hospitals for Sick and Disabled Horses will be part of the war equipment of the British army in future. Two have been formed in England, and the system is proving satisfactory in India. The Japanese have adopted it in Manchuria, where the loss of animals is only 6 per cent.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

CANCER IN THE TROPICS—A GOVERNMENT LIBRARY OF SCIENTIFIC BOOKS—RECRUDESCENCE OF SMALLPOX—RINDERPEST—FATALITIES AMONG ANIMALS.

MANILA, October 28, 1904.

AN examination of the mortality and morbidity statistics of the Insular Board of Health for the past year shows that there were thirteen deaths from cancer. The population of the city of Manila is given at 219,941, which would give approximately a death rate of .0612 per thousand. There were four cases of cancer of the stomach, five of cancer of the female genital organs, two of cancer of the breast, one of cancer of the buccal cavity, and one of cancer of the liver. Figures from other tropical countries are not at hand, and it is, therefore, not known whether this compares favorably with the deaths occurring from cancer in such countries. But these figures do show that cancer is much less prevalent here than in temperate countries, like Great Britain, or the United States. There is much food for thought in these figures, and it becomes quite pertinent to inquire what effect climate has on this disease. All the cases reported occurred among natives, with the exception of one case, viz., of death from cancer of the genitals, which occurred in October. The European and American population of Manila amounts to about 7,000, and only one case was reported in a white person. Is there some influence at work which exempts these from the disease or is it because the great majority of them are in the prime of life, or else that they have not yet reached the age at which this disease may be contracted? With few exceptions, the cases reported among the natives are all in persons beyond fifty years of age. It is also quite possible that the disease is more prevalent among the natives than the reports would indicate.

The figures are based mostly upon the reports of the native practitioners, who have not had an elaborate medical education, and, therefore, could not be expected to make very reliable diagnoses. Still, by allowing a reasonable margin for error, the fact remains that among a white population of 7,000, composed of British, Germans, and Americans, which has as good medical attention as can be obtained anywhere in communities of like size, there was but a single case reported.

In order that the medical and other scientific books which are the property of the various branches of the Insular Government in Manila may be of service to the greatest number of persons, and to prevent needless duplication, and in order that the money which would be used for the latter purpose may be utilized for the purchase of more books, the Secretary of the Interior has directed that all books should be placed in the library at the Government Laboratory, the idea being to have them properly catalogued, after which those which are needed for constant reference by the various bureaus are to be returned to them. By this arrangement it will be possible to have access to any book which the Insular Government has purchased by merely consulting the catalogue and ascertaining at what bureau it is to be found. The plan, of course, provides that the great majority of the books shall be kept at the central library.

After the most unusual freedom which the islands have enjoyed for the past few months from the more grave contagious diseases, smallpox has appeared in a number of places in more or less epidemic form. Surigao, in the island of Mindanao, and the islands of Siquejor and Marinduque, are at present most affected. At Boac and Gasan it has become necessary to close the public schools. The natives have been predicting for some time past that a severe epidemic of smallpox was about due. They state that it appears regularly every ten years. They are sometimes a little uncertain in their estimates, but it is only given for what it is worth. It is indeed unfortunate, but it seems impossible for these islands to remain free for any length of time from serious contagious diseases, either in man or animals.

The contract which the government held with a Shanghai firm for restocking the islands with caraboa has recently been annulled. Hundreds of thousands of dollars were spent in the purchase of these draft animals, with the result that they nearly all died, either en route or after they landed in the Philippines. Hundreds of them were killed by direction of the government, in order to arrest the spread of surra, with which they were afflicted. Others died soon after they were inoculated with antirinderpest serum. Such animals as were not inoculated soon contracted rinderpest and died. So that whichever course was pursued, it seemed doomed to failure. All kinds of animals seem to lead a perilous existence in the Philippines. Recently a fine herd of milch cows was imported from the United States. They seemed to be doing nicely. Excellent

milk was furnished daily to the government hospitals. It was finally decided to inoculate them against rinderpest, which was done, whereupon over half of them died. The calves which were used in the manufacture of vaccine virus are at present afflicted with surra. The orang-outangs which were imported from Singapore by the Harvard Smallpox Commission for experimental work, soon after landing developed a peculiar form of hemorrhagic septicæmia and died.

POST-PARTUM HEMORRHAGE.

To the Editor of the Medical Record:—

Sir: Apropos of the treatment of post-partum hemorrhage, recently discussed in the Medical Record, the writer will mention what has been his practice in treating that form which occurs from a non-contracting uterus only. First, in every case of labor, as soon as the child is born, the left hand grasps the uterus over the abdomen, and so holds it, kneading the uterus, or not, as relaxation or contraction is present, until the womb is as hard as a cocoanut, and about the size. It is so held until there is no longer any tendency to relaxation. If this does not produce uterine contraction, I proceed with the right hand to "turn out the clots," and when this does not suffice, I put no gauze or cotton in the uterus, but push the entire hand into the uterine cavity, and move the closed fist all around the cavity; this will excite contraction and expel the hand. Waiting for hot water, gauze, etc., to be brought by a nurse, when often there is no nurse, is too slow. Besides this, the principle of packing a non-contracting uterus is not correct. You cannot control the bleeding by pressure, as is the idea of gauze packing, but it must be done by exciting uterine contraction, and this is done best by the motion of the hand in the uterine cavity, which, by its irritation excites muscular contraction.

Of course, if the bleeding is from a torn cervix, the condition is different, and pressure is then rational surgery.

T. M. McIntosh, M.D.

Thomasville, Ga., December 4, 1904.

Some of the Less Commonly Recognized Manifestations of Rheumatism in Childhood; with Remarks on the Treatment of This Disease.—James Burnet declares that pharyngitis and tonsillitis deserve to be more often regarded as rheumatic than they are at present. Although tonsillitis is said to be more common in the rheumatism of adolescents and of adults than in that of children, the writer is convinced that pharyngitis in the child should always be looked on with suspicion, the heart carefuly examined, and the child kept in bed till all doubts are set at rest. He also believes that possibly some cases of pneumonia attributed to "chill" are in reality due to the specific virus of rheumatism. Further work must be done on this subject. Psoriasis scarcely ever occurs, save in rheumatic subjects, according to the personal observations of the writer. In not a few cases appendicitis is undoubtedly a rheumatic affection. A condition, called by the writer gastroenteric spasm, in which the child complains of acute gastric pain after a meal and has an urgent call to stool, is often of rheumatic origin. That common condition of childhood, pain in the side, or in the upper part of the chest, is often greatly relieved by the administration of anti-rheumatic remedies. The pain is often referred to the loin or to the infraclavicular region. It may often be detected in choreic subjects. Children of rheumatic heredity do not always show any definite manifestation of the disease. They are often nervous and irritable, thin and spare, sensitive, subject to fits of violent temper, and are generally restless. Chorea often develops. As to the treatment of rheumatism in childhood, the salicylates generally give the best results. These must be given in large doses. Calomel keeps the gastrointestinal canal in good working order, and so is very beneficial. The heart requires special attention. An ice-bag wrapped in flannel may be applied locally. If convalescence is slow, cod-liver oil in small doses should be given, and anti-rheumatic remedies should be continued.—*The British Journal of Children's Diseases.*

Eugenics.—Francis Galton has endowed, in London University, a fellowship for the promotion of the study of "National Eugenics," which is defined as "the study of the agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally."

Progress of Medical Science.

The Boston Medical and Surgical Journal, December 8, 1904.

Four Cases of Laparotomy During Typhoid Fever: with Recovery.—R. R. Fitch reports these cases as being illustrative of the good results of early operation. The first patient, a boy of 9 years, was admitted to the hospital with a history of typhoid fever of two weeks' duration. On the second night after entrance the child complained of slight abdominal pain. It was not relieved by a turpentine stupe. Two hours later the abdomen was extremely tender, somewhat rigid and not distended. There was no diminution in liver dullness, the blood pressure was unchanged, and the white count had fallen to 4,200. The pulse became somewhat more rapid and smaller in volume. Temperature and respiration were practically unchanged. Operation was performed four hours after the onset of the abdominal pain, and gas and intestinal contents were found in the peritoneal cavity. The intestinal wall was perforated a short distance above the ileocæcal valve. This was closed and the peritoneal cavity washed out with normal salt solution, and drained. The patient had an uninterrupted convalescence. The second patient was a man of 20 years. In the fifth week of his illness there developed slight tenderness, dullness and resistance, just inside the crest of the right ilium. These signs increased till the next morning, when there was a distinct mass palpable in this region. The white count was 6,000. At operation the mass was found to be an appendix abscess. The appendix was removed and the wound drained. Convalescence was uneventful. Besides these cases, there was one of ruptured pus tube and one of perforation, both operated on and ending in recovery.

New York Medical Journal, December 10, 1904.

A Comparative Study of Idiopathic Epilepsy in Man and Animals.—L. Pierce Clark gives an interesting series of descriptions of epileptic seizures in different animals. He notes that it appears that the nearer animals have approached to man by domestication, the more they seem to be subject to the same diseases. This apparent fact may be explained in three ways: (1) The nearer to man the animal approaches in anatomical structure, such as the dog, cat, monkey, horse, etc., the nearer a comparison between normal and morbid function of the nervous system is possible; (2) being subjected approximately to the same condition of environment the same diseases result in animals and man; (3) finally, such animals being closely associated with man, normal and morbid acts are under close scrutiny. When considering so-called idiopathic epilepsy, it must be remembered that many remedies taken in excess bring on seizures resembling those of this affection, notably mercury, arsenic, lead, belladonna, camphor, hemlock, cocculus indicus, digitalis and aconite.

Public School Children and Preventive Medicine.—J. S. Lankford believes that the time to inculcate the lessons of hygiene is in childhood, and relates the experience of this kind of teaching in his own city (San Antonio, Tex.). A campaign on the general subject of insects as carriers of disease was begun by keeping a bottle of eggs and wigglers in every schoolroom, so that the children could watch the development of the organism up to the matured mosquito. The proper literature was provided for the teachers and suitable illustrations for the scholars. Thus the work was begun, and much has been learned by all about this particular insect, and it is proposed to take up in due time and in a similar way studies on tuberculosis, typhoid fever, and various contagious diseases.

Superannuated Trolley Cars for Consumptives.—W. H. Peters calls attention to the fact that discarded trolley cars make excellent shelters for consumptives, and can be purchased and set up for less than the cost of an equally substantial cabin or tent. The car bodies are taken from the trucks and set on a foundation eighteen inches high and furnished with a cot bed, stove, table, and chairs. The cars are well built, have heavy frames, can be easily ventilated, and afford a maximum of sunshine, owing to the windows on each side.

Medical News, December 10, 1904.

The Immediate Repair of the Pelvic Floor and Perineum.—Edward P. Davis says that the attention of the obstetrician is usually drawn to a laceration by the occurrence of hemorrhage. Lacerations of the posterior segment of the pelvic floor naturally divide themselves into tears of the pelvic floor and those of the perineum. These injuries may be closed immediately, or after some delay. If the tear be extensive and the condition of the patient bad, the operator may wisely delay such repair for twenty-four to thirty-six hours. No considerable tear of the pelvic floor can be satisfactorily repaired with the patient upon a low bed and in a poor light. The patient should be placed

upon a table or high bed in a good light, and sufficient assistance should be obtained to give the patient the care necessary for an important surgical operation. The most important stitches in closing lacerations of the pelvic floor are those placed at the highest points in the tears in the sulci. A fully curved needle is usually necessary for placing them. In all cases muscle and connective tissue should be brought together by a firm and carefully applied stitch. Several stitches may be used if they are properly placed, and the catgut be not too large. In repair of the perineum, the wound should be attacked nearest the anus, the skin edges and underlying facia being brought together with silkworm-gut stitches, a considerable portion of tissue being taken, but without tension. The perineum should be closed up to the point where the posterior vaginal wall begins. No effort should be made to repair the fourchette, as too close an approximation of tissues in this region will produce a pocket favoring the retention of lochia. Complications may follow this operation. Hemorrhage is of rare occurrence. The stitches sometimes tear out. In the presence of infection, the stitch at the site of infection must be removed as soon as possible and the parts thoroughly irrigated with an antiseptic solution. The after-treatment of these cases consists of surgical cleanliness, so applied as least to disturb the tissues and parts which are healing. The average patient, after an operation where union occurs without infection, is convalescent in from three to six weeks.

The Care of Fractures from the Standpoint of the General Practitioner.—Wm. S. Newcomet declares that fractures cause the physician more trouble than any other trial in his professional life. In such cases, if the proper precautions were always taken, many of the difficulties would be avoided. The *x*-ray is of great value in giving a graphic description of the exact amount of damage. A green-stick fracture is often unrecognized. Although such an error is not likely to lead to any serious consequences, the patient is made more comfortable when the proper dressings are applied. A most troublesome class of fractures are those which occur about the joints, as at the wrist, elbow, shoulder, or ankle. In these cases a small bit of the bone is torn off, and is often bound so firmly by the ligaments that the ordinary signs of fracture are absent. These injuries are often treated as sprains. Such an injury causes more inconvenience to the patient on account of the joint involvement than does a fracture of the shaft of the long bones with considerable displacement. The writer calls attention to a bad method of dressing which should be avoided. When the bone is placed in position, the dressings are applied, and are allowed to remain on for three or four weeks. If in that time they become loose, a new bandage is simply wrapped around the old dressings. This is extremely dangerous, and one that will always give a poor result. Whenever doubt exists as to the nature of the injury, the mystery should be cleared up at once, before the bones have become united, which may result in a deformity that lasts the rest of the patient's life.

A New Method for Staining the Capsules of Bacteria.—Leo Buerger describes his technique as follows: The culture is thinly and carefully spread over a perfectly clean cover-slip by means of a drop of diluted serum. Just as the edges begin to dry, the fixing fluid is poured on, the cover gently warmed over the flame for about three seconds, rapidly washed in water, flushed once with alcohol, and then treated with iodine for one to two minutes. The iodine is in turn thoroughly washed off with alcohol, and the specimen dried in the air. Staining for two to five seconds, and washing with salt solution completes the procedure. The specimen is mounted in the salt solution and ringed with vaselin. Sputum and pus can be stained in a similar manner, the addition of serum being unnecessary, except in very mucoid, stringy purulent exudates. The method depends upon the rapid fixation of the bacteria while still alive, and when spread in a medium, which prevents dissolution of their capsules. The Müller's fluid, saturated with bichloride of mercury (*i.e.* Zenker minus acetic acid) has given the best results. The procedure, as described above, can be shortened by reducing the action of the iodine to thirty seconds. This may be done by flushing several times with fresh iodine. Good, permanent balsam mounts can be made from double-stained specimens (gentian-violet and fuchsin). With this method the specimen presents the following features: There is a refractile, deeply staining, regularly outlined, narrow, elliptical capsule membrane, separated from the diplococcus by a clear area of capsular substance, which remains unstained, or takes a faint color.

American Medicine.

"Has a Persistence of the Mullerian Ducts Any Relation to the Condition of Cryptorchidism?"—Augustus Grote Pohlman reviews the general development of the urogenital system, representing the "undifferentiated stage" and the further development of the male and female by three diagrams. The blood supply to the sex gland, the suprarenal and kidney, is not established until the kidney is at its normal height. As soon as this stage of development is reached the wolffian body undergoes degeneration. The writer declares that the wolffian body in the embryo is the source of those products of internal secretion of the aforementioned glands, which later play such an important rôle in the economy. The internal secretion of the sex gland offers the stimulus for the further development of the "undifferentiated stage" into male and female types. The writer also holds that the internal secretion of the testicles inhibits the further development of the Mullerian ducts. Thus, if the testicles be imperfectly developed, a persistence of the ducts may result and account for the condition of cryptorchidism. The abnormalities of the gubernaculum or abdominal wall, or both, are the secondary causes for retained testicles. The later atrophy of the testicles in these cases is due to displacement. This atrophy is apt to appear about the time of puberty. The writer considers such abnormalities to be the cause of monocryptorchidism and reports a case in point. He concludes with a plea for embryological material.

The Dangers of the Microscope in the Early Diagnosis of Pulmonary Tuberculosis.—H. C. Clapp emphasizes the danger of waiting for the confirmation of the microscope before instituting the appropriate treatment for tuberculosis. Patients often neglect the proper treatment until the incurable stage is reached, because of the assurance from their trusted medical advisers that no tubercle bacilli have been found in the sputum. The writer quotes from his records in the Massachusetts State Sanitarium at Rutland, showing that when tubercle bacilli have been found in the sputum of patients they are not by any means always present at each examination. They are often absent for long periods, or they are irregularly present. Often the skilled diagnostician ought to recognize the disease before enough ulceration and cavity formation have occurred to allow the escape of the bacilli from the lung tissue into the sputum.

The Relation of the So-called "Piroplasma Hominis" and Certain Degenerative Changes in the Erythrocytes.—Charles F. Craig has made careful observations concerning "Piroplasma hominis," claimed by some investigators to be the cause of "spotted" or "tick" fever. According to the writer, no such organism can be demonstrated in the blood of patients suffering from this disease. He believes that the phenomena observed in the red blood cell are not due to a parasite, but to certain changes, especially in the hæmoglobin of the red cell, produced by disease, and that further study will prove that peculiar areas occurring within the red blood cell, especially those devoid of hæmoglobin and appearing in human diseases, have been wrongly considered to be a protozoan parasite by those who have demonstrated "Piroplasma hominis." Reference is made to the report of Stiles, who was unable to demonstrate the parasite after thoroughly investigating ten cases.

Journal of the American Medical Association, December 10, 1904.

Whooping Cough Treated by the Elastic Abdominal Belt.—The belt employed by T. G. Kilmer is thus described: A stockinette band is placed on a baby with whooping cough, in the same manner as is done by orthopedists before applying the plaster-of-paris jacket. This band extends from the axillæ to the pubes and fits the baby snugly. Two muslin shoulder straps are used to prevent the band from slipping down. On this stockinette band a single width of silk elastic bandage is sewn, extending entirely around the body and covering the abdomen. This silk elastic bandage is of the same quality as that used for elastic stockings. If the child is under a year old, it will be found necessary to use but one width (five inches) of this elastic bandage; in an older child, two widths will often be found necessary to entirely cover the abdomen. This silk elastic bandage is pinned in place when very slightly on the stretch. After it is pinned in place, it should be sewn to the stockinette band underlying it, all around its entire edge; this procedure keeps the silk elastic belt flat and prevents its rolling up or becoming creased. The lower projecting portion of the stockinette band should be pinned down to the outside of the diaper, or other clothing, thus keeping the elastic belt smooth over the abdomen. Kilmer states that out of eighteen patients on whom this belt was used, cough was relieved in twelve and vomiting in all but one.

The Nervous Symptoms Produced in Children by Uncorrected Refractive and Muscular Errors.—J. H. Claiborne presents the following conclusions: (1) Nervous symptoms of a variety of kinds occur, as the result of eye-strain. (2) Eye-strain is due to refractive errors, to imbalance of the external ocular muscular system, or, more frequently, to a combination of the two. (3) Of these two, the refrac-

tive errors are by far the more frequent cause. (4) Muscular imbalance alone may cause it. (5) Headache is by far the most common nervous symptom in children, caused by eye-strain. (6) The headache is chronic or induced directly by near work, and is generally in the forehead or temples. (7) Migraine or hemicrania, due to eye-strain, is comparatively rare in children. (8) Any nervous symptom in children should arouse the suspicion of ocular defects, either as the direct or a contributory cause. (9) The refractive correction should be made under atropine. (10) Muscular defects are secondary to the refractive, and should be corrected only in certain cases.

Congenital Occlusion of the Lacrymal Canal.—J. E. Weeks notes the occasional occurrence of this condition from the third to the eighth week after birth, and states that it is often confounded with acute contagious conjunctivitis. Irritating treatment makes the condition worse and may lead to corneal infection. Boric acid may be used to cleanse the conjunctive sac, and a bland ointment to protect the skin. Probing of canal should not be tried until nature has been given a fair chance to restore the patency of the canal. If, after the lapse of two months, the passage is not free, the canaliculus may be slit up and a Bowman's probe, No. 4 or 5, passed. One passage of the probe is usually sufficient. The permanency of the patency of the canal may be determined by syringing through with boric acid. The acute contagious ophthalmias from which the condition must be distinguished are those due to, respectively, the pneumococcus, the Koch-Weeks bacillus, the gonococcus and the Klebs-Loeffler bacillus. Microscopical examination is generally necessary for an accurate diagnosis. Isolation should always be practised until the discharge has entirely disappeared.

Changes in the Salivary Secretion Affected by Systemic Disease.— From the results of the studies of H. Stern and W. J. Lederer, the following statements are worthy of note. In the saliva of 158 cases of diabetes, the amount secreted was increased in 8, decreased in 89 and normal in 63; it was acid in 47, alkaline in 92, neutral in 8, not examined in 11; glucose was found in the saliva in 85. In 28 cases of uricacidemia, the amount of saliva was not increased in any, and was diminished in only 1; reaction was acid in 5, alkaline in 52, and neutral in 2. Uric acid was looked for in 59, but found in only 21. Bile pigments were looked for in 14, but found only once. The diastasic quality in 18 examinations was normal in 13, and more or less sub-normal in 5. In 20 cases of gastritis, the quantity of saliva was increased in 9, normal in 11; reaction was acid in 8, alkaline in 12; acidity due to lactic acid in 2. Hyperchloridia showed in 182 examinations an increase of saliva in 27, reaction acid in 71; alkaline in 41, neutral in 5. In hypochloridia, the saliva was increased in but 1 out of 23 cases examined. The reaction was found to be acid in 2 cases, alkaline in 15 cases, amphoteric in 6 cases; acidity was found to be due to lactic acid in 1 case, formic acid in 1 case. The saliva in 15 cases of pyloric stenosis was found to be increased in 3 cases; balance fairly normal. The reaction was found to be acid in 5 cases, alkaline in 8 cases; in 2 cases the reaction was not determined. Acidity was found to be due to lactic acid in 2 cases, acetic acid in 2 cases, lactic-acetic-formic acid in 1 case.

The Prevention and Treatment of Heart Failure in Pneumonia.—According to S. Solis-Cohen, there are three principal and many secondary causes of heart failure in this disease. The principal causes are, first, the toxemia; second, the mechanical obstruction to the circulation in the lung, causing overburdening and dilatation, especially of the right heart; third, the alteration in the physical and chemical constitution of the blood, which, apart from the toxic effect on nervous and muscular action, central and cardiac, predisposes to the formation of antemortem clot. Among the most important of rare causes are hyperpyrexia and a sudden paralysis of inexplicable origin. Two great classes of drugs are at our disposal. One may be used to support the heart and circulation during the progress of the disease, and the other reserved for emergencies. The first class includes digitalis, barium chloride, strychnine and atropine. Digitalis may be used as soon as hepatization is present. Before this, aconite and veratrum are indicated. For emergency service Cohen recommends adrenalin, camphor, and musk. For administering the first named he prefers to employ suprarenalin triturates containing 1/20 grain active principle in a very small quantity of sugar of milk. These are preferable to solution for lingual administration. They dissolve quickly and do not fill the mouth with liquid. Such a tablet may be given every ten minutes, if needed; as a rule, one every one-half hour to two hours suffices. The drug likewise raises vascular tone —a great advantage. Camphor may be injected hypodermatically in a 10 per cent. solution in sterilized olive oil or in 10 per cent. solution in ether. Exact dosage is unnecessary, about a syringeful, say from 20 to 30 minims, can be used. The effect is prompt and usually lasts for some hours. The injection is to be repeated as needed. Five or ten drops of tincture of musk given hypodermatically exert a powerful influence in overcoming the tendency to cardiac collapse, and the action of musk is even more sustained than that of camphor. Care should be taken to secure a reliable preparation of musk. Much on the market is useless.

The Lancet, December 3, 1904.

The Treatment of Cancer.—The main point in Mayo Robson's Bradshaw Lecture is the necessity of impressing upon those who have the chance of seeing patients in the early stages of their illness that in many cases cancer can be prevented by treatment in the pre-cancerous stage; that even when it has developed, if it he seen early and thoroughly removed, it is frequently a curable disease, and, finally, that in the later stages much may be done by surgical treatment to give real relief. He believes that cancer is locally infective and capable of distribution by contact and inoculation. Hence arises the danger of an imperfect operation, which, by distributing the cancer cells, implants numerous foci of the disease. From a study of numerous cases he believes it highly probable that cancer is both contagious and inoculable among human beings, as it undoubtedly is among the lower animals. These facts are so suggestive that, although it may not be necessary to advise segregation of cancer patients, it would seem most desirable that all dressings taken from cancer patients should be burnt, that linen soiled by cancerous sores should be destroyed or disinfected by boiling, that contact with cancerous ulcers, whether of the lip, tongue or breast, uterus, or other parts, should be avoided, and that common use of beds and utensils with cancerous patients should not occur.

Relationship of "Splenic Anæmia of Infancy" to Other Forms of Blood Diseases Occurring in Infancy and Early Childhood.—H. B. Shaw dwells upon the normal blood composition at different ages up to puberty and then discusses the blood states in the severe secondary anæmias of infancy and childhood, and, finally, that in the primary anæmias. He finds no sharp line of demarcation between any of the groups which have been designated by special names. It is more in harmony with recent investigations to insist upon the close relationship of all blood diseases. Pathological considerations do not at present justify the recognition as separate diseases of what are really only different degrees of reaction of the blood forming tissues to various obscure exailants. To sum up, it may be said that this or that patient is suffering from a disordered blood forming state or blood-making tissues and that the blood examination reveals features which in part are known to exist in healthy children, but which are also met with in cases which at present are called pernicious anæmia and leucocythæmia. In the latter disease the marrow is involved in every case, whether the leucocythæmia is lymphocytic, myelocytic, or of a mixed type and shows an overgrowth or hyperplasia of the lymphoid cells which normally occur there; as the result of a process allied to the one described by Virchow as metaplasia these formative or mother cells are now believed to develop into the non-granular lymphocytes, into granulocytes of all kinds, or into both non-granular and granular cells. The spleen and lymphatic glands may or may not share in this change; as already stated in recently reported cases, the marrow alone has been found to be affected. In other cases (pernicious anæmia) the lymphoid cells appear to give rise, again by metaplasia, to various forms of erythroblasts and erythrocytes.

British Medical Journal, December 3, 1904.

Afebrile Enteric Fever.—George Jubb reports this interesting case. The patient, a girl of 20, had been nursing her sister through a siege of typhoid fever. On the fourth day of her illness, she complained of headache and pains in her limbs, loss of appetite and lassitude. There was slight abdominal pain. The tongue was moist and coated; the pulse, 90, and temperature 98.4° F. The abdomen was silghtly distended and tender. The spleen was not greatly enlarged, and there were no rose spots. The mucous membranes of the lips and eyelids were well colored. The bowels were constipated. The heart and lungs were normal. A provisional diagnosis was made that the patient was probably suffering from typhoid fever. She was put to bed and kept on milk diet. The typhoid serum reaction was positive on the seventh day of the illness. The spleen was now distinctly enlarged. The temperature remained normal till the morning of the seventeenth day, when it rose to 101.6° F. The patient complained of pain in the left leg, which was slighly swollen and tender. The temperature was febrile for the next four days, but settled to normal on the twenty-second day of the illness. The recovery after that was uninterrupted. Without the serum reaction, there would have been some hesitation in confining the patient to bed on a milk diet, for a prolonged

period. The temperature was not disturbed till the complication—thrombosis of the left femoral vein—took place.

Case of Congenital Absence of Continuity Between the Large and Small Intestines.—C. H. Souter observed this case. The patient was a boy, 48 hours old, who had vomited some foul-smelling dark stuff as soon as the head was born. It was said that he vomited everything that he swallowed. There was nothing of interest in the family history. The color of the infant was yellow. He vomited large quantities of fæcal-smelling fluid of a greenish color. The rectum was small and empty. Immediate operation was indicated by the general condition. The abdomen was opened over the right iliac region, where a swelling could be felt externally. Some more distended bowel presented. The bowel was stitched to the edge of the wound and opened. Over half a pint of foul-smelling, greenish fluid escaped. The gut was then washed out with saline and the artificial anus dressed with iodoform gauze every two hours. Artificial feeding was begun, and the child did well for a week, when dystentrypsia set in and all efforts to control digestion failed. There was no rise of temperature, and no swelling of the abdomen. The patient died ten days after operation. At necropsy it was found that the small intestine from the wound to the stomach was normal, but of greater caliber than usual, and contained green bile-stained grumous matter. Downward it extended one and one-half inches, where it ended in a cul-de-sac. There was no Meckel's diverticulum, nor any trace of an opening other than the surgical one. The large intestine ended in a small cæcum and vermiform appendix, and a diverticulum of about one-half inch in length, having no opening. The two blind ends were situated in about the normal position with respect to each other, but not in contact. Loose mesenteric tissue lay between them. The lumen of the colon world admit a slate pencil. The edge of the liver was about one and one-half inches from the costal margin. The gall bladder was distended with bile, and projected one-half inch beyond the edge of the liver. The rest of the abdominal contents were normal.

Bony Union of the Olecranon Process in a Patient Aged 73.—Ernest W. Wade attended a patient of 73 who was suffering from a simple transverse fracture through the middle of the left olecranon process, caused by a fall on the elbow three days before. The arm, elbow, and hand were very black, swollen, and painful, and the broken ends of the bone were separated about one-half an inch. The muscles were flabby, so the fracture was easily brought into apposition and kept there by strapping. The arm was put up in extended position. Within a month the fracture was healed by bony union, with no deformity and with full use of the arm. A bony union of this fracture, especially at an advanced age, is very uncommon.

Berliner klinische Wochenschrift, November 21, 1904.

The Treatment of Lupus by the Practitioner.—Dreuw describes a method of treating lupus which is especially serviceable for the general practitioner, since it does not involve the use of complicated apparatus, such as that required for the production of Finsen or *x*-rays, etc. The affected portions are first well frozen with ethyl chloride spray, and then commercial hydrochloric acid is thoroughly rubbed into the tissues with a cotton-tipped wooden toothpick. On contact with the acid the lupus tubercles turn dirty white and may readily be distinguished. It is an advantage to use hydrochloric acid saturated with free chlorin gas. In cases where the lesion is extensive, involves the lips or nose, or in tuberculous abscesses and fistulous tracts, general anæsthesia may be employed. After this cauterization a grayish brown slough forms in one or two days, which drops off after two to four weeks. Together with this, the superficial lupus tubercles come away, and the deeper ones, if numerous, are subjected to one to three repetitions of the treatment, at intervals of three to four weeks. At the end of from three to six months the lupus ulceration is transformed into a tissue covered with epidermis, and in which few, if any, tubercles persist. These isolated individuals are punctured with pointed capillary tubes filled with hydrochloric acid. The results of the treatment are said to be very satisfactory, and, when available, the Finsen light, etc., may be used in combination with the acid applications. Microscopical examination of tissue removed immediately after the cauterization shows that the acid causes a prompt and profuse emigration of leucocytes from the vessels into the tuberculous nodules. Control observations on normal tissue do not show any such accumulations of leucocytes.

Münchener medizinische Wochenschrift, Nov. 22, 1904.

The Relations Between Tonsillar Disease and Acute Articular Rheumatism.—Gürich believes that most cases of acute articular rheumatism have as a concomitant a more or less severe chronic follicular tonsillitis. The most prominent feature in this condition is the formation of the tonsillar plugs, which consist of desquamated epithelium and bacteria. Out of seventeen cases of acute articular rheumatism treated by the author, all but three had these plugs in the tonsillar crypts, and the author has been treating the tonsils in acute rheumatism with very good results in preventing recurrences. His theory is that the rheumatic poison, in entering the body through the tonsils, sets up an acute inflammation in these organs. The poison remains in the crypts in a latent but still virulent state, and sets up a chronic desquamative inflammation of the crypts, with the formation of plugs. Exacerbations of the local process may easily cause the general disease to recur.

How Shall We Facilitate the Expansion of the Lung After Thoracotomy for Empyema?—Hofman believes that the most advantageous plan of treating the collapsed lung due to exudates in the pleural cavity is by closing the operation wound as soon as possible. After performing the usual resection as low down as possible, the patient is turned on the side, so as to drain out the fluid completely. No drainage tube is inserted, and the wound is covered with a thick dressing, of which only the outer layers are renewed during the succeeding days. On the third to the fifth day, according to the amount of discharge expected, the dressing is removed, and two small rubber tubes are carried through the almost closed incision just down to the pleura. During the first days the lung has slowly been regaining its normal proportions and decreasing the size of the abscess cavity, while entry of air into the pleural cavity need no longer be feared, as the parietal and costal pleura have become adherent.

Obliteratio Uteri Totalis.—Frank gives this name to an operation he has practiced since 1887 in order to remove the diseased uterine mucosa *in toto*. To permit the typical operation, the uterus must be freely movable, so that the peritoneum need not be opened. The cervix is freed from its attachments by an anterior and posterior incision and is drawn down. The uterus is split by lateral incisions and its entire mucosa dissected up, together with a layer of the muscular walls. As one proceeds toward the fundus, the organ is inverted, and the removal of the lining of the tubal angles can easily be effected. The raw muscular surfaces are then opposed by catgut sutures, beginning from the fundus down, so that reinversion is accomplished and the entire cavity obliterated. The indications for the operation comprise intractable climactic flowing, neuroses due to disease of the endometrium, chronic endometritis, complicated with obstinate retroflexion, and some cases of submucous fibroids. The author also thinks that, carried out in the intractable cases of endometritis in older women, it would prove a valuable prophylactic against carcinoma. The author gives the histories of a number of patients who were benefited by the measure.

Deutsche medizinische Wochenschrift, November 24, 1904.

Pocket Mercury Manometers for Clinical Use, with Observations on an Improvement in the Riva-Rocci Armlet.—Sahli describes two new forms of mercury manometer designed for the pocket, in order to simplify blood pressure determinations at the bedside. One type consists of two vertical U-tubes having two of their branches joined. Each tube is half filled with mercury, the excursions of which are thus reduced to half their usual amplitude. The instrument is accurate and compact, but the scale is so short that close readings are hard to obtain, and the author subsequently developed another form, which he considers satisfactory. It consists of a single U-tube of such length as is necessary to contain the column of mercury while at rest, and a graduated prolongation fitted to one arm of the U by an accurately ground joint. This receives the rising column when the instrument is in use. The apparatus fits into a case of small size, which also serves as a standard for the manometer when put together. The improvement in the Riva-Rocci Armlet consists in several minor changes in its construction, which render it more convenient to apply.

The Treatment and Prognosis of Sterility in Women.—Bumm says the usual causes of sterility in women are two, defective development of the genitals and gonorrhœa. The tendency has been greatly to overestimate the importance of gonorrhœa as a source of sterility, and the author believes that two-thirds of the cases are due to congenital errors of development, and the remaining one-third comprise acquired sterility, which, of course, is often the result of gonorrhœa. The developmental defects may be of all degrees, and may involve only a part or the whole of the genital tract, and the pathological anteflexion of the uterus associated with dysmenorrhœa is a form of this infantilism. Poorly developed ovaries, with much contorted infantile tubes, are unfavorable to conception, as well as abnormalities of the cervix in size and direction, and in the capacity of the vaginal vault for retaining the semen deposited there. Fibrous stenosis of the internal os, with or without flexion of the corpus, is a potent cause of steril-

ity, though why this should be the case is not apparent, for the stenosis of itself is not a sufficient impediment to hold back the spermatazoa. Every case of sterility requires protracted observation, and especially microscopic study of the cervical secretion in its behavior to the spermatazoa, in order to arrive at a conclusion as to the nature of the impediment. Stereotyped treatment is usually ineffectual, and may be dangerous, as when a cervical gonorrhœa is passed on to the tubes by dilatation of the cervix. Infantilism of the tubes and ovaries alone gives a good prognosis, and if the uterus is of fair size and menstruation is normal, treatment is likely to be successful. The author believes that the rudimentary uterus and adnexa may be stimulated into growth by one plan only, and that is the intrauterine application of the constant electrical current. If the uterus remains atrophic, however, conception is not likely to follow attempts to correct the position of the usually ante or retroflexed organ. Massage and pessaries may effect dilatation of the vaginal vault, and constriction or deformity of the cervix is best treated by discission. Fibrous stenosis of the internal os is most likely to yield to gradual dilatation carried out over long periods of time. Gonorrhœal sterility also often yields to free splitting of the cervix up to the vaginal vault.

The Action of Iodides in Arteriosclerosis.—Romberg prefaces a study by Müller and Inada by saying that, notwithstanding the constantly increasing use of iodides in the treatment or arteriosclerosis, the rationale of their action is not understood. Various investigators have shown that iodide of potassium has no vaso-dilating action, and the other hypotheses advanced have also been shown to be groundless. The present authors administered potassium iodide to healthy young men in daily doses of 0.3-0.5 g. for a period of from ten to fourteen days. At the end of this time the blood was examined, and was found to have lost very markedly in viscosity, in some cases the diminution, amounting to ten per cent. when the internal friction was treated by the method of Hirsch and Beck. This observation explains most of the therapeutic effects of the drug, as its action in producing greater fluidity of the blood is equivalent in a way to dilatation of the vessels, since it causes the stream to flow more rapidly. This observation also explains why the use of the drug must be long continued in order to be of value. An interesting feature is the fact that the serum does not become more fluid to the same degree as the whole blood, in some cases even being increased in density, so that the change appears to depend on alteration in the cellular elements alone.

French and Italian Journals.

Death Due to Dental Caries.—Broca observed this interesting case. The patient was a boy of 4 years. The first sign of trouble was toothache, of which the child complained on June 22. A physician diagnosed a small dental abscess at the root of the first lower molar. But the occurrence was thought of little consequence, and was forgotten till the child's condition became serious. On July 1, after a night of fever and delirium, the patient was placed under a physician's care, 24 hours of valuable time being lost at this time, before the morning visit of the physician. On July 2 the patient was seen by the writer. In the right preauricular, parotid, and angulo-maxillary regions there was diffuse swelling, œdematous and non-phlegmonous. The skin was neither red nor puffy. There was a slight cloudy discharge from the ear. Nevertheless, the writer did not consider the trouble of auricular origin, for there was no appreciable modification in the retroauricular region, and it was not anywhere painful to pressure. There was no swelling over the tip of the mastoid. Moreover, all of the swollen part over the ascending ramus and the body of the jaw was exquisitely painful to pressure. The writer considered the trouble to be without doubt an osteomyelitis of the maxilla. Pus was found around the carious inferior molar. This was the portal of entry of the infection, and the prognosis was very grave. As permission could not be gained at once for operation, it was deferred until the next morning. Incision was made along the border of the inferior maxilla. There was no pus, but two teaspoonfuls of a very fetid, brownish fluid flowed out. The effect of the operation was negative. The local swelling was diminished, but the general infection was not relieved. Death soon followed. The writer thinks that a correct diagnosis, with early operation, would have saved the child, and he urges the necessity of careful attention to a carious inferior molar in a child. Early extraction is indicated if the cavity cannot be perfectly filled.—*Journal des Praticiens*, October 25, 1904.

Keloid of Tuberculous Origin.—A case of this nature is reported from Jaboulay's service. The patient, a boy of 16 years, is remarkable for his small stature and his infantilism, both being of thyroid origin, the gland appearing to be almost absent. But the most interesting feature is the lesion on the neck. Without hereditary tuberculosis, without any pre-existing visceral lesion, this boy has had for four years tuberculous adenitis. Two years ago, after the application of emollients and one application of iodine, which slightly desquamated the skin, a red area, elevated above the normal skin, made its appearance. From that time it has gradually increased in size to a large keloid. Keloid is rare after the application of iodine, and then only when the application is repeated till the skin is burned. The ganglions in this case never suppurated, neither was there ever any suppuration of the skin. No surgical intervention has been made. All of the ganglions are freely movable, not appearing to be caseous, and the skin is not at all adherent. The keloid has really appeared spontaneously. The writer then refers to the various experiments that have been made in order to prove that keloid is of tuberculous origin. In the reports of one observer, tuberculosis has been produced after the inoculation of keloid. In one other report, virulent, generalized tuberculosis was induced by the inoculation of keloid. The writer reports this case as a clinical demonstration of the possible rôle of the tubercle bacilli in causing keloid. He thinks that at least certain keloids may be only atypical cutaneous tuberculosis.—*Lyon Médical*, October 30, 1904.

Suprarenal Insufficiency.—G. Bossuct has observed nine cases of acute suprarenal insufficiency of variable intensity, ending not in death, but in recovery. The syndrome that has been noted in these cases is no other than that known classically as characteristic of suprarenal insufficiency, the only peculiarity consisting in its manner of development. The symptoms develop very rapidly, and besides, they can disappear spontaneously, at the same time with the illness which they accompany. For this acute suprarenal insufficiency is due to an infection or an intoxication. The writer has always noted that the insufficiency occurs in the course of a toxic or infectious malady, medical or surgical. The longest duration of this acute suprarenal insufficiency that the writer has observed was one month and a half, in a woman who was suffering from an outbreak of syphilis. This affection has yielded to the employment of suprarenal extract. The patients treated by the writer recovered from the suprarenal insufficiency in a few days. In eight of the nine patients the cure appears to be definite, for the symptoms, which disappeared with the casual illness, have not returned after an interval of several months. In one case of recurrent bronchitis, however, with every attack, the patient became asthenic and the skin became dark. But when the attack of bronchitis passed, so did the insufficiency. It would be very difficult to determine to what lesion of the capsule the syndrome corresponds. The fact that this insufficiency is secondary to an intoxication or infection is the characteristic which gives it a true clinical importance.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, October 30, 1904.

A Case of General Paralysis.—Dufour and Brelet have had under their care a patient suffering from general paralysis of the melancholic type. His intellect is affected, and amnesia has developed. There is exaggeration of the knee-jerk, and Babinski's sign is present in both feet. The cerebrospinal fluid contains a large number of lymphocytes. The beginning of this paralysis dates back to only three years after a syphilitic infection. This infection began five years ago. For the last six months incapacity for work has been complete. The first changes in disposition date from about two years back. The case is one of syphilis, which three years after the chancre, has produced nervous lesions which are not ordinarily manifested till after the lapse of from ten to sixteen years. It is a very unusual case. The explanation is not known, although various suggestions may be made without proof, such as hereditary or acquired predisposition of the subject, the quality of the syphilitic virus, the failure of specific treatment, and the alcoholic factor which exists in this instance, but which was only a consequence of the cerebral troubles, and did not precede them.—*Gazette des Hôpitaux Civils et Militaires*, November 8, 1904.

Therapeutic Considerations in Two Cases of Phlebitis of the Lower Extremities.—Raffaello Ottolenghi details two cases of phlebitis of the lower extremities, which would have seemed like puerperal phlebitis, had there been any fever present. The absence of fever denoted that the phlebitis was non-infective. Favre considers such phlebitis as due to the increase of mineral matter in the blood, especially calcium salts, diminished oxidation, lessened elimination of urea, lessened alkalinity of the blood, and increase of fibrin forming materials in the blood due to the puerperal state. In both cases described the pain and tenderness of the inflamed veins was great. The author used an ointment of oleosulphonate of soda, or tigenol, and had it applied lightly over the inflamed surface several times a day. In the course of twenty-four hours the pain was greatly relieved, the tenderness passed away after some days, and in one case the patient was entirely well after ten days.—*La Riforma Medica*, October 26, 1904.

Ups and Downs of a Virginia Doctor. By his lifelong and personal friend, Clarence A. Bryce, M.D. Ashland, Virginia: Ashland Printing Company, 1904.

The "local color" of this little book is purely southern, as the author is a Virginian. He gives in the opening chapter a description of his graduating exercises. The narrative then continues with the experiences of his daily life, and describes the "ups and downs" of a physician's career. The style is colloquial, and some of the experiences recounted are quite amusing.

De l'Artérite Syphilitique. Par Le Dr. J. Darier, Médecin de l'Hôpital de la Pitié. Avec 18 figures dont 16 hors texte. Paris: J. Rueff, 1904.

The writer's long experience has qualified him to write with authority and he presents in this little monograph a very clear, complete, but concise résumé of this subject. The chapter on the clinical diagnosis of arterial syphilis in its various phases deserves special mention. The different questions concerning differential diagnosis, often so difficult of solution in practice, are examined in detail. Treatment also is discussed with admirable precision.

Qualitative Analysis Brief. By Allard Memminger, M.D., Professor of Chemistry, Hygiene, and Clinical Urinary Analysis in the Medical College of the State of South Carolina, etc. Second Edition, Revised and Rewritten. Philadelphia: P. Blakiston's Son & Co., 1904.

In the second edition of this little book no changes have been made in plan and scope, but additions have been inserted, rendering the treatment of its subject more complete. Dr. Memminger's "brief" is a very simple, elementary syllabus of qualitative chemical analysis which will prove useful to freshman students in colleges and scientific schools. The insertion of tests for the principal drugs, such as salol, carbolic acid, etc., makes it useful to medical students. The author's English will stand a little trimming and polishing here and there, but the book has the great merit of brevity.

Practical Dietetics with Reference to Diet in Disease. By Alida Frances Pattee, Graduate Boston Normal School of Household Arts; Instructor in Dietetics, Bellevue Training School for Nurses, Bellevue Hospital, New York City. Second Edition. Revised and Enlarged. Published by the Author, 52 West Thirty-ninth Street, New York City.

The importance of a knowledge of dietetics is so paramount that a book of this nature, written by one so experienced in this field, will fill a need felt by many classes. The original purpose of the author was to offer a manual and textbook for the use of the nurse in the classroom. But this little volume has much of value for many others. Diet in infancy forms an important section and must prove of use to mothers. Physicians also will find the book very helpful. The original matter has been carefully revised, and important additions have been made to this second edition.

Blood Pressure as Affecting Heart, Brain, Kidneys, and General Circulation. A Practical Consideration of Theory and Treatment. By Louis Faugères Bishop, A.M., M.D., Physician to the Lincoln Hospital, New York; Late Chairman of the Section on Medicine of the New York Academy of Medicine; Member of the New York Pathological Society, the Neurological Society; Alumni Association of St. Luke's Hospital, etc. New York: E. B. Treat & Co., 1903.

The author here pleads for clinical observation, and objects to a blind reliance on laboratories and apparatus. Although these latter are valuable, still it must not allow us to neglect other powers. The work treats of the alterations, physiological and pathological, in the blood vessels, and the writer divides his cases into primary low pressure, secondary low pressure and high tension cases, and points out the prevalence, the fortunate response to treatment, and the advantages of general management of these conditions.

Hare's Practical Therapeutics. A Text-Book of Practical Therapeutics; With Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. de Schweinitz, Edward Martin, and Barton C. Hirst. New (10th) edition, much enlarged, thoroughly revised and largely rewritten. Philadelphia and New York: Lea Brothers & Co. 1904.

The tenth edition of this deservedly successful book appears to have undergone thorough revision and pruning where needed, while the addition of new material has considerably increased the number of pages. Its merits have been so frequently pointed out in these columns that it needs no further commendation at this time. It is undoubtedly one of the most practically useful books of reference that a busy man can have on his shelves.

Manual of Serum Diagnosis. By Dr. O. Rostoski, University of Würzburg. Authorized Translation by Dr. Charles Bolduan, New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1904.

This is a little volume of eighty-six pages which summarizes in truly admirable fashion what is known concerning the practical application of serum diagnosis for clinical and forensic purposes. In addition to a discussion of the theoretical considerations concerning the nature and value of the Gruber-Widal reaction, working directions for carrying out the test are given, and in an appendix a series of diagrams illustrate the pitfalls likely to entrap an inexperienced observer. The use of dead formalin cultures of typhoid bacilli for macroscopic reactions is said to yield reliable results, and directions are given for the preparation and application of such diagnostic media. The diagnostic value of agglutinating reactions in other diseases, such as tuberculosis, glanders, plague, cholera, dysentery, and paradysentery, etc., is discussed, but set down as very doubtful, and the medico-legal applications of precipitin reactions are briefly outlined. The information is all concisely given, and of the most practical nature, while the translation is exceptionally well done.

A History of Columbia University, 1754-1904. Published in Commemoration of the One Hundred and Fiftieth Anniversary of the Founding of King's College. New York: The Columbia University Press, the Macmillan Company Agents; London: Macmillan & Co., Ltd., 1904.

Columbia College, since its founding, in 1754, by George II., has had an eventful and interesting history. The development of this important seat of learning is intimately connected with the growth of the colony in which it had its birth, and the youthful vicissitudes of the one were shared by the other. The present attractive volume is the work of various hands, about half of the text being contributed by Dean Van Amringe, and the remainder by numerous other members of the teaching and administrative staff. The rise and growth of the School of Medicine is set forth by Professor F. S. Lee of the Department of Physiology in most interesting fashion, and the progress of medical instruction is traced through the hundred and thirty-seven years that have elapsed since Dr. Clossy and his five associates founded this—the second school of medicine in the new world. Since then it has flourished under the successive names of King's College, Columbia College, the College of Physicians and Surgeons, again Columbia College, and lastly Columbia University, but has steadily advanced in all desirable directions and always has represented the highest type of medical endeavor. At present it has due part in the prosperity of the university, and is continually gaining in completeness of equipment and facilities for effective instruction. Dr. H. H. Rusby, Dean of the College of Pharmacy, contributes an admirable sketch of the history of that institution, which is the latest addition to the affiliated colleges of the university.

The interest of the volume is much enhanced by many reproductions of old prints and photographs showing the college buildings at various periods and by the excellent collection of portraits of those who have contributed to its development.

A Text-Book of Quantitative Analysis by Gravimetric, Electrolytic, Volumetric, and Gasometric Methods. With seventy-two laboratory Exercises giving the Analysis of Pure Salts, Alloys, Minerals, and Technical Products. By J. C. Olsen, A.M., Ph.D., Professor of Analytical Chemistry in the Polytechnic Institute of Brooklyn, formerly Fellow of the Johns Hopkins University. New York: D. Van Nostrand Company, 1904.

The present very satisfactory volume seems well adapted to fulfill the requirements of an adequate working exposition of modern quantitative analysis. After an introductory section on general working methods, etc., the determination of metals is discussed in four chapters, and that of acids in two more. Three chapters are allotted to the analysis of alloys and four more to the analysis of metals. An essentially modern section is that devoted to electrolytic methods, which are described with full technical details and illustrations of the apparatus required. Volumetric analysis is given the prominence it deserves, and occupies nine chapters divided under a general discussion of the method, oxidation and reduction methods, and precipitation methods. About a fifth of the volume is devoted to technical procedures, and the analysis of iron, steel, coal, water, fats, and oils, and gases is described on practical and modern lines. The mathematics of analytical work, including the application of logarithms, receives special treatment in the last chapter, and the book closes with twenty pages of tables and a fairly good index. The illustrations are all outline drawings of excellent execution, and are freely introduced to show the most approved plan of setting up apparatus. The volume should prove equally useful as a laboratory handbook or as a work of reference, and will no doubt find many friends.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, Held December 1, 1904.

DR. ANDREW H. SMITH IN THE CHAIR.

THIS meeting was held under the auspices of the Section on Otology, and the subject of discussion was that of "Diseases of the Ear in Childhood."

The Anatomy of the Child's Ear, Emphasizing Points of Practical Importance.—Dr. WM. SOHIER BRYANT read this paper, illustrating important points by use of stereopticon pictures. In a composite photograph it was shown that, taking the labyrinth as a center, the temporal bone developed peripherally almost entirely. The meatus did not develop fast during the very early years of life, but was completed in growth about the fifth year. The antrum was nearly full size at birth, and the mastoid cells were present in the upper, but not the lower part of the mastoid process until the fifth or sixth year, and they did not attain any size until nearly puberty. The lower wall in the infant was very thin and easily perforated. The axis of the meatus in an infant was directed slightly upward. At birth it had no lumen, *i.e.* its upper and lower walls were in apposition, but a few days after birth changes occurred which made the canal patent. The Eustachian tube in an infant was placed at a different plane from an adult's; in the latter it went at an angle of about 45° downward, inward, and forward; in infants it lay more nearly horizontal.

Dr. CHURCHILL CARMALT presented some specimens showing channels in the parotid gland. He said the lymphatics of the middle ear and mastoid as yet had not been properly worked out from the pathological standpoint. The superficial lymphatics of a child at the seventh month were demonstrated. These had been injected through the umbilical vein and lymphatics. The injections were also given in the pinna, external auditory canal, and base of the drum membrane. In the specimen one could see the channels below the parotid gland, passing down the neck to the clavicle, without a gland being interposed in some cases. In some instances these channels passed from gland to gland readily. Similar preparations were shown with the parotid gland cut away. Large channels were shown passing down the jugular to its junction with the subclavian. In adults the distribution of the channels was proportionately not much greater than in children; the size was about the same, except in pathological specimens.

The Pathology of the Infant's Ear Underlying Aural and General Disease.—Dr. JOSEPH A. KENEFICK referred to the various ways of escape of purulent secretions from the middle ear, through sutures or foramina, sometimes upward and outward to the antral roof, or backward and behind and above the ear. Purulent secretions might go through an imperfectly closed roof of the antrum and tympanum, and might set up a meningitis, or brain abscess, or abscesses in the neighborhood of the temporosphenoidal lobe. Extension might be through an imperfect floor of the tympanum, or along the lymphatics or blood vessels. Again, extension might occur to the meninges directly through the labyrinthine wall. When the mastoid antrum was present thrombic involvement of the sigmoid sinus was rare; but in older children extension might occur from the antrum into the neighboring cells. One should bear in mind the possibility of a purulent meningitis, the extension of infecting microorganisms passing along the sheaths of nerves and along blood-vessels. Deafness and deaf-mutism were very common in scarlet fever. Cerebrospinal meningitis was the next most important cause of otitis media. Of 100 infants, two years and under, in whom there was a latent otitis media, 44 died of gastrointestinal disease. Of the 200 tympanic cavities examined, exudates were found in 154, 33 of which were sterile. Among these 154, the tympanic membrane was found to be perforated only nine times. This was the form of otitis media described as otitis concomitans of infancy. Whether of the fulminating or latent type, it had the same complications and terminations. If bronchopneumonia caused the death of one-third of all children under two years of age, then the relation between this disease and otitis must challenge our attention. The association of cerebral complications in pneumonia was brought out in statistical tables.

The Inflammation of the Ears of Children, Original or Derived from Other Diseases.—Dr. ABRAHAM JACOBI said that otitis media might be a merely surface affection of the mucous membrane, or it might be very complicated with suppurations, facial paralyses, meningeal disorders, etc. Purulent otitis was frequently found at autopsies. In 100 infants who had died from a variety of conditions, otitis was found in 81; but eight were unilateral; therefore, there were 154 diseased ears among the 100 infants. A latent otitis media had been found in 75 per cent. of all children examined. Among 38 children who had been excluded from school, nine were found to be suffering from inflammatory ear disease. In another series of 225 children excluded because they failed to make sufficient progress in their studies, 80 were found with previous or still persistent middle-ear inflammations. A normal nasopharynx contained many germs; in catarrhal conditions there occurred a relative increase of these germs, and, with the attendant lowered vitality, an increased possibility of a pneumococcus, a diphtheritic, or a streptococcus infection. A direct cause of diphtheritic otitis media was to be found in cases of nasopharyngeal or nasal diphtheria. In diphtheria there might be a slight swelling of the mucous membrane of the throat, accompanied by a slight diphtheritic deposit, which might close the Eustachian orifice. In other cases the diphtheritic membrane invaded the tube and caused ultimately a perforation of the drum membrane. One of the most frequent causes of otitis media was scarlet fever; but the disease was not so frequent after measles, diphtheria, etc., as after scarlet fever. He believed that the influence of hypertrophied tonsils had been much exaggerated. The relation of the tonsils in many other diseases as a cause had been greatly overestimated; it seemed to have been forgotten that the tonsil was surrounded with a firm capsule. He wished to emphasize the influence of coughing, vomiting, and sneezing in forcing infections to the middle ear through the Eustachian tubes. Reports regarding the frequency of tuberculous otitis media differed. One man had reported 127 cases of tuberculous otitis media out of 17,087 ear cases examined. Another reported that it occurred in 4.4 per cent. of chronic ear cases. The middle ear was often involved in cerebrospinal meningitis. The importance of prevention was dwelt upon, and Dr. Jacobi said that catarrhal conditions should be treated before doing harm. No operations should be attempted unless absolute cleanliness was obtained. Reference was made to the methods employed by the speaker in the treatment of certain conditions, and he claimed that sprays could not take the place of irrigations when properly done. Children with otitis media should be in bed, and no feather pillows should be allowed. Purgatives should be given. The severe pain should be controlled by cocaine dropped into the ear. Warm fomentations, with or without antiseptics, should be tried. If incisions were required, they should be made posteriorly and inferiorly. The expulsion of the pus through the incised wound might be facilitated by the use of the Politzer bag. The pus should be carefully wiped from the external auditory canal, and then boric acid introduced; when the latter became saturated with pus it should be wiped away and more introduced. After referring to various methods of treatment, as found in the recent literature, he said that chronic diseases of the mucous membrane of the ear would never get well until any accompanying chronic trouble of the nasal or nasopharyngeal mucous membrane had received attention.

The Surgical Treatment of Diseases of the Ear in Childhood.—Dr. EDWARD B. DENCH said that whenever

patients suffered from an acute otitis media which gave rise to high temperature, operative treatment was demanded, and an early and free opening was indicated. When about to incise the drum membrane he always used a general anæsthetic. The incision was made free. Great care should be taken to sterilize the canal and drum, as well as instruments and hands. This treatment was applied to the prevention of recurrent attacks. If an examination revealed adenoid vegetations of the pharyngeal vault they should be removed; hypertrophied tonsils should receive proper attention. By attention to adenoids and hypertrophied tonsils, recurrent attacks of otitis media might be entirely prevented. Whenever there was a chronic suppurative inflammation of the middle ear, an acute condition might be engrafted upon it and give rise to very alarming symptoms. In mastoid involvement occurring in children, the speaker was inclined to operate early. Free drainage was of the utmost importance in childhood. In all cases of middle-ear inflammations the mastoid should be opened and the typical mastoid operation done if the temperature was not relieved by free incisions into the drum membrane alone. In dealing with epidural abscesses, he advised against breaking down all the adhesions, which were Nature's way of limiting extension of the abscess. In cases of a diffuse meningitis of purulent or serous variety, the condition was different. If a diagnosis was made early and the cranial cavity opened, the infection might be packed off by means of iodoform gauze and the patients might recover. Almost all cases of suppurative and diffuse meningitis proved fatal; in serous cases better results might be expected. Non-suppurative cases occurring in young life called for an examination of conditions within the nose and nasopharynx and their correction, which would tend to prevent an extension of any chronic inflammatory process to and within the tympanum. Prompt operative measures were indicated in chronic purulent otitis media. The ears should be cleansed thoroughly with some antiseptic solution, such as bichloride of mercury, before paracentesis was performed. Hypertrophied tonsils and adenoids should be removed. The general hygienic surroundings of the patient should be looked into, as well as diet, baths, etc. In tuberculous infection of the middle ear the most radical operation was needed to remove all the diseased area and to prevent systemic infection. A large and patent meatus should be obtained.

Dr. L. Emmett Holt said that there was no argument regarding the necessity of early incision in the drum membrane in these cases; paracentesis did not add to the patient's danger. One of the most interesting questions was whether or not the mastoid operation was not done more frequently than was absolutely necessary, and, if done, whether the patient would not have done better if it had not been performed. All practically agreed that the tendency was to carry the thing farther than real conservative medicine and surgery indicated. The continuation of the elevated temperature after incising the drum membrane was a sufficient indication for mastoid operation. Young children did not bear operations well. The statistics at the New York Foundling Asylum for five years, where there had been extensive epidemics of measles, scarlet fever, grippe and pneumonia cases, diphtheria, etc., showed there were as many as 535 cases of otitis media of acute form, and 15 cases of mastoiditis. There had been performed 880 autopsies during those five years, and there had been found the following: Abscesses from otitis, none; meningitis from otitis, 2 cases; meningitis from either acute infections not associated with mastoid disease, 12 cases; pneumonia with otitis, 8 cases; pericarditis with otitis, 2 cases; diphtheria with otitis, 1 case, and empyema with otitis, 1 case. The mastoid operation was performed in infants 9 times, with 5 recoveries and 4 deaths. He believed that too many mastoid operations were done in infants and young children.

Dr. Kipp emphasized the necessity of an ophthalmoscopic examination in cases of ear disease, and said it was astonishing to see the large number of cases, especially in children, in which symptoms of optic nerve irritation existed.

Dr. Emil Gruening said he had been attending at the Mt. Sinai Hospital for twenty-five years, in charge of the children's service, and had examined the eyes and ears of all cases coming into the institution. In the aural service at present there were twelve cases of mastoid disease in children. He did not believe that all the deductions made by Dr. Holt were correct; they did not perform operations without positive indications. Many of these patients did get well without operation. He referred to cases of illness in children existing for long periods of time, an apparent bronchopneumonia or gastroenteritis, for instance, in which absolutely nothing would be found in the lungs or in the gastrointestinal tract, but there would be found an otitis media. He could not explain the connection, but such cases did exist.

Dr. Gorham Bacon emphasized the importance of investigating the pus of the middle ear and learning whether it was a streptococcic, a pneumococcic, or a staphylococcic infection; the question of operation on the mastoid depended upon the kind of germ that was present. In reference to Dr. Dench's statement that after doing a paracentesis without the occurrence of a fall in temperature, a mastoid operation should be performed, Dr. Bacon said that it seemed to him that one could afford to wait if it was a simple staphylococcic infection and with not much elevation of temperature. But if it was a pneumococcic or a streptococcic infection, one could not afford to wait long. He called attention to some latent pneumonias that might exist which would not develop symptoms until three or four days after incision of the drum membrane, and yet would keep the temperature up after the liberation of the pus. It was important when the temperature was high to be very careful about giving anæsthetics.

Dr. Francis J. Quinlan said that up to 1872 middle-ear disease received but little attention, and since the pathological conditions attendant upon Waldeyer's tonsillar ring had been studied, more attention had been given the middle ear. Operations were done every day for lymphoid hypertrophies of the pharyngeal vault. More often was tonsillotomy done and not tonsillectomy, adenotomy, and not adenectomy. With regard to irrigations of the nose, one should bear in mind that there were a great many forms of bacteria present, and, in a struggling child, there was danger of infection being carried through the Eustachian tube. With regard to the use of boracic acid, if there was a small perforation and boracic acid was packed in, it would be hard for the pus to escape. With regard to the question of operating for adenoids or hypertrophied tonsils in children with middle-ear disease of acute form, it seemed to him that the depletion of the parts and the removal of substances which might be reeking with infection was the better method. Seldom was the external auditory canal properly cleansed before the operation of paracentesis; this canal should be rendered perfectly sterile, and then no danger would result from forcing germs into the middle ear.

Dr. Lewis, referring to early operative measures in otitis media, believed it was not advisable to be too conservative; if one waited too long before operating it would possibly mean more than a simple mastoid operation.

Dr Toeplitz spoke of glandular swellings of the mastoid not all being due to mastoiditis; they might complicate certain infections, might result from trauma of the scalp, etc. It should not be stated that all glandular swellings of the mastoid were always of mastoid origin.

Dr. A. Jacobi referred to an old saying of his, that a good way to kill babies, the subjects of diphtheria, was to force open their mouths, make them struggle, and then to use irrigations; words to this effect he had printed a dozen times during the past forty years, and he did not wish to be misunderstood regarding the use of irrigations. Irrigation of the nose was the only ready means of getting at the child's nose and throat. He preferred the warm saline solution for this purpose. When he introduced

boracic acid into the external ear it soon became moistened and soft, and then could be readily removed. He never packed it in.

Dr. DENCH said that in performing operations of the kind referred to, general diseases should always be excluded of course. He was much interested in Dr. Holt's statistics, but the statistics of the New York Eye and Ear Infirmary, also those taken from private practice, showed the number of fatal cases from otitic meningitis, cranial complications, and otitic suppurations was very much larger.

Dr. HOLT said that the patients referred to were not admitted to the hospital, but were inmates of the institution.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held November 25, 1904.

Dr. A. PALMER DUDLEY, CHAIRMAN.

Large Lipoma of the Labium Majus.—Dr. ARNOLD STURMDORF presented this specimen, which was shown simply as a gynecological curiosity. The speaker quoted the statement of Kelly that lipoma of the labia majora was one of the rarest gynecological affections, no writer having as yet recorded more than a single instance in his own practice. In the Johns Hopkins Hospital Reports, Vol. III, page 321, that author collected twenty cases, as embraced in the whole scattered literature on the subject.

Sarcomatous Degeneration of a Uterine Fibroid.—Dr. STURMDORF presented this specimen, together with microscopical sections. It was a typical example of this form of degeneration, and the speaker said that the occurrence of sarcoma as a direct degenerative change in uterine fibroids seemed to be established, but the genetic relation of the malignant to the benign elements of these tumors was still the subject of controversy. It was scarcely necessary, Dr. Sturmdorf said, to emphasize the grave prognostic bearing of the possibility of such a degenerative process.

Dr. HERMAN J. BOLDT referred to the case of a woman who had been operated on about three months ago for what was supposed to be an ordinary fibromyoma. She had a large tumor filling the lower abdomen, which the speaker supposed was a pelvic abscess, and probably due to infection from one of the ligatures. Instead of an abscess, he opened into a hematoma of immense size, and on evacuating this he found large masses of sarcomatous tissue.

Dr. RALPH WALDO said he had seen a number of cases in which fibroid tumors of the uterus had undergone this variety of degeneration, and operative interference had been postponed simply because the patients were fairly well along in life, and it was thought that after the menopause there would be no further trouble from the growths. He could recall at least two cases in which these degenerative changes took place after the menopause.

Dr. HARRIS recalled a number of cases in which the sarcomatous growths were located on the posterior surface of the uterus, and the question had arisen in his mind whether these growths had a special predilection for that region, and if so, whether there was any anatomical reason for it.

Cystic Papilloadenocarcinoma of the Ovary.—Dr. STURMDORF showed this specimen, which had been removed from a widow of forty years who had presented herself merely because of the increasing prominence of her abdomen. The growth had never given rise to any pain or discomfort. Upon opening the abdomen, this mass was found, consisting of the uterus and both adnexa. It was universally adherent, and contained a large number of cysts. The peritoneal cavity, which contained an enormous quantity of serosanguineous fluid, was studded with metastatic implantations.

Primary Carcinoma of the Omentum with Peritonitis Carcinomatosa.—Dr. STURMDORF presented this specimen (see MEDICAL RECORD, November 26, 1904, p. 874).

Dr. A. PALMER DUDLEY said he had seen quite a number of these cases in which operation was followed by recovery. After free incision of the abdomen, washing out with saline solution, and allowing the entrance of air he had seen these patients get well and remain so indefinitely. Why this type of mixed growth, which was essentially a malignant disease, should be affected beneficially by this method of treatment was a question for the pathologist to answer.

Dr. BOLDT said he could recall a number of cases of so-called carcinoma of the omentum in which recovery took place, but he doubted the accuracy of the pathological report in those instances. In a case of true carcinoma he did not believe that mere incision of the abdomen and the entrance of air and saline solution would effect a cure.

Dr. WALDO said that almost two years ago he operated on a patient at the Post-Graduate Hospital, removing a large intraabdominal mass which was submitted to Dr. Brooks, who pronounced it unquestionably an endothelioma. No signs of a recurrence could be found up to the present time.

Dr. GEORGE H. BALLERAY said he quite agreed with Dr. Boldt that carcinoma of the peritoneum could not be cured by the use of saline solution or by air. In those cases in which a cure followed this method of treatment the disease was not carcinoma, but tuberculosis. True cases of carcinoma in this region were probably incurable by any method of treatment.

Dr. Sturmdorf said the apparent frequency of sarcomatous growths on the posterior surface of the uterus, to which Dr. Harris had referred, was perhaps due to the frequent involvement of the retroperitoneal glands. He referred to the difficulties surrounding the pathological diagnosis of growths involving the ovary or omentum, and stated that the cases of so-called carcinoma of the peritoneum that had been cured by simple incision were probably either inflammatory pseudoneoplasms or tuberculosis.

Simultaneous Cholecystectomy, Appendectomy, and Removal of Ovarian Cyst with Twisted Pedicle.—Dr. L. J. LADINSKI reported the case of a woman, a widow, 42 years old, who had had ten children and three miscarriages. Menstruation had ceased six months before. For the past ten years she had been subject to attacks of cramp-like pain in the right upper abdomen, which had become more frequent and more severe during the past year. Six years ago she was jaundiced for about two weeks, but not since then. During the past two years the abdomen had gradually increased in size. On June 17, 1904, when Dr. Rabinovitz saw the patient for the first time, she complained of severe pains in the right hypochondriac region, which radiated downwards to the right pelvis and thigh. There was incessant vomiting of a greenish-yellow material. She was not constipated. On examination, the gall-bladder could be easily felt; it was distended to about the size of an orange, and tender on palpation. The rest of the abdominal wall was somewhat tense and tender, and there was a suspicion of a cystic mass on the left side. Temperature, 101°; pulse, 96; respirations, 20. The vomiting and abdominal tenderness increased, and when Dr. Ladinski saw the patient on June 19 the vomiting was almost constant; there was marked abdominal distention, with general tenderness, pain, and tympanites. The patient was restless and had an anxious and drawn expression. The temperature was a fraction below 104°; the pulse was rapid and feeble, the respirations shallow and labored. There was evidently a general peritonitis, and owing to the marked distention of the abdominal wall, nothing definite was revealed by palpation. The vaginal vault was tense and bulging, indicating the presence of fluid in the peritoneal cavity. A diagnosis of general peritonitis due to cholelithiasis or appendicitis was made, and an operation was advised. In view of the statement of Dr. Rabinovitz that he had felt a cystic mass on the left side several days before, torsion of the pedicle of an ovarian cyst was also suspected. Operation, June 20, 1904. Through a median incision extending from above the symphysis to the umbilicus considerable ascitic fluid was evacuated, and a large discolored cystic mass was revealed. This proved to be a cyst of the left ovary, with torsion of

its pedicle. This was removed, and the abdominal cavity explored through the wound. There were numerous recent intraperitoneal adhesions; the gall-bladder was found to be very much thickened, distended with stones, and adherent to the surrounding viscera. The wound was then closed entirely, with the exception of a small opening at the umbilicus, from which a second incision was made extending to the free border of the ribs on the right side. The gall-bladder was exposed, freed from adhesions, and removed. Further exploration of the abdominal cavity revealed a large indurated mass in the right iliac fossa, which proved to be an elongated adherent appendix, with the mesoappendix much infiltrated and discolored; this was removed and the entire wound closed by the layer method, and without drainage. The incision, extending from the symphysis to the free border of the ribs, healed by primary union. The jaundice disappeared within forty-eight hours after the operation. Excepting for a complicating bronchitis and nephritis, which continued for a few days after the operation, the patient made an uneventful recovery.

Dr. Joseph Wiener called attention to the danger of completely closing the abdomen after cholecystectomy in the presence of deep jaundice. The recognized surgical procedure under such circumstances was to drain; otherwise, if the *vis a tergo* did not prove sufficient to dislodge the stone or other obstruction and force the bile into the intestine, the end of the ligated cystic duct was bound to burst.

Dr. Ladinski said he was not operating for stone in the common duct, and he did not remove the gall-bladder until he felt assured that there was no obstruction in the common bile duct. The jaundice in this case he attributed to the peritonitis surrounding the gall-bladder and the resulting adhesions. Dr. Ladinski said he had repeatedly removed the gall-bladder without drainage in cases in which there was no suspicion of obstruction in the common bile duct, and with excellent results.

Three Cases of Tubal Pregnancy.—Dr. L. J. Ladinski reported these cases. The first patient was twenty-nine years old, married seven years, and was the mother of three children. Seven weeks prior to her admission to the hospital she first noticed bleeding from the uterus, which she regarded as normal menstruation. Four weeks ago she had been seized with cramps in the left lower abdomen, which lasted two days. These attacks recurred several times at irregular intervals. Examination revealed a somewhat enlarged uterus and a characteristically enlarged left tube, which was tender and sensitive to the touch. There was no bleeding from the uterus at the time. The diagnosis of tubal pregnancy was made, and an operation advised. The enlarged tube, with its fimbriated extremity very much dilated and presenting a large blood-clot from which the hemorrhage had occurred, was removed. The case was therefore one of tubal abortion. The tube might have been saved, but as the attachment of the sac was close to the uterine end, it was not deemed wise to do this.

In this case, as well as in the two others, which Dr. Ladinski reported in detail, the history was of no aid to the diagnosis. In two false history was purposely given, and yet in all three cases a positive diagnosis was made entirely from the physical signs. The speaker said that the positive diagnostic signs in early tubal pregnancy were: (1) Enlarged uterus. (2) Bleeding from the uterus; the blood was dark and grumous in character, and differed from the light red blood of menstruation, with its peculiar odor, nor was there profuse bleeding, with clots and membranes, as in abortion. (3) The distention of a part or the whole tube produced a fusiform, peculiarly elastic, sensitive, movable mass; there was no other pathological condition excepting hæmatosalpinx that would present a similar feel to the palpating finger. (4) Pain, paroxysmal in character, was always present. (5) Amenorrhœa was invariably present, although a history to that effect was not always obtainable. The negative diagnostic signs were: (1) Absence of intrauterine pregnancy; early intrauterine pregnancy could invariably be diagnosed or excluded by the presence or absence of the characteristic sign of early pregnancy in the anterior wall of the uterus. (2) In tubal pregnancy, before rupture of the tube, there was never any rise of temperature, any more than there was in intrauterine pregnancy.

Dr. Harris said he had seen a few cases of tubal pregnancy in which the cervix was so soft that it raised the suspicion of an intrauterine pregnancy.

Dr. Waldo said he thought the common belief that extrauterine impregnation was apt to occur only at a long interval after a normal pregnancy was entirely erroneous. Recently, he had reviewed the records of a large number of cases, and he had found that in quite a proportion of them the patients had undergone a normal uterine pregnancy within two years.

Dr. John O. Polak asked Dr. Ladinski how he positively excluded intrauterine pregnancy before he did his preliminary curettage.

Dr. Ladinski said the sign of pregnancy that he considered absolutely infallible was an elastic feel in the anterior wall of the uterus, just above the cervix. This could be felt about the fifth or sixth week of pregnancy. He did not refer to Hegar's sign, but to a depression in the anterior wall of the uterus, which gave an elastic, fluctuating feel.

Indurated Ovarian Cyst.—Dr. Philander A. Harris showed a polycystic tumor of the ovary almost as large as two fists, which had been placed in a solution of formaldehyde of a strength unknown to him three or four years ago. Some time afterwards the bottom of the sealed jar in which it was placed became fractured and the formalin solution escaped. The specimen was as hard as oak or hickory when removed from the jar three months ago, and possibly in consequence of further drying, it had since become still more indurated. He had tried to have a hole bored through the tumor with an ordinary twistbit used by machinists for boring steel and iron, but had to desist for fear that the bit would become broken off.

The Cystoscope in Gynecology.—Dr. Sidney D. Jacobson presented this paper. After a brief review of the history of cystoscopy, the author stated that in order satisfactorily to inspect the bladder by this method, three conditions were necessary: (1) The urethra must be of sufficient calibre to permit passage of the instrument; (2) the bladder must be distensible to a certain extent; (3) the bladder must be filled with a clear and transparent medium. A saturated solution of boracic acid in water answered every purpose. Patience, the utmost gentleness in manipulation, and the strict observance of the rules of surgical cleanliness or asepsis were essential to success in cystoscopy. In vesical stone not only would cystoscopy enable one to see the stone, but also to make out its size and shape and often to determine its composition. It was the only way by which an encysted stone could be correctly diagnosed, because the bladder sound might pass over it and fail to elicit the expected click. The existence of tumors in the bladder could be demonstrated and their nature as to malignancy or otherwise judged, although such judgment should not be based solely upon evidence obtained in this manner. Cystitis, Dr Jacobson said, was no longer regarded as a disease, but a symptom-complex pointing out that there was something wrong with the bladder. Merely to treat the symptoms of cystitis was quite as unscientific as to treat vomiting or headache as a disease, and without first determining the cause. A cystitis might be due to gonorrhœa, tuberculosis, malignant disease, stone, foreign body, parasites, a retroverted gravid uterus, etc. The author reported some cases to support his contention that cystoscopy was the only positively rational and reliable method of examination of the female bladder. Perhaps the most interesting and useful chapter of cystoscopy was that relating to catheterization of the ureters. In conclusion, Dr. Jacobson said that by cystoscopy light had been thrown upon a subject which heretofore lay in the obscure region of mystery and speculation.

He expressed the hope that the day had gone by, never to return, when a female ureter was dilated until it ruptured, to permit the finger of a surgeon to penetrate the bladder in a clumsy if benevolent attempt at exploration for diagnostic purposes.

Dr. Sturmdorf did not think cystoscopy should be employed to the exclusion of other methods of diagnosis. In order to show that cystocopic findings might sometimes prove misleading, the speaker mentioned a case in which a bit of tissue became attached to the fenestra of the cystoscope after its introduction into the bladder, and gave an enlarged picture of what was supposed to be a papilloma. When the bladder was opened, nothing was found. The suprapubic wound healed very slowly, and the patient finally committed suicide.

Dr. Ladinski said he had used the Kelly cystoscope in women with very gratifying results. He regarded catheterization of the female ureters as a safe procedure which could readily be done by any one, whether a specialist or not. For this purpose, he preferred the Tilden-Brown instrument.

Dr. Harris thought that bilateral catheterization of the ureters should be avoided, on account of the possibility it involved of infecting the healthy kidney of a patient who already had one kidney diseased. In most instances, other diagnostic methods were available by which the same information could be obtained. In certain cases in which it was difficult to locate the ureteral orifices, Dr. Harris had swabbed the region of the trigone with a solution of methylene blue sufficiently heavy to discolor the bladder, and then, with the patient in the exaggerated knee-chest position, the urine was seen as it emerged from the ureters and left a distinct downward line on the discolored bladder-wall.

Dr. Jacobson said that while an inexperienced operator might readily misconstrue the cystoscopic picture, he did not think it would be difficult to differentiate between a bit of floating coagulum and a papilloma, as there was little resemblance between the two. Besides, by rotating the instrument, the adherent coagulum would rotate with it, whereas a papilloma would remain stationary. The Kelly cystoscope, to which Dr. Ladinski had referred, was an excellent instrument, but the speaker thought that women rather objected to the knee-chest position. The danger of carrying infection to the ureter with the ureteral catheter was very slight if proper precautions were taken, which included thorough cleansing of the bladder itself.

Chicago Surgical Society.

At the November meeting, Dr. L. A. Greensfelder reported a case of thrombosis of the superior mesenteric artery in a man 47 years of age, and presented a pathological report on the organs after removal from the body. He also reported a case of intussusception in a patient aged 18. A successful operation was performed in this case. Dr. A. J. Ochsner exhibited a specimen of a case of intussusception. Dr. Jacob Frank mentioned a case of intussusception of the ileum into the cæcum in a child 9 months of age, in which he made use of the button, and the child made a complete recovery. He also read a paper on "Perineal Prostatectomy by Young's Technique," and reported a case. This operation was destined, on account of the improved technique, to become as prominent an operation as that of hysterectomy. An excellent result was obtained in this case. Dr. M. L. Harris stated that Young's method of approaching the prostate was not materially different from that employed by most surgeons in using the perineal route; in fact, after having read the description of Young's technique, he did not see anything in his method of approaching the prostate which could be claimed as new or original. Personally, he had opened the capsule transversely rather than longitudinally, but not across the mid-line. However, if he found it facilitated the enucleation of the prostate, by making the incision in a longitudinal direction, he would do it. Of late it had not been his rule to pack the capsule after removing the gland, but to suture it. He had brought the walls together by catgut sutures, and by so doing he thought the period of convalescence was shortened. Dr. E. Wyllys Andrews concurred with the author relative to the general improvement which takes place after prostatectomy.

Dr. D. A. K. Steele read a paper, entitled "Gall-Bladder and Biliary Duct Surgery." Reference was made to the early history of this class of surgery, and the author stated that in no branch of the healing art had the American mind left its impress in a more forceful manner than in the development and progress of the surgery of the gall-bladder and bile ducts. Gallstones were present in about seven per cent. of all people, and proved fatal in about ten per cent. of this number. Over twelve per cent. of all gallstone cases manifested symptoms of common duct obstruction. The symptomatology and indications for operation were discussed at considerable length, and the author closed his paper with the recital of seven illustrative cases in which early operation was declined, or was not possible for some reason. Dr. A. J. Ochsner stated that the wisdom of early operation in these cases could not be emphasized too much. There was no doubt but that in the vast majority of all patients suffering from gallstones, cholecystitis, or disease of the duct, there was a time when the condition could be safely and permanently relieved by an operation, and that the serious conditions which the essayist had emphasized in the narration of his cases were the result of late conditions. Dr. Daniel N. Eisendrath said the more he saw of gallstone cases the more he was impressed that surgeons were apt to forget complications on the part of the liver itself. In a paper read by him three years ago he investigated, made sections and cultures of a case that was operated upon by Dr. Greensfelder. In this case he found scarcely any of the liver cells stained, practically nothing but the inner third around the central vein. If one investigated the liver in cases of cholecystitis and gallstones varying degrees of liver necrosis as a result of infective cholangitis would be found, particularly when there was an associated cholangitis with or without pus formation. Dr. M. L. Harris said that gallstones were always preceded by infection. They were a secondary condition of infection. He believed the infection was a descending one. The microbes were eliminated by the liver and gained access to the biliary passages. Infection being the primary and chief condition, the surgeon should operate to relieve or cure the infection.

Dr. Jacob Frank reported a case of infection of the liver. Recently he operated upon a patient for multiple abscess of the liver following appendicitis. Six weeks after the operation for appendicitis there were fever and other symptoms, and he suspected an abscess of the under or upper surface of the liver. On opening the abdomen he took a culture from the gall-bladder, then punctured the liver, and took cultures from it. In the fluid there were a few small flakes that looked unnatural, but he did not know what they were. The patient died, a post-mortem examination was made, and multiple abscesses of the liver were found. The bile from the gall-bladder was sterile. Dr. Steele said it was difficult to convince the general practitioner of the necessity of early operation, even if an early diagnosis was made. He hoped the discussion would be of service in helping general practitioners to make earlier diagnoses and refer their cases to surgeons for early operation. Dr. James M. Neff exhibited for Dr. John B. Murphy a case of cervical rib, and in the discussion other cases were reported by Drs. E. Wyllys Andrews and Daniel N. Eisendrath.

Chicago Medical Society.

At a meeting, held November 30, 1904, Dr. D. N. Eisendrath presented a paper on "The *X*-ray as an Aid in the Diagnosis of Strictures of the Œsophagus." He stated that when the *x*-ray was first introduced it was found that certain metallic substances, as mercury, bismuth, etc., threw a distinct shadow when the skiagraph was taken. Taking advantage of this bismuth subnitrate had been used during

the past few years in diagnosing, for instance, dilatation of the stomach, by giving the patient a certain amount of bismuth to swallow, and then taking an *x*-ray picture of the abdomen, showing the bismuth at the lower level. During the past year there had appeared an article on this subject, but the author did not see it until he began his own work on the use of bismuth in a case of idiopathic dilatation of the œsophagus, in which bismuth was swallowed by the patient, and the *x*-ray showed a beautiful shadow given by the bismuth. He reported the case of a man 41 years of age, who during the past nine months had had difficulty in swallowing. This difficulty had been so great that the patient was compelled to have a gastrostomy performed on him in New York. Both in New York and in Chicago physicians were unable to pass an œsophageal bougie beyond the œsophagus, but the speaker succeeded in passing a bougie through the strictured portion of the œsophagus, after which bougies were passed daily. The patient fed himself exclusively through a gastric fistula. The author instructed his patient to swallow some bismuth, allowing it to collect in the dilated œsophagus, and he then obtained an excellent skiagraph of the bismuth, which helped him in his diagnosis of the position of the stricture. This and several other skiagraphs were shown, for the purpose of demonstrating the value of the method. Its chief value was said to be confirmatory, and it was considered accurate and scientific in determining the location of the strictures. Dr. J. Rawson Pennington said the first work of this kind was done in Chicago by Dr. Metcalf. Personally, he had also experimented some with bismuth in trying to locate the sigmoid and colon by injecting the substance through the rectum, and at the meeting of the American Medical Association at Atlantic City in June, 1900, in addition to showing a number of photographs, he exhibited a specimen showing the location of the sigmoid by the *x*-ray, taken after bismuth solution had been injected into the rectum and sigmoid, but he did not consider it of any special value at that time. Dr. Henry F. Lewis showed a specimen of "Fœtus Papyraceus." The woman was delivered a few days before of a normal child. One placenta, the larger one, was practically normal, except the cord was short, being not more than 15 inches long; the other placenta was entirely detached from the large one. He showed the placenta of the small fœtus, the fœtus papyraceus, which was degenerated. This fœtus was flattened against the side of the uterus and against its own placenta. From its size it was judged to be a three or four months' fœtus; therefore, the child must have died at about that time and was pressed against the uterine wall by the growth of the other fœtus, which was born alive.

Philadelphia Neurological Society.

At a stated meeting held November 22, Dr. Wm. Pickett exhibited "A Case of Arteriosclerosis of the Nervous System." The patient was a man, 67 years old, who without loss of consciousness, gradually lost power on the right side of the body, with some thickness of speech, impaired mental activity, and increased reflexes, in the absence of symptoms or signs of disease of the heart or kidneys. The peripheral vessels were stiff and tortuous, and it was reasoned that a similar condition existed in the vessels of the brain and spinal cord, resulting in impairment of nutrition and sclerosis.

Dr. Chas. S. Potts read a note upon "A Case of Hemiplegia Following Typhoid Fever." In addition to motor weakness on the right side of the body, with aphasia, there was a history of delirium at the onset, so that while it was thought that the condition might be due to cerebral hemorrhage or thrombosis, the possibility of encephalitis could not be excluded. Dr. C. D. Camp exhibited a boy in whom following an attack of typhoid fever weakness developed in the right upper and lower extremities, with loss of knee-jerks. The patient presented also choreic movements, and the relation of events was therefore not perfectly clear.

Drs. Wm. G. Spiller and Herman B. Allyn reported "A Case in which the First Left Temporal Convolution Was Destroyed in an Adult Without Causing Word-Deafness." The patient was an intelligent man, who had had an attack of right hemiplegia with aphasia some nineteen years previously, with a large measure of recovery, and a second attack of milder degree fifteen years later. Speech was but little affected, being somewhat muffled at times and some difficulty occasionally being observed in enunciating the correct word. Errors were rarely made in speech or in writing, and the spoken word was perfectly understood. Post-mortem examination disclosed a condition of atrophy and sclerosis in the first temporal convolution on the left, with preservation of the second and marked development of the first temporal on the right. In explanation of the preservation of the faculty of word-hearing it was suggested that this had been taken up either by the left second temporal or by the well-developed right first temporal, perhaps early in life. So far as could be learned the patient had been right-handed.

Drs. F. X. Dercum and Alfred Gordon presented a communication entitled "A Case of Multiple Cerebrospinal Sclerosis, with Remarks upon the Pathogenesis of the Affection." The patient was a young colored woman with a history of miscarriages and a fall upon the buttocks, who presented motor incoordination, increased reflexes, jerky speech, nystagmus. Post-mortem examination disclosed the presence of widely disseminated foci of sclerosis in brain and cord, including the nuclei of cranial nerves.

Dr. Joseph Sailer reported "A Case of Convulsive Tic in a Girl of Six," the onset being attended with convulsions in connection with some febrile disorder. The convulsions were thereafter repeated frequently and were attended with a peculiar grunting sound. Recovery speedily ensued upon the administration of two grains of trional after the child had been removed from her home in the country to a hospital in the city. It persisted for six months, when the previous symptoms recurred. Although there were no other stigmata of hysteria discovered, it was concluded that the disorder must be of this character.

Dr. F. X. Dercum exhibited the spinal cord from the body of a young colored man who had been struck on the back of the neck by a bucket falling from a great height. There was at once palsy in all four extremities with anesthesia up to the level of the nipples, diaphragmatic breathing, loss of control of the sphincters and abolition of the knee-jerks. Bedsore developed, the palsy became marked and the anesthesia more extensive, and death ensued. On post-mortem examination it was found that the fourth, fifth and sixth cervical vertebræ had been fractured and the underlying spinal cord crushed.

Prognosis and Treatment in Certain Localizations of Osteoarticular Tuberculosis.—Adelchi Sandulli has collected nine cases of tuberculosis of the wrist and ankle, in which he considers that the prognosis and treatment are somewhat different from that of the disease when localized in the other articulations. He outlines the treatment of the disease in other joints and then compares it with that indicated in tuberculosis of the wrist and ankle. Independently of the usual factors in prognosis, such as pure or mixed infection, presence of suppuration, general condition, etc., the prognosis is always grave in disease of these articulations. This results from the anatomical structure of the joints, the number of bones that enter into them, the areolar structure of the bones, the number of synovial membranes, the numerous tendons, and the many complications which are liable to occur. Consequently, the period of conservative treatment should be short; if the infection is spreading, operation should be undertaken early, and there should be no hesitation in removing all the diseased structures, if we would avoid amputation in the end. The prognosis should be reserved if not actually unfavorable.—*Giornale Internazionale delle Scienze Mediche.*

Surgical Suggestions.

Genital Papillomata and Excrescences.—

Aronstam recommends: (1) Cleanliness; (2) a drying powder, such as:

℞ Acid. salicyl. ..... gr. x
Zinci oxidi ..... 5 j
Amyli ..... 5 ij
Pulv. talci ..... 5 v

or painting twice a week with—

Acid. salicyl. ..... gr. xx
Ext. suprarenalis ..... gr. x
Resorcin ..... gr. xx
Liq. gutta perch. ..... ad 5 ij

—*Canada Lancet.*

Ointment for Hemorrhoids.—

The following ointment is used very largely in the Department of Charities, New York:

℞ Morphine oleate (10 per cent.) 1
Camphor 2
Oil of sassafras 4
Resin 8
Yellow wax 16
Benzoated lard 24

M. To be applied on lint.

The foregoing is best compounded by melting the wax, resin, and benzoated lard together at a gentle heat and digesting the camphor in this until it is dissolved. While the mass is cooling, and before it solidifies, add the morphine oleate and the sassafras oil, and mix thoroughly.

Vaginal Discharges.—In treating diseases of women always remember that the normal secretion of the vagina is acid and that of the uterus alkaline.—Burnett.

Paraphimosis.—L. H. Prendergast recommends this course of procedure: 1. Dry the organ with absorbent cotton or bits of gauze. 2. Apply vaselin to the everted posterior part of the preputial mucosa, but none to the glans or skin of the penis. 3. Pass the index and middle fingers of both hands behind the deep sulcus, and lock these fingers together. Hold the hands so that their dorsa present to the patient's pubis, and the palms toward the operator. 4. With both thumbs endeavor to crowd first the upper margin of the swollen corona behind the constricting mucocutaneous band, while the tissues of the penis are being drawn forward by the locked index and middle fingers. Variation. If 3 and 4 fail, again dry the entire organ and annoint it as indicated under 2. Then place a bit of gauze about the organ, take it firmly in the left hand, and support the deep sulcus with the outer margins of the left thumb and index finger. With the right thumb and fingers, knead the glans into the prepuce, as it is being drawn forward. When both of these manipulations fail, division of the constricting band is imperatively necessary. To this end a slightly curved bistoury is pressed with its right flat surface parallel to the axis of the penis, upon the second mound, until the knife's point has traversed the constricting band. The knife is then turned to a quarter circle upward, and the constriction cut from below upward. Ordinarily, this incision suffices to permit slipping the prepuce forward. Occasionally, however, several lateral incisions are required in addition to the above central dorsal one.—*Memphis Medical Monthly.*

Hypertrophy of the Prostate.—A. T. Cabot sums up his views as follows: 1. I consider a perineal prostatectomy the method of choice for the treatment of the prostate causing obstruction so great as to require the constant use of the catheter. 2. In patients too old or enfeebled to bear this operation safely, a Bottini operation under cocaine may often be safely done, or if even this seems too severe, the catheter life may be entered on. 3. It is still too early to be sure that all of the good results reported soon after the operation will show themselves to be lasting. 4. The cases in which functional failure seems most probable are those with small contracting prostate and with distended atonic bladder.—*St. Louis Courier of Medicine.*

Diaphoresis.—

According to Chas. Winn, this may be produced by: (a) Application of external heat (hot air, vapor, water or sand baths); (b) prevention of loss of body heat (protecting from external temperature, prevention of evaporation); (c) artificial through internal means (hot drinks); (d) dilatation of cutaneous vessels (alcohol, hot punch, nitrites, spts. etheris nit.; also opium in Dover's powder, and by dilatation of cutaneous vessels, *e.g.* aconite in small doses, (sinapisms); (e) by production of a mild degree of nausea (any of the emetics or Dover's powder); (f) by the stimulation of the sweat center (camphor, or, better, liquor ammonii acetatis); (g) by stimulation of the peripheral secretory nerves (pilocarpine).—*The Medical Standard.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 10, 1904:

	Cases.	Deaths.
Measles	138	8
Diphtheria and Croup	368	31
Scarlet Fever	208	14
Smallpox	.....	.....
Chickenpox	112	.....
Tuberculosis	345	160
Typhoid Fever	87	19
Cerebrospinal Meningitis	.....	13
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,258	245

Delayed Chloroform Poisoning.—Harold J. Stiles and Stuart McDonald briefly review the literature on this subject. Casper, in 1850, was the first to direct attention to the dangerous after-effects of chloroform. The history of a typical case is given. The patient was a healthy looking girl aged 8 years. There was no evidence of organic disease. The operation was performed for genu valgum. It was successful and there was no shock. The total duration of anæsthesia was 22 minutes. There was a little nausea after the operation, about 11 A. M., but no more until the evening. Vomiting then set in and continued at intervals till the following morning. There were periods of excitement, but in the intervals the child complained of no pain. The pulse became rapid and feeble. At 1 P. M. the child had a drink. An hour later she was slightly cyanosed. The pulse could scarcely be counted, unconsciousness supervened, and at 2 P. M., twenty-six hours after operation, the patient suddenly died. On opening up the wound there was no evidence of septic infection. The pneumococcus was cultivated from the hemorrhagic areas in the lungs. An intense degree of fatty change was uniformly distributed through the whole liver. In the kidneys was seen an intense degree of degenerative and fatty change in the parenchyma. The whole organ practically suffered. The writers state that the cause of death in such cases has been variously attributed to chemical poisoning from antiseptics, to fat embolism, to sepsis, and lastly to delayed chloroform poisoning. As to the effects of carbolic acid used as an antiseptic, the writers declare that it is evident from investigations that, apart from the carboluria, the symptoms of a toxic dose absorbed by the skin bear a close resemblance to those which are supposed to be due to delayed chloroform poisoning. Fat embolism, according to the writers, is not such a potent cause of death as many believe. They also think that it is quite possible that the fatty change in the liver may be entirely due to the chloroform acting on a previously healthy liver. Organic disease can be definitely excluded in some of the fatal cases. An important predisposing factor in such cases seems to be some special idiosyncrasy to the action of the drug. The most reasonable explanation of the condition is to be sought for in some intoxication, though the exact manner in which this acts has not yet been made clear. It has been shown that chloroform is an intense protoplasmic poison, capable of producing changes in the organs sufficient to interfere seriously with their function. The most striking histological feature is a fatty change, involving especially the liver, kidneys and heart, and probably other tissues. The symptoms in cases of delayed chloroform poisoning closely resemble those met with in other auto-intoxications, such as diabetic coma. Many observers have noted a great increase of acetone in the urine after chloroform anæsthesia. The writers regard the analogy between delayed chloroform poisoning and diabetic coma merely as a working hypothesis, and they believe the question is worthy of

further investigation. They think that if an excessive acetonuria be shown to exist in delayed chloroform poisoning, we might hope to find in it the means of recognizing milder degrees of the intoxication, and possibly also of differentiating the condition from such post-operative complications as delayed shock, sepsis, etc.—*The Scottish Medical and Surgical Journal.*

The Pneumonia Problem.—Arnold C. Klebs has made a careful study of this subject. He shows that it is necessary in comparing the total death-rates of successive years to analyze the distribution of deaths in the various age groups and for the two sexes. He has found that a very considerable increase of the death-rate from pneumonia has occurred in early childhood (especially under one year of age) and also in old age, but that between the ages of five and sixty-five, there has been a decrease. By the term pneumonia is meant bronchopneumonia and capillary bronchitis, and probably other ill-defined pathological conditions of the respiratory organs, especially in childhood and old age. The writer presents charts which show a constant interrelationship between the death-rates of tuberculous and non-tuberculous respiratory diseases; as tuberculosis decreases the other class increases, and in the same age periods. The writer calls attention to the distinct increase of the death-rate in childhood from non-tuberculous respiratory diseases, the group of pneumonia being about 75 per cent. of these. He does not think it probable that pneumonia will soon threaten uniformly all age periods, and especially adult life. Great results have not yet been achieved in the treatment of respiratory diseases. The writer concludes by urging the necessity of direct specific preventive efforts. Only further investigations into the indirect causes of the disease may suggest the best methods to pursue.—*The Illinois Medical Journal.*

Prophylactic Use of Antitetanus Serum.—E. S. Alexander reports these cases. The first patient was a boy, aged 6. He exploded a "cane-cap-cracker" with the ball in the palm of the hand, wrong end up. The fleshy part of the palm of the hand was literally ground to pieces, as was the palmar fascia, but the tendons were practically unharmed. Thirty minutes later the boy was anæsthetized, and the hand and forearm was thoroughly cleansed with hot water, soap, and bichloride solution. The wound was then swabbed out with 95 per cent. carbolic acid, after all the loose tissue and tags had been removed. Hot sterile water was then used, and finally hydrogen dioxide. The wound was then dried and packed loosely with iodoform gauze and dressed. The following morning 10 c.c. of antitetanic serum was injected at the inner angle of the right scapula, it being the right hand that was injured. Healing was complete within a month. There had been no local disturbance at the point of injection, nor any noticeable constitutional disturbance from wound or serum. The second patient was a woman, aged fifty-five years, who stepped on a nail which penetrated the ball of the foot to a depth of two or three inches. She suffered greatly for twenty-four hours, at which time the wound was examined. The wound was then closed, and the patient was suffering with severe headache and pain and rigidity of the neck muscles. Under anæsthesia the wound was laid open, and curetted and swabbed with 95 per cent. carbolic acid and packed with iodoform gauze. The recovery was uneventful. Twenty c.c. of antitetanic serum was used while the patient was under the influence of the anæsthetic, the best time for its use. It cannot be stated that either of these patients would have developed tetanus without the use of serum, but the writer is convinced that it is just such kind of cases which do develop it, and he declares that in the future he will use the serum at the earliest moment in such emergencies.—*The Medical and Surgical Monitor.*

Hemorrhagic Disease of the Newly Born.—Martha Wollstein states that aside from cases of traumatic hemorrhage, and those in which the "constitutional fault" of hæmophilia can be proved to be present, there still remain under the head of hemorrhagic disease of the newly born the cases of multiple hemorrhages into the skin and viscera, occurring as morbus maculosus neonatorum, epidemic hæmoglobinuria, or Winckel's disease, acute fatty degeneration or Buhl's disease, and syphilis hæmorrhagica neonatorum. Our present knowledge tends to prove that the process in these cases is one of infection, and that morbus maculosus, Winckel's disease, and Buhl's disease, represent different varieties of the same disease. Cases are far more numerous in institutions than they are in private practice. As yet no specific microorganism has been found in these cases. The bacteria almost invariably found have been the pyogenic cocci and the colon bacilli. Generally, the source of infection and its point of entrance are demonstrable, although in some cases they are obscure. The mouth, the gastroenteric tract, and the umbilicus are the main points of entrance for the infection. The umbilicus does not necessarily show any inflammatory lesion. Pus may be found in one or both hypogastric vessels within the abdominal cavity when the umbilicus appears to be normal. The question of the significance of syphilis must for the present remain an open one. The writer refers to the recent discovery of hemorrhagin, a substance found in rattle-snake venom, and which proves to be a cytolysin for endothelial cells of blood vessels, causing hemorrhage by a solution of the lining cells of the vessels. It is probable that other poisons, and the pyogenic bacteria as well, may be proved to produce a similar toxic body. The writer concludes that it is along these lines of modern pathology that enlightenment on the subject of the hemorrhagic disease of the newly born is to be looked for, other conditions, such as heredity, being given due consideration.—*Archives of Pediatrics.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 9, 1904:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, San Francisco	Nov. 19–26	1	
District of Columbia, Washington	Nov. 26–Dec. 3	1	
Illinois, Chicago	Nov 26–Dec. 3	12	2
Indiana, Hammond	Nov. 23–30	1	..
Kentucky, Louisville	Nov. 24–Dec. 1	6	..
Louisiana, New Orleans	Nov. 26–Dec. 3	4	(Two imported.)
Michigan, Detroit	Nov. 26–Dec. 3	1	..
Grand Rapids	Nov. 26–Dec. 3	1	..
At 62 Localities	Nov. 10–26	(Present.)	
Missouri, Saint Louis	Nov. 26–Dec. 3	22	5
New York, Elmira	Nov. 26–Dec. 3	1	..
Ohio, Zanesville	Nov. 12–19	1	..
Pennsylvania, Philadelphia	Nov. 26–Dec. 3	1	..
South Carolina, Georgetown	Nov. 30–Dec. 6	2	..
Tennessee, Memphis	Nov. 26–Dec. 3	1	..
Wisconsin, Milwaukee	Nov. 19–Dec. 3	39	..

SMALLPOX—FOREIGN.

Belgium, Brussels	Nov. 12–19	..	1
Brazil, Pernambuco	Oct. 15–31	..	48
France, Lyons	Nov. 12–19	1	..
Paris	Nov. 12–19	16	3
Great Britain, Dundee	Nov. 12–19	1	..
Glasgow	Nov. 15–25	1	..
Leeds	Nov. 19–26	1	..
London	Nov. 12–19	1	..
Manchester	Nov. 12–19	5	..
Newcastle-on-Tyne	Nov. 18–25	6	1
South Shields	Nov. 18–25	2	..
West Riding, including Dewsbury and environs	Oct. 1–31	137	..
India, Bombay	Nov. 1–8	..	2
Madras	Oct. 29–Nov. 4	..	1
Italy, Catania	Nov. 17–24	..	2
Palermo	Nov. 5–12	9	6
Russia, Moscow	Nov. 5–12	2	2
St. Petersburg	Nov. 5–12	7	..
Turkey, Constantinople	Nov. 13–20	..	30

YELLOW FEVER.

Brazil, Pernambuco	Oct. 15–31	..	1
Ecuador, Guayaquil	Nov. 8–16	..	1
Mexico, Coatzacoalcos	Nov. 19–26	1	2

CHOLERA.

Russian Empire, Astrakan (suburb)	Oct. 14–16	3	2
Baku	Oct. 11–18	60	24
Morsha	Oct. 8–17	51	23
Samara District	Oct. 10	(Sporadic.)	

PLAGUE.

Brazil, Pernambuco	Oct. 1–31	..	1
India, Bombay	Nov. 1–8	..	52
Japan, Formosa	Sept. 3–10	1	1

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Original Articles.

THE ANTITOXIN TREATMENT OF TERTIAN MALARIAL INFECTIONS.

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RECENT observations on the etiology of various specific infectious diseases indicate that protozoölogy will eventually become almost if not quite as important a branch of medical science as is to-day its similar, bacteriology. Among the human maladies already attributed to infection by microorganisms belonging to the animal world may be mentioned malaria, yellow fever, dengue, amœbic dysentery, trypanosomiasis, and the spotted fever of the Rocky Mountains, while not a few pathologists suspect that carcinoma, sarcoma, molluscum, contagiosum, syphilis, kala-azar, variola, scarlatina, etc., are also caused by specific protozoa. Since plants, however, are simpler organisms than are animals, and, as a rule, do not offer in the lower forms of life such protean morphology with alteration of life cycles as do the latter, it was natural that bacteriology should precede protozoölogy in its development. The difficulty attending the study of sporozoa (to which class most pathogenic microorganisms having animal characteristics belong) is further enhanced by the fact that attempts to cultivate them outside the bodies of their respective hosts have heretofore been futile. Pure cultures, as ordinarily understood, have not therefore been available, and the attempted development of antitoxins against protozoan human infections has been uniformly unsuccessful.

It has become evident that the methods now accepted as suitable for the study of bacteria are not altogether applicable to similar work with protozoa, and that they must be modified in some details to meet altered conditions and requirements. Thus, in the observations here recorded, the "cultures" employed were those obtained by the withdrawal of blood from the veins of patients suffering with malaria or from the salivary glands of infected mosquitoes.

These observations were made at Fort Reno, Okla., a military post situated on a slight eminence one mile south of the North Fork of the Canadian, and at an altitude of two thousand three hundred feet above the sea. The configuration of the adjacent terrain is that of a gently rolling plateau intersected by numerous watercourses. During the greater part of the summer, however, these streams are represented by pools of stagnant water, which form admirable breeding places for the anopheles. As the oil requisitioned for use upon such pools was not received until late in the season, mosquitoes multiplied abundantly, and sixty cases of malaria appeared in the garrison. At this time the troops stationed here consisted of four companies (colored) of the Twenty-fifth U. S. Infantry and two companies (white) of the Thirtieth U. S. Infantry. The members of these organizations lived under identical military conditions, while their food, clothing, quarters, recreation, and general hygienic circumstances were as nearly identical as military precision could effect. The only differences between them, aside from race, were that the men of the Twenty-fifth were better developed physically than were those of the Thirtieth, and that the barracks which the former occupied were more exposed to the southern winds. These winds blew almost constantly throughout the summer, carrying mosquitoes into the post from their adjacent breeding places, and from an epidemiological standpoint probably more than nullified whatever advantages the colored soldiers enjoyed because of their better physiques. Yet the influence of race was quite evident. Twenty-two cases of malaria developed in the four colored companies and thirty-eight cases in the two white ones—*i.e.* the white troops were, pro rata, 3.45 times as subject to this disease as were the colored.

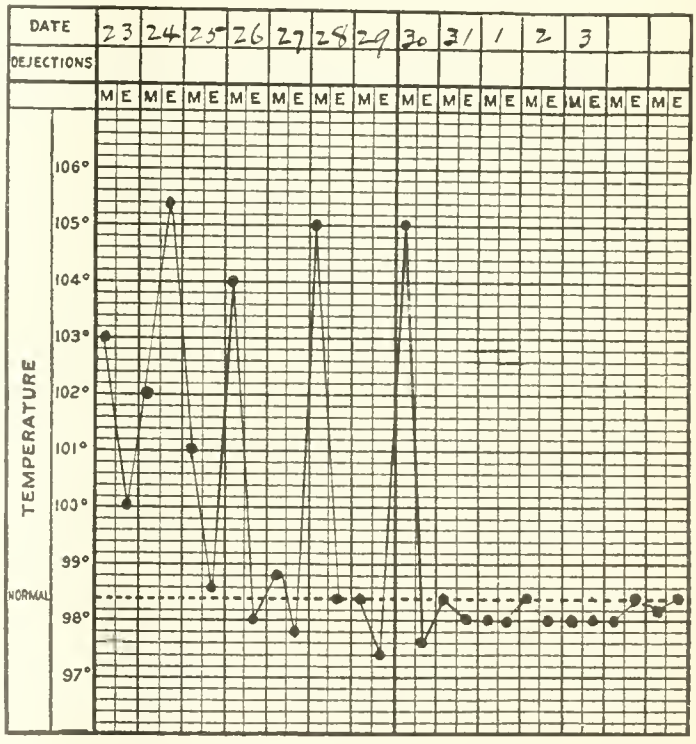

CHART I.—T. D. S., admitted August 23, 1904.

The animals employed in these experiments for the development of a malaria antitoxin were the brown rabbits, indigenous to the southwestern States, and the domestic white rabbits. The former did not prove so suitable for this purpose as did the latter, for not only were they much smaller, but most of them died shortly after they were captured or injured themselves so severely by fighting that,

for humanitarian reasons, it became necessary to anæsthetize and kill them. Of eleven such animals only two eventually furnished blood for use in these observations, and as that obtained from one of them became infected before it could be used, my experience with them was not encouraging. Of the twelve white rabbits employed, however, all but two either came to the anæsthetizing table or remain on hand for future use. These two died within ten minutes after the injection of malaria-infected human blood into their posterior auricular veins. As this blood had not been defibrinated it is surmised that they died of pulmonary thormosis—a supposition supported by the symptoms exhibited. All rabbits were kept in mosquito-proof hutches from 5 P.M. until 8 A.M.

Before this course of experiments was begun I had intended to inoculate the animals employed by the bites of infected mosquitoes only, but as no anopheles larvæ were obtainable until August, and as none of the insects developed the malarial merozoits

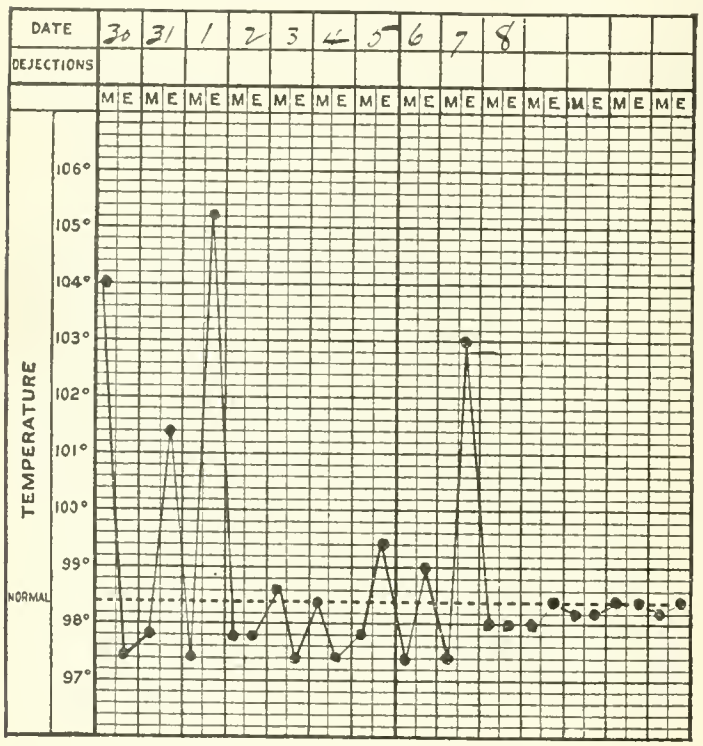

Chart II.—G. L. F., admitted August 30, 1904.

until late in that month, six rabbits were inoculated, meanwhile, by the intravenous injection of human blood, in which the plasmodium malariæ* had been found. Of these the two above alluded to died shortly after the operation. In all these cases the blood used was injected as soon as drawn, without defibrination. Since all inoculations, whether by this method or by the bites of infected insects, consisted of the introduction of the living parasites into that system (*i.e.* the circulation) wherein they naturally develop, I surmised that one such inoculation would be sufficient for the development of the antitoxin. In all cases, however, where mosquitoes were utilized inoculation with two insects was attempted, as even under the most favorable circumstances the *Anopheles maculipennis* does not always develop and convey the disease. But this attempt was not fully successful. White rabbits number nine and ten were kept uninoculated for control purposes. It remains to be demonstrated whether repeated inoculations with living organisms will develop a remedy of greater potency than that obtained by one inoculation only.

The insects employed were the *A. maculipennis* (Meiger) and the *A. punctipennis* (Say) raised from the larva. The time allowed for the development of the merozoits was from eleven to fourteen days. The average temperature of the laboratory during this time was about 78° F. The one attempt to inoculate by the bite of an *A. punctipennis,* supposed to be infected, was repeated by the use of an *A. maculipennis,* as it was found on subsequent examination that none of the former variety of insects had developed the disease.

Blood thought to contain the antitoxin was first obtained from two brown rabbits after the manner recommended by Novy, and allowed to clot. In subsequent exsanguinations it was drawn from the femoral artery through a glass tube into a mortar, where it was defibrinated with an egg-beater. Of course all instruments and implements employed had been previously sterilized. The blood obtained in each case was kept in the ice box at an average temperature of 67° F. until utilized or dessicated. As I had some difficulty in keeping it from becoming infected, I eventually dessicated the blood as soon as it was drawn and centrifuged. Serum and erythrocytes were usually dessicated separately.

In view of the fact that the first serum available had been developed by injecting into rabbits human blood containing the plasmodia malariæ, and that such serum, therefore, possessed hæmolytic powers for human erythrocytes, it was employed only in minimum doses and with the greatest caution. Fortunately no accident occurred, though in several cases its use gave rise to a local reaction, which persisted for several days. Subsequently I have learned that Metchnikoff has injected hæmolytic serum, similarly prepared, without permanently deleterious results, in several cases of leprosy, giving much larger doses (7 gm.) than those here employed.

The first case of malaria which I sought to cure by antitoxin treatment received 0.75 gm. of serum obtained from brown rabbit number two.* This was injected subcutaneously twenty-three hours before the expected chill. It recurred, however, as usual (Chart I), and as soon as the temperature commenced to fall quinine was given in doses of 324 mgm. every four hours. In view of the small amount of serum given, and especially in view of subsequent observations, this case did not prove of much value except in so far as it suggested another line of treatment.

* Under the existing laws of zoölogical nomenclature, the name first given an organism is retained, whether it prove to be scientifically correct or not. The inextricable confusion that would result from numerous observers giving to the same organism the different names which might appear to each of them most appropriate, is thus avoided, but usually at the expense of scientific accuracy. Thus, the plasmodium malariæ, so named by Laveran in 1883, retains that name, though it is now generally recognized that the taxonomic position of this organism is among the hæmosporidia, a subclass of the sporozoa, and not among the plasmodia, as was originally supposed. Plasmodia are forms of microorganisms which at one stage of their existence present animal characteristics, at another, vegetable ones. The myectozoa, to which the plasmodia belong, are by some naturalists placed with rhizopods, etc., among the sarcodina (a variety of unicellular animal organisms), while by others they are classed with low forms of vegetable life.

* These rabbits were numbered according to the sequence of their receipt, and not according to the dates when they were infected, though these were made to correspond as far as practicable.

It now occurred to me that the antitoxin might be closely associated with the corpuscular elements of the blood, especially the erythrocytes. With this idea in mind I poured the clot and remaining serum obtained from brown rabbit No. 2 from the Novy tube into a Petri dish and dissociated the clot as well as possible with sterilized glass rods. Of the defibrinated blood thus obtained, 1.50 gm. were injected subcutaneously on August 31, into a patient suffering with benign double tertian malaria (Chart II). One brood of parasites in this case was much less numerous than was the other. This injection did not prevent the recurrence of the chill on the following day (September 1), but no chill nor fever occurred on September 2 or 4. On September 3, 5, and 6 slight elevations of temperature were noted, and on September 7 a distinct chill, showing that the progress of the disease was re-established. Quinine was now administered.

This case led me to believe that a curative agent was actually present in the defibrinated blood, but that in the dosage employed it was unable to destroy the entire broods of parasites, though it diminished both of them to such an extent that the symptoms of the disease were temporarily in abeyance. From the fact that a chill occurred on September 1, and that none occurred for six days thereafter, I also believed that the antitoxin was far more toxic to the plasmodia malariæ free in the blood than it was to these parasites when developing in the red blood corpuscles. In the latter situation they appeared to enjoy some degree of protection. This conclusion is in line with our knowledge of the action and efficiency of quinine, and I yet hold it, though somewhat modified by a later observation noted below.

In the next case (Chart III) two grams of defibrinated blood from white rabbit No. 2 were injected subcutaneously on September 1, but without apparent effect. When, however, a second injection of one and one-half grams of blood from the same animal was given on September 7, the temperature, after an interval of twenty-four hours, fell to normal and there remained.

The next patient who received this treatment (Chart IV) was given hypodermically, September 4, one and one-half grams of blood from white rabbit No. 2, but, as in the former case, no clinical effects were apparent. A repetition of the injection of this quantity of blood from the same source (September 7) caused the disappearance of all symptoms after the usual interval.

The fifth case treated also failed to respond to the injection of one and one-half grams of defibrinated blood from white rabbit No. 2, but the injection of an additional quantity of the same amount from white rabbit No. 4, made one week later (September 11), caused the symptoms to disappear after September 12. The rise of temperature on that date illustrates that, as in other cases, the effects of an injection of a small quantity of defibrinated blood are postponed (Chart V).

An antitoxin which can be dessicated by exposure to moderate heat, and whose efficiency is not impaired thereby, evidently possesses peculiar advantages both for facility of shipment and for preservation in the tropics. In order to determine whether that developed in these inoculated rabbits possessed this quality, I dessicated separately on September 29 the erythrocytes and serum obtained from white rabbit No. 3. The temperature at which this was effected ranged from 47° C. to 53° C., the exposure continuing for fourteen hours. Each of these substances was then finely pulverized and kept for use in sterilized vials.

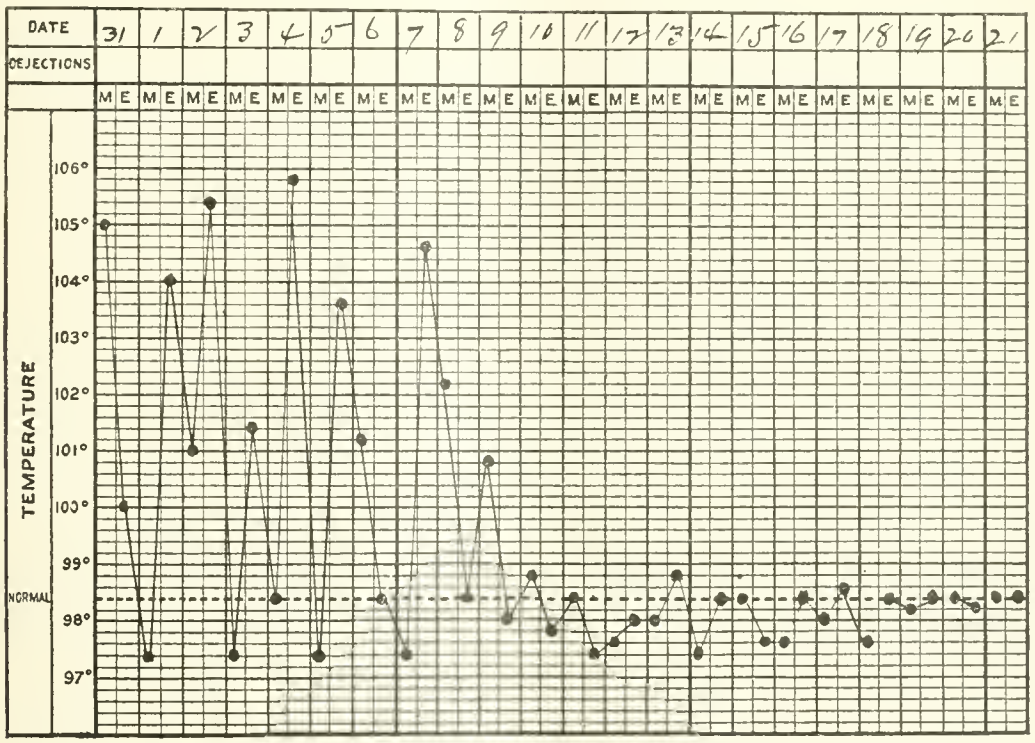

Chart III.—D. P., admitted August 31, 1904.

The first patient (Chart VI) who was treated by the use of dessicated erythrocytes was quite cachectic, and gave a history of seven attacks of malaria within the past year and a half. The original infection (if indeed there was more than one) had been contracted in the Philippines. On September 28 he received one-half gram* of these pulverized, dessicated red blood corpuscles from white rabbit No. 3, suspended in five grams of isotonic salt solution.

*Since the erythrocytes constitute 39.7 per cent. by weight of fluid blood, it is apparent that the weight of those moist corpuscles in three grams of blood would be 39.7 per cent. of three grams or 1.19 gram. Further, since the moist erythrocytes contain 36.7 per cent. of solids, it

A chill recurred September 29, and some fever was noted September 30. This fever, however, was, I believe, due to an abscess which had developed at the point where the injection had been made. This contained about eight grams of grayish, foetid pus and about one-fourth gram of black grumous material resembling a blood clot, being apparently the unabsorbed residue of the erythrocytes injected. When the pus was evacuated the patient's temperature fell to normal, and recovery was uneventful.

I now hoped that by the injection of a large quantity of dessicated erythrocytes I might cause an immediate fall in a patient's temperature to normal, without that postponement of its action noted in all cases yet cured. It was this hope that led me to inject into another patient (Chart VII), on October 1, one gram of dessicated erythrocytes from white rabbit No. 3. These were suspended in four grams of normal salt solution. As in Case VI, however, an abscess formed at the point of injection, though in this case it was so deep seated that it escaped detection for several days. It was opened October 5, and eighteen grams of pus, in all respects similar

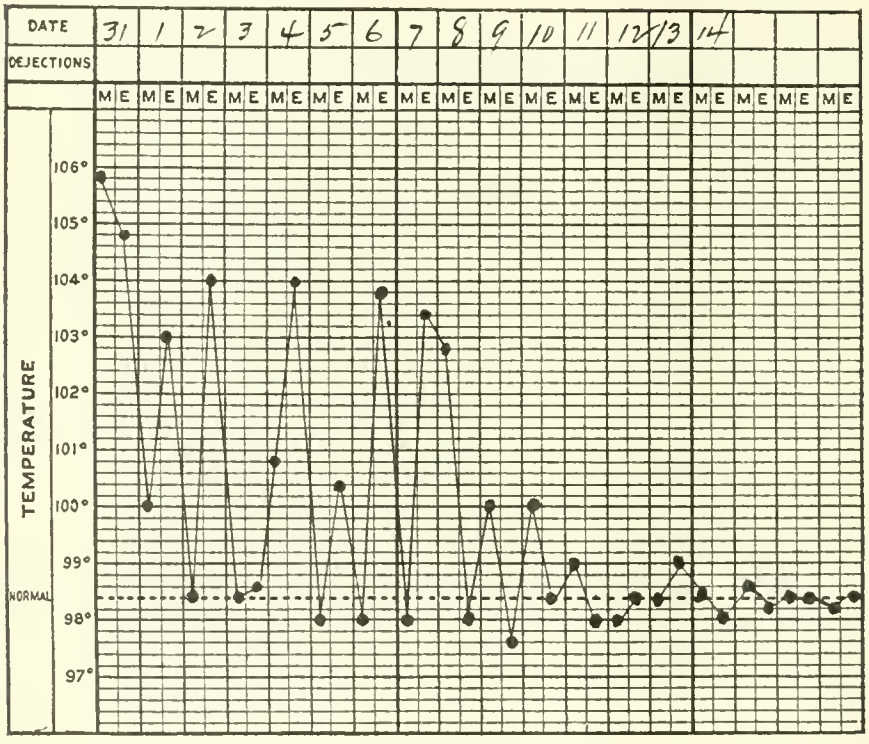

Chart IV.—S. T., admitted August 31, 1904.

to that found in Case VI, were evacuated. The wound discharged quite copiously for several days, and the temperature assumed a sapremic type. The malarial parasites disappeared from the blood after October 2, but the chill on that date was not averted. No subsequent chill occurred, but evidently the use of the antitoxin contained in the erythrocytes, even when given in much larger quantity than that which had previously proven necessary, did not relieve the symptoms promptly. While I yet believe that the antitoxin acts more energetically upon the unprotected sporozoits when these are free in the plasma, I am also led by this case to suspect that the postponement of the action of that antitoxin found in the erythrocytes is due to the fact that these must be disintegrated, physically, before they can be absorbed and the antitoxin become efficient. It will be noted that in both Case VI and Case VII the temperature showed a tertian type of temperature before the injections were made, and a quotidian type afterward. This fact, conjoined to the observation that the parasites disappeared from the blood in both cases within forty-eight hours, suggests that this postoperative fever was sapremic, after that interval.

The next case (Chart VIII), from a chronological standpoint, should precede Case VII, but is more conveniently discussed in this sequence. This man received, September 30, one-half gram of dessicated serum from white rabbit No. 3, in solution in four and one-half grams of sterile water. This fluid represented five grams of serum. Apparently no effects followed the injection, and on October 5 the use of quinine was begun, 324 mgm. being given three times daily.

The last case of this series (Chart IX) gave a history of five attacks of malaria in the past eleven months. He was quite cachectic, and the malarial parasites were found in his blood more abundantly than in those of any other patient who came under my observation during the past summer. He received October 10, a hypodermic injection of 0.75 gm. of desiccated serum from white rabbit No. 7, in solution in four grams of sterile water. This represented seven and four-fifth grams of rabbit serum. Daily examination of the patient's blood showed the parasites yet present on October 12, but none were discoverable after that date. The serum employed in this case had been developed in the largest and most active rabbit in my warren, and it is possible that this may have had some influence in determining its strength. It is a well-known fact that in the development of other curative sera some animals are much more useful than are others of the same species.

In all these cases the injection was given near the great trochanter of the femur, and a hot-water bottle kept at the place of injection for twenty-four hours in order to expedite absorption. It was noted that the serum injected caused much less local reaction than did the erythrocytes. From Case IX it would appear that the action of the serum (if it be at all curative), moreover, is much more prompt than is that of the erythrocytes, though in this case, with the dosage employed, it was not strong enough to cause the immediate disappearance of the parasites or to abolish the symptoms of the disease, it *apparently* exercised some effect within six hours after it was injected. This patient experienced his chills at about half-past three in the afternoon, and though the serum was not injected until 11 A. M., October 10, it will be noted that the rise of temperature that afternoon was just two degrees less than it had been the day before this treatment was instituted.

It would appear that dessicated erythrocytes, containing the malarial antitoxin, will find their chief usefulness in injections given to confer immunity, and it is possible that we will find the corresponding serum, in much larger doses, more suitable for curative purposes.

This case brings me to control observations—*i.e.*

follows that the amount of solids in 1.19 grams of moist corpuscles is 36.7 per cent. of that quantity, or 0.44 gram. This quantity by weight of dessicated corpuscles therefore corresponds to three grams of fluid blood.

those cases in which benign infections have disappeared spontaneously. Of thirty-one cases treated at Fort Reno during the past summer, on the expectant plan, with the use of phenacetine 150 mgm. q. 4h, for from five to seventeen days, four showed a tendency to spontaneous cure. In all of these control cases there was a gradual, generally progressive disappearance of the fever—not the abrupt cessation of it found in those cases reported in the table as cured. It was also noted that in all cases where erythrocytes were used in adequate quantity, and when no abscess formation occurred, that the condition responded decisively, after a definite interval, to the treatment employed, whereas only four out of thirty-one control cases showed any tendency to recovery under expectant treatment, and in these there was no definite uniformity. The temperature curve in Case IX, however, is so highly similar to that of one case that underwent spontaneous recovery (Chart X) that I am disposed to classify it as inconclusive, despite the severity of the infection in the former patient and the promptitude with which the parasites disappeared from his blood after serum was injected. I cannot regard the curative powers of the serum employed as fully demonstrated when his symptoms followed a course so similar to

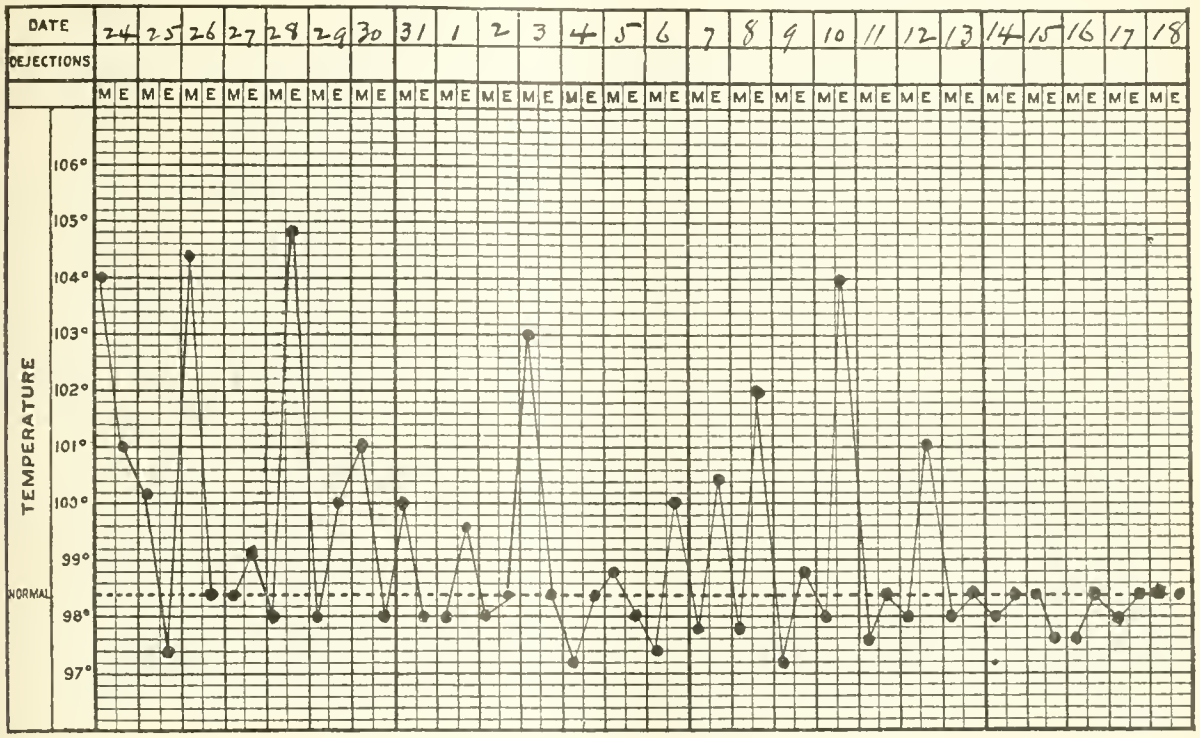

Chart V.—C. S. M., admitted August 24, 1904.

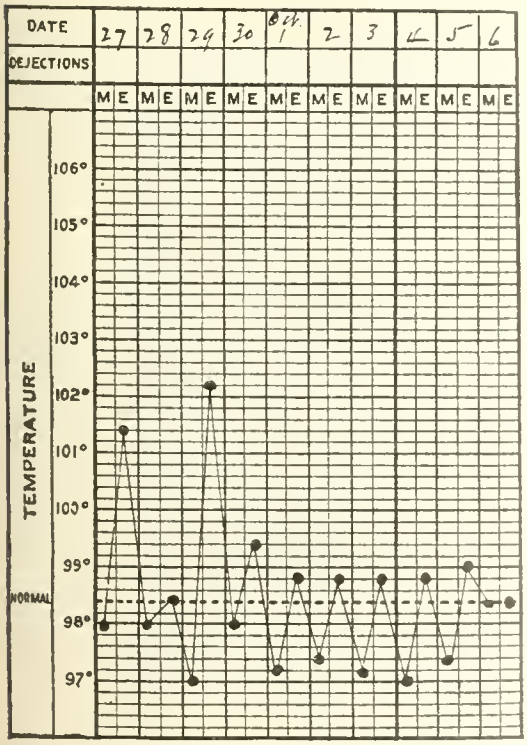

Chart VI.—C. J. C., admitted September 26, 1904.

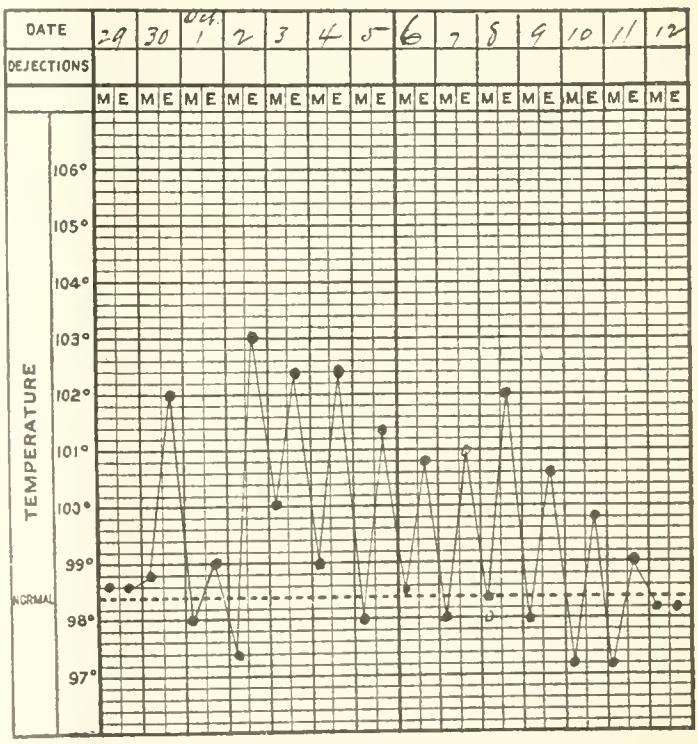

Chart VII.—D. J C., admitted September 29, 1904.

that of another case which underwent spontaneous recovery. The coincidence between the injection and recovery is interesting, and may be significant, but cannot properly be regarded until further investigated, in the light of other observations, as an illustration of cause and effect.

I am not prepared to discuss fully at this time control observations made upon tertian malarial cases with the blood of uninoculated rabbits, though this phase of the subject is evidently of the greatest importance. It will be discussed in a subsequent paper. Repeated examinations of the blood of infected rabbits failed to demonstrate the malarial parasite therein.

An analysis of the cases shows that the quantity of defibrinated blood that should be injected varies, but that about three grams is the minimum quantity that can be relied upon.

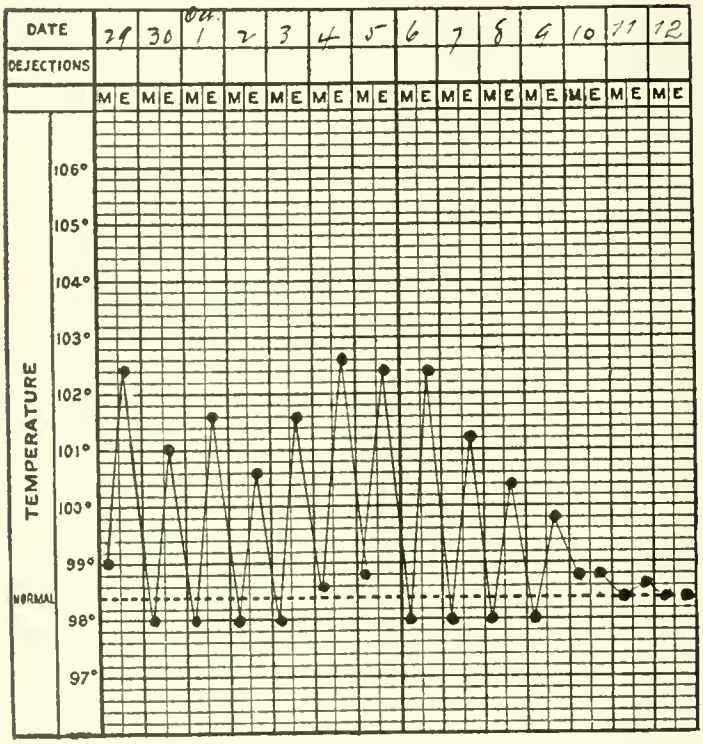

Chart VIII.—L. J., admitted September 29, 1904.

The chief purpose of these investigations was the discovery of an agent, which, when injected, will confer temporary or permanent immunity. Certainly, the discovery of a specific antitoxin is a long step in that direction, and we have reason to hope that we here possess the key which will unlock the tropics. It is a matter of general knowledge that the antitoxins now in general use possess immunizing as well as curative properties, though the duration of the immunity conferred is variable. If the immunity conferred by the injection of this antitoxin should continue as long as does that which follows vaccination its value would be established. By its universal, simultaneous use throughout a community the malaria therein would be practically exterminated. The effects of general vaccination in Porto Rico are yet before us. Vaccination is mentioned in this connection because it is the only established method of personal prophylaxis which, supposedly, makes use of the products of protozoal activities. Such an agent as that here developed should also have an important influence in clearing up the etiology of blackwater fever, and of those unclassified fevers of the tropics whose existence Manson, Crombie, and others, so earnestly and so reasonably maintain. Its influence or lack of influence in kala-azar would also be of interest.

Though the most hygienic, and therefore the best,

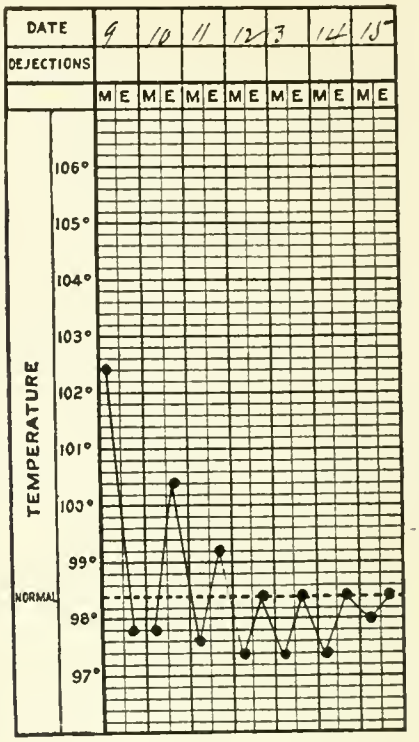

Chart IX.—R. C. U., admitted October 9, 1904.

method of preventing malaria rests in great degree* upon the extermination of anopheles, this measure is generally so expensive† that communities are unwilling or

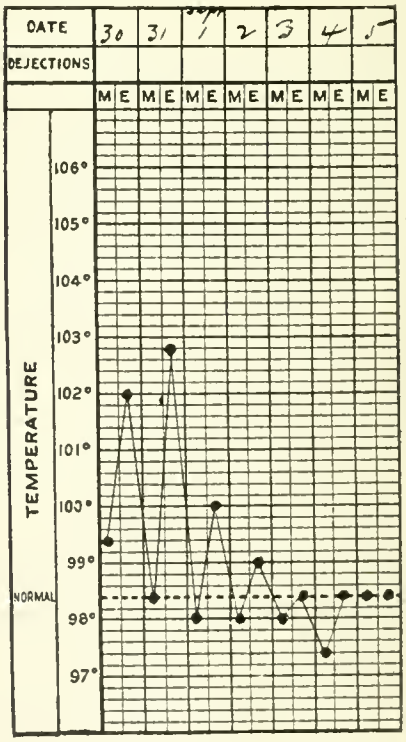

Chart X.—L. L. J., admitted August 30, 1904.

*It has never been demonstrated that malaria may be caused naturally by the bites of infected mosquitos *only*. There are strong grounds for suspecting that there exist other, but, as a rule, less important, sources of infection.

†Ross states that in Lagos the cost of the antimosquito campaign is about £10,000 per annum; in Klang and Port Swettenham, £3,225 and £8,600 for the first year's work, respectively, and that Taylor spent £1,000 for a preliminary drainage of the waste puddles of Freetown.—*Jour. of Trop. Medicine*, Vol. XVI, p. 225.

unable to undertake it, and in many districts, *c. g.* those in which rice is cultivated, it is utterly impracticable. Despite their potential wealth, tropical and subtropical countries are less prepared financially to wage war against mosquitoes than are the healthier countries in colder climates. Indeed, their poverty is due in no small degree to the prevalence of malaria in the richest parts of their territory. When we consider that this disease prevails especially in rural districts, and that the Caucasian pioneers of civilization in the tropics, whether they be civil or military, cannot hope for protection against it because of the wealth and enterprise of those communities wherein they may reside, it becomes apparent that specific individual prophylaxis, better than that conferred by quinine, has an important field of usefulness.

The scope of the observations here recorded is broader than is at first apparent. Though malaria is the chief bar to the commercial development of our southern States,* Italy, Africa, and other subtropical and tropical regions generally, the discovery of a specific antitoxin for one type of the disease is of less importance, *per se,* than is the principle whose existence that discovery implies. This principle is the fact that other human diseases of protozoal origin may, like those caused by some bacteria, prove amenable to antitoxin therapy. To practitioners resident in cool climates where malaria is neither prevalent nor, as a rule, severe, observations on its specific treatment must prove of academic rather than immediate practical value, but their experience with other less tractable infections, caused or believed to be caused by sporozoa, gives at least ulterior importance to the principle here enunciated. It is the basis of a natural, working hypothesis which, there is reason to hope, will contribute greatly to the successful treatment of diseases of this class.

In this connection it may be mentioned that Sternberg has suggested that the serum of a calf inoculated with vaccina might possess curative properties against variola. He also mentions the fact that Kinyoun, utilizing this suggestion, has found that such serum did possess curative properties to a limited degree in two cases of this disease in which it was employed. In the light of Councilman's discoveries, it is suspected that the organism causing variola may be a protozoan, though the exact nature of the bodies described by him, and their etiological importance in relation to that disease, cannot as yet be regarded as established. So far as I am aware, indeed, Councilman has never stated that the bodies which he found in variola are the specific cause of it, but his silence on this point and his well-known conservatism by no means negative the suspicion that this may actually be the case. Though Kinyoun's observations cannot as yet be regarded as a conclusive demonstration that protozoal infections may be cured by antitoxin treatment, they are highly important, and a noteworthy contribution to our knowledge of the subject. It would be interesting to learn whether the erythrocytes of a calf inoculated with vaccinia possess curative properties analogous to those resident in the red blood corpuscles of rabbits inoculated with malaria.

No. of Case.	Age.	Sex.	Race.	Date of Onset.	Type of Infection.	Blood Examination.	Material Injected.	Date of Injection.	Quantity Injected.	Source of Material.	Results.
1	23 3/12	M.	White.	Aug. 23	Benign tertian, single.	Benign tertian, one brood moderately abundant.	Serum.	Aug. 29	0.75 gm.	Brown rabbit No. 2	None apparent.
2	24 9/12	"	"	Aug. 30	Benign tertian, double.	Benign tertian; two broods, one moderately abundant, the other scant.	Defibrinated blood.	Aug. 31	1.50 gm.	" " "	Temporary disappearance of symptoms.
3	32 3/12	"	Colored.	Aug. 31	Benign tertian, double.	Benign tertian; two broods, both moderately abundant.	Defibrinated blood.	Sept. 1 Sept. 7	2.00 gm. 1.50 gm.	White rabbit No. 2.	Recovery.
4	25 11/12	"	"	Aug. 31	Benign tertian, double.	Benign tertian; two broods, one moderately abundant, the other scant.	Defibrinated blood.	Sept. 4 Sept. 7	1.50 gm. 1.50 gm.	" " " " " "	"
5	21 9/12	"	White.	Aug. 24	Benign tertian, single.	Benign tertian, one brood.	Defibrinated blood.	Sept. 4 Sept. 11	1.50 gm. 1.50 gm.	" " " White rabbit No. 4	"
6	22 8/12	"	"	Sept. 25	Benign tertian, single.	Benign tertian, one brood, scant.	Dessicated erythrocytes	Sept 28	0.50 gm.	White rabbit No. 3	Abscess developed at site of injection. Recovery.
7	28 7/12	"	"	Sept. 28	Benign tertian, single.	Benign tertian, one brood moderately abundant.	Dessicated erythrocytes	Oct. 1	1.00 gm.	" " "	"
8	25 8/12	"	Colored.	Sept. 22	Benign tertian, double.	Benign tertian; two broods, both moderately abundant.	Dessicated serum.	Sept. 30	0.50 gm.	" " "	None apparent.
9	21 10/12	"	White.	Oct. 9	Benign tertian, double.	Benign tertian, two broods, both very abundant.	Dessicated serum.	Oct. 10	0.75 gm.	White rabbit No. 7	Injection followed by disappearance of parasites and fever. See context.

In this connection it may be mentioned that Sternberg has suggested that the serum of a calf inoculated with vaccina might possess curative properties against variola. He also mentions the fact that Kinyoun, utilizing this suggestion, has found that such serum did possess curative properties to a limited degree in two cases of this disease in which it was employed. In the light of Councilman's discoveries, it is suspected that the organism causing variola may be a protozoan, though the exact nature of the bodies described by him, and their etiological importance in relation to that disease, cannot as yet be regarded as established. So far as I am aware, indeed, Councilman has never stated that the bodies which he found in variola are the specific cause of it, but his silence on this point and his well-known conservatism by no means negative the suspicion that this may actually be the case. Though Kinyoun's observations cannot as yet be regarded as a conclusive demonstration that protozoal infections may be cured by antitoxin treatment, they are highly important, and a noteworthy contribution to our knowledge of the subject. It would be interesting to learn whether the erythrocytes of a calf inoculated with vaccinia possess curative properties analogous to those resident in the red blood corpuscles of rabbits inoculated with malaria.

* It has been estimated by competent authority that in the states south of the Potomac, Ohio, and Missouri rivers, malaria costs the laboring class in loss of wages alone, between ninety and one hundred and five million dollars annually. These figures are thought to be conservative.

REMARKS ON MELANCHOLIA.*

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We are told by some writers on mental diseases that melancholia is a very uncommon disease, and that whereas formerly it was encountered more frequently than mania, to-day melancholia is much less common. Others maintain that there is no such disease as melancholia, that that which we call melancholia is a symptom of a diagnosticable condition, which, being the real disease-process, should be entitled to the name. Personally, I am in sympathy with such writers insofar as their position compels them constantly to seek for the dependency of melancholia, but I am unwilling to accept their statement that there is no such disease as simple melan-

*Read before the New York Neurological Society, November 1, 1904.

cholia, *i.e.* melancholia (without any reference now to its intensity or its clinical display) which is not a constituent of other disease, physical or mental. The general practitioner is likewise loath to accept such statements, because they seem to him to be at variance with his experience. It is unlikely that there has been any radical change, either in the relative frequency of melancholia, or in its clinical display, within the past twenty-five years, so we must account for the altered attitude of psychiatrists in some other way. My purpose now is to set forth my own position in the matter, and to substantiate it by a recital of a few illustrative cases. The difficulty in discussing the subject is that the term melancholia is used by writers with great latitude and without specificity.

Melancholia, or mental depression, coupled with moral insufficiency, sadness, and anguish, is of common occurrence. We encounter it in certain toxic states, such as alcoholism, and states of insufficient oxidation and deficient elimination. We find it associated with neurasthenia, hypochondria, general paresis, cerebral and diffuse arteriosclerosis, dementia præcox, and mania, and we find it occurring without any of these associations. The question is, it seems to me, is there a form of insanity in which mental depression, coupled with moral insufficiency, is the conspicuous symptom, which has, in addition to the depression, something individual in its delineation, course, and outcome that justifies us in using the word specifically? In other words, is the depression merely a phase of some disease, or some stage of retrogression in the economy, such as the so-called involution melancholia, *i.e.* symptomatic, as it were; or is it in reality the disease itself? To this question the answer must be, there is such a disease. That it is of frequent occurrence compared with manic-depressive insanity, *i.e.* insanity characterized by attacks of depression and excitement, which may be but often are not coincident, cannot, I think, be maintained. As to the nature of this disease and its dependency, that is another question, and one to which an answer cannot be given. But in another way it may be said that melancholia = a percentage which has not yet been accurately determined, of general paresis, manic-depressive insanity, intoxicative conditions, involution melancholia, etc., and = x, which is as yet an unknown quantity. That the problem is resolvable is to be sincerely hoped, but the surest way of not solving is to deny its existence. As Dr. Johnson once said in talking of those who denied the truth of Christianity, it is always easy to be on the negative side, and very difficult to reduce those who take such position to an absurdity. Every neurologist sees a great many cases which he diagnosticates as melancholia, without being able to satisfy himself of the dependency of the melancholia, just as the general practitioner or consultant in internal medicine must often still make the diagnosis of indigestion without being able to satisfy himself that it is dependent upon any one or more of a number of disordered conditions that are sufficient to cause it. When the neurologist has the opportunity of observing these cases for a protracted time he is enabled to classify them more specifically and from an etiological standpoint more correctly. It is these cases that he should use with great effect in a discussion on the classification of the melancholias.

In 1902 I had under observation fifteen such cases of melancholia. This number does not include any of those cases that I saw once or twice in consultation with other physicians, or that I saw casually a few times in my clinic or the hospitals which I served. Of these, five were between twenty and thirty years, five between thirty and forty, and five between forty and fifty. In five cases the cause could not be assigned, in four it was attributed to fright, in two to religious worry and disappointment, in two family frictions and worry. In one, to worry over a red and swollen condition of the nose, and in another to the depressing effects of disagreeable and terrorizing dreams. In other words, the attributed cause in the majority of cases was what might be called moral or emotional. Considering the fact which is thoroughly established, viz., that a psycopathic heredity is one of the most important etiological factors in insanity, it is worthy of remark that in these fifteen cases there were but three whose antecedents had nervous or mental disease. There is less likelihood of finding a history of insanity in the ancestry of patients with melancholia than in almost any other variety of insanity. Of these fifteen cases four eventuated in manic-depressive insanity, one developed general paresis, and one dementia præcox. Another case later seemed to be more properly diagnosticated neurasthenia. Four of the fifteen were cases of involution melancholia, and the remaining four were simple melancholia from start to finish, and have all eventuated in recovery.

Another point worthy of note is the age at which the psychosis developed in these cases. There is a tendency at the present time to put all cases of melancholia that cannot be referred to organic disease and manic-depressive insanity under the head of "involution-melancholia," *i.e.* melancholia associated with retrograde changes in the tissues and occurring at a time of life when such changes of the tissues set in physiologically, and therefore directly or indirectly dependent upon them. It is my experience that considerably less than one-half of all the cases diagnosticated as melancholia, using the term in the specific sense mentioned above, can be placed in this category. And this includes those cases in which the depression and anxiety may be called "pre-involution" attacks. That is, attacks which terminate in recovery, but the patient later develops involution melancholia. It goes without saying that some of the cases occurring in the young which I diagnosticate as melancholia, may be the initial depression of dementia præcox, which does not reveal itself in a way to permit diagnosis until a long time afterward, but I am not inclined to this view. A very considerable number of cases occur before "involution" begins, and are not episodes of other disease. These cases are of particular interest because of their eventuation, which is almost always in recovery. As an illustration of this class, the two following cases may be cited:

Mrs. X., 24 years old, whose ancestry showed geniuses, average persons, and derelicts, began to be depressed, without attributable cause, one week after the birth of her first child. She had a fairly hard labor, and had experienced a laceration of the perineum of the second degree, which was immediately repaired. She soon became suspicious, self-accusatory, and uncommunicative. She refused food, and had to be tube-fed. The character of her delusions were not readily elicited at that time, for mutism and absolute uncommunicativeness were very conspicuous, but after her recovery, they, as well as the hallucinations which she had, were described in detail. She reasoned, she says, in as logical a way when she was in the attack as she did before. The conclusions were no falser than the premises. She became convinced that she had committed the most heinous crime, and that, although she could not expiate it, she could do something toward keeping the results of it from

being visited upon those whom she loved, by dying and giving herself over at once to the monarchs of perdition. The wind rustling through the trees, the sound of a distant locomotive whistle, the clang of a neighboring school-bell, all conveyed definite statements, expressed in articulate language, telling her of her sin and of her duty. In addition to this, she manifested a most pronounced repulsion toward her husband and toward her child. She afterward explained this by saying that it was her desire to spare them from contamination. Later, she mistook identity, occasionally confounding those about her with sacred personages, to which she made appeal to be let die, that she might begin her atonement. Although she was extremely noncommunicative, there was no psychomotor retardation. Her physical condition soon showed the effects of the disorder, in rapid loss of weight, deeply furrowed, tremulous tongue, foul breath, collection of sordes on teeth and lips, scant secretion of concentrated urine, sluggishness of the bowels, and sleeplessness. A large part of the time the patient was very suicidal, and was keenly alert to anything approximating an opportunity of taking her life. After six months she began to recover, and at the end of ten months was quite well, and has remained so now for eight years, during which time she has borne three children.

In a case such as this, it may be said we are dealing with a puerperal psychosis due to infection of some sort. For several days, in the beginning of the attack, there was a considerable rise of temperature and perceptible enlargement of the spleen, which led the physician in attendance to suspect typhoid fever. But my purpose here is not to discuss the etiology of acute melancholia, but the actuality of its existence. Here is a case in which the most distinctive features of acute melancholia, disorder of feelings, will power, and intelligence, were displayed. The insidious way in which it began, each day her views of her relationship to the environment becoming more distorted, the slow crystallization of her self-accusatory ideas, the agonizing belief of culpability, the gradually developing conviction of the necessity for self-immolation, the distressing hallucinations and the reaction to them, the attempts at suicide, and the physical symptoms, all go to make up a most typical picture, and one that, in my experience in private practice, is not very common.

There is little danger that such a disease as this will be confounded with manic-depressive insanity, or with involution melancholia. Nor can it be looked upon as a state of amentia and confusion. It is, in reality, a type of mental disorder of which I have seen many cases, and which, so far as my experience goes, does not form a part either of manic-depressive insanity or involution melancholia. In some cases the distinction is not, however, so easy. For instance, in the following case, it was not easy to say whether the patient had simple acute melancholia, or involution melancholia. Mrs. X., 42 years old, has had a life of hard work, worry, privation, and struggle, for many years. Her husband had been ill and incapacitated by tabes for a long time. Recently he developed mental symptoms, and had to be sent away. The small business which she was conducting had to be given up, and she soon found herself succumbing to a depression that could not be shaken off. To add to this, she was taken with a bronchitis or grippe, and the doctor told her he was afraid her lungs would be affected, and sent her to a hospital. This made her more apprehensive, and she gradually became convinced that she was going to be killed. The following is a stenographic report of an interview with her after she was taken from the hospital, many of the remarks being responses to questions: "I remember you well. You used to treat my husband (which was true). I am so glad to find you again! They abused me dreadfully up there. They put electricity on me. They put gas over my head at night. They were a hundred times going to throw me into the river. They let the water come in through the back of the hospital. They throw the patients in, and out they go into the river. Some they take back again after they immerse them. They choked me, thumped me, and pulled my hair. When I was under the gas they did operations on me—something to my stomach. I can't cough any more. I can't pass my bowels. They did something to them which prevents me from doing anything, so when I want to have a passage they send someone else to the closet. They give someone else the bed-pan, so I can't have a passage. To-day I had a passage, and the people outside called me all sorts of names. They said, 'Throw it on top of her.' I asked them if I could go to the toilet, and they said 'No.' They said, 'She has killed two up in the hospital.' When I want the bed-pan, there is a woman who uses it instead of me. There was a woman in the ward, and when I used to go to the chamber they'd give her the bed-pan, and she would do what I wanted to do. She had her stomach out. They had my bowels so hard they'd never open. One day I had to change, and they said I had killed her. I saw her dead, and I saw them take blood and clothes out of her. I heard them say, 'We will give it to her to-night,' meaning me. When I wanted to urinate, a French woman down at the bottom of the ward would do it. There was a lovely girl there, an Irish girl, and they were going to kill her last night. They were going to do it because she was a Catholic. It isn't a hospital, it's a place to plunder people and kill them. There are a lot of those women they call nurses from up there, down here. They said I had two husbands. They said I was Lowenstein's whore, that I had another man in Ireland, that I was rotten with disease, and that I was falling apart. I seen them killing, I don't know how many, up there, doctor."

"What place is this?

"This is —— Hospital. (Correct.) But it is all —— Hospital that is around me."

"When did you come here?"

"The night before last, Saturday night, in the ambulance. It took about three-quarters of an hour, perhaps less. I was so glad to get away from ——. I used to see you at the Post-Graduate clinic about ten years ago, when I would get powders for my husband. These ideas I have are not delusions. I am sure I will be killed, as soon as you leave. If you will take me to your hospital, I will not say a word. People listen, so I am afraid to say a word. I dare not open my lips. When I was here this afternoon." When I start to go, she says, piteously, "Please don't leave me behind! They'll kill me just as soon as you go. I know they will."

Five days later: "They said they were going to benzine me. They have a machine out there in the corridor that they are going to use on me, and then throw me into the river. They are all here from ——; a whole lot of them. Now I'll be killed entirely, when you leave! When my bowels moved, this morning, they all said, 'Pitch her out, throw it on her; she is good for nothing.' I have been here since Saturday. I am not out of my mind; you think I am, doctor? I asked for a priest, and they said, 'When he comes in, you can see him,'" etc., much as before.

She is very much emaciated and anæmic. There is no tenderness on pressure over nerves, and there are no sensory disturbances. The knee-jerks are

present. Pupils equal, and respond to light. No tremor of the hands or face; fine tremor of tongue. Three months later she said that my assurance that nothing would happen to her helped her very much. She thinks she must have been out of her head, delirious. She knows now that those were delusions. She has no fear of being killed or injured. She can have a movement of the bowels when she takes medicine. Has now no suspicion that people talk about her, or depreciate her. She has gained in strength, flesh, and color. Her progress toward recovery was gradual and uneventful. She has now been quite well for a year.

Fear and apprehension were the most conspicuous features, and dependent directly upon the delusion. That she was not confused, in the ordinary sense of the word, was shown by her recollection of me, by recognition of her surroundings, by relation of her past experiences, *i.e.* before she was taken ill, and in general, by her correct orientation. In two months her delusions became less dominant, and her general health began to be restored, and in four month's time she was able to return to her work. That she may be a case of pre-involution melancholia I do not deny. She has no physical signs that indicate beginning senile degeneration, though she is entering the involution period. By some writers, this case would be classified as delusional insanity, on an exhaustion basis, but it is cited here for the purpose of showing that it presents all the features of an acute melancholia, that terminates in recovery.

I shall cite another case, which is still more typical. It is quite clear that this case may properly belong to the group of the manic-depressive insanities, particularly if one is willing to accept that manic-depressive may exist, showing itself in several attacks without maniacal manifestations. Mrs. X., 36 years old, has one child 7 years old. Since the birth of her child, she has never been in robust health. Five years ago, she had cholecystotomy performed upon her. About a month before I saw her, she began to be depressed, inactive, neglectful of her person and her work, uncommunicative, and without interest in anything objective. She quickly became self-accusatory, maintaining that she had been faithless to her husband, and that she must get out of the way. She became convinced that her friends were against her, and that they and her husband wished to get rid of her, or get her into an asylum. Every one believed she was a thief and a bad woman. At times she was hallucinatory, seeing angels and devils, and reacting to these visualizations. After a few weeks she became profoundly suicidal, and had slashed both wrists with a knife, and nearly bled to death in consequence. She was very adverse to enter into conversation, but there was no psycho-motor retardation. Once her determination not to talk was overcome, the rapidity of her psychical processes as manifest by speech was quite like that of a normal person.

She told her story in the following way, the statements being responses to questions: "I have been married seven years last October, and have one boy 6 years old. I have never been as well as I should be, since my boy was born. I have had trouble with the intestines, and constipation. During the past two years my husband had lots of trouble about positions, and that worked upon my mind. I had headaches, and my eyes hurt me. I always put the worst construction on that which anyone said. I was a pessimist, and ought not to have believed what people said. As long as I was married I was faithful, and I trusted my husband, and I know he was faithful to me. I did something wrong when I was a girl. I was afraid people would find it out. I told my husband, and he forgave me. My mind was all confused and I was—I don't know what I thought, but I thought I had to die. If we come together again, I shall change life and we'll be happy if I can. I had been worrying about the things I had done, for a month or more. There was some clothes stolen from the roof, and they accused me of doing it, and people avoided me, pointed me out in the streets, and talked about me and treated me queer (bursts into tears). I feel better since I am here. I was misguided by talk and gossip. I shall not listen to them any more. This is the first time I have been depressed." Here she becomes somewhat confused, and begins to tell of her troubles again. She made a complete recovery within six months.

These cases are to be distinguished from involution melancholia more by their clinical course and termination that by any other features. As a matter of fact, I am unable to differentiate them save from a consideration of the patient's age, the absence of arterial sclerosis, or other manifestations of retrograde change in the tissues and vitality.

For instance, the following case, which is a fairly typical one of involution melancholia, reminds forcibly of the one just cited, while it illustrates the difficulty of differential diagnosis.

Mrs. X., a German, 39 years old, is married the second time. She had six children by her first husband, and two by the present husband, an Irishman. (She tells her own story.) "He wants to make a Catholic out of me. I'd like to be one myself. I went to the Catholic church for two years. When I first saw high mass, it affected me so I cried; since then I can't go in a Protestant church. I don't know what has happened the past few weeks. It must be something with my head. Yes, I have had something like headache, and I haven't understood right what people say. I forget everything. I worked hard when my first husband was alive, and my nerves broke down. There was some bad talk around the house. People said I passed my bowels in the garbage barrel, some said I wasn't married at all, that I went out and made my living on the street, and talk like that. They said it, I suppose, because I wore nice clothes. The Catholic church had something to do with it; I guess perhaps the people in the house did not want me to join the church. They would like to have me in State prison. I heard them calling out, 'Chop wood.' I didn't know what it meant. They called me very bad names." (Here she repeats them with all specificness.) "They wanted to go in my room and take my clothes and hock them. People in the street watch me all the time. No one has tried to poison me, but one woman said she would do it. They told me my husband was here to-day, but it looked like another man, so I didn't speak to him. I heard the talk from my bedroom window. I can't tell what it was. My mind is going. I have it one minute, but the next minute I have forgot it. I have got a terrible headache, and there is a heavy load on it. My whole body is sick."

These statements are the result of patient interviewing. She has no objectivity whatsoever. She sits with her head leaning on her hands, dejection, detachment, and inaction in every feature. Some days she is apparently confused and disoriented. But this is the result of profound preoccupation, rather than want of perspection. The principal somatic symptoms are: Tongue coated, breath foul, hands tremulous, tendon jerks +, pulse 68, volume small, blood-pressure (Riva-Rocci) 185, extremities cold.

Improvement in her physical condition has brought no corresponding change in her mental

state. In fact, there has been mental deterioration. "Her mind has ceased to struggle with the disease, for she has grown fat upon it." Save for the increased blood-pressure, there were no evidences of senility, and these are by no means necessary accompanying conditions. Oftentimes we find in the most typical involution melancholia no evidence of senility whatsoever. The feeling that this patient expressed, that her strength and her mind were gone, associated with her inertness and narrowness of mental horizon, were very typical.

The following case, in which the symptoms were thought by neurologists who saw him first to be an expression of arterial sclerosis, *i.e.* a senile melancholia leading up to senile dementia, but which has proved to be a fairly typical case of involution melancholia, shows some of the most constant features of involution melancholia better than any other. They are the delusions of poverty, the fear of impending disaster, the anxious restlessness, the manifestations of fear and terror in expression and attitude, the enormous and the absorbing subjectivity.

Mr. X., 65 years old, married, is the father of four children, all of whom are in good health except one, who has spinal curvature. His family noticed the first decided symptoms after his father's death in December, 1901, although they are conscious now that an almost imperceptible change had been coming gradually for a number of years. In December, 1901, they came to a hotel in New York. He worried about the charge for the room, the price of the food, the carfare spent by the family; he was sure he was going headlong to the poor-house. Nothing could stop him. He could not afford to wear the clothes he had on. He couldn't afford to go to the barber, etc. He was apprehensive about his having done something for which he was going to be apprehended. He soon refused to go into the dining-room. He couldn't afford it. He then became sullen, restless, talked to himself, and became uncommunicative. Finally, he refused to stir from his room. He would sit all day, swaying and moaning, now and then speaking briefly of his unworthiness. He had brought it all upon himself, and his family were the sufferers. He was of no use, he couldn't do anything. His mind was gone. He was then committed to an asylum, and remained there eight months. At that time patient required forced feeding for a period of two weeks, and at intervals for several months. About February, he persisted in vomiting food after each meal, and his family feared cancer. A physician was consulted, who pronounced it a mania in the patient's presence, and advocated eating food as it was regurgitated. The habit, which had been very persistent for three or four weeks, was overcome within three or four days.

When first seen by me, he had a frightened, distressed expression. When spoken to, he would answer in yes or no after a long wait, during which time he had the appearance of debating with himself whether or not he would answer. At times, instead of answering, he grunted, and then started as if to do something purposeful, left off suddenly, and then went to do something else. As a rule he was quite taciturn, and asked very few questions unless they related to family matters, when they were likely to be about his poverty. At these times he would show great anxiety, and repeat his questions with the keenest intentness, as if his life depended upon the answer. One of the most constant characteristics was a continual forward and backward swaying motion while in repose in a chair or carriage, and at times this was coupled with moaning. This would cease while driving, eating, or reading, but not while talking. He was not only very slow in his mental responses, but in the physical acts as well. In dressing, he was always very slow, but unlike most melancholics he was methodical to a fault. All physical acts, with the exception of eating, were very slow. When he was not refusing his food, he gulped it without masticating, and looked as if his desire was to avoid being seen. At this time he was not self-accusatory, although he had been formerly, and he had no delusions of having done wrong, or no delusions of reference. He was constantly depressed, anxious, and distracted, but no formal delusions save that he and his family were going headlong to ruin and the poor-house because of some fault of his own, and that his food, and perhaps also his baths, were poisoned. At the end of a year he was vastly improved, mentally and physically. At the present time his memory is good for recent as well as for past events. At times he talks rationally and quietly about his illness, but more often refers to it surreptitiously, saying he may not live through the night, and in parting with friends he bids good-bye, saying they may never see him alive again. He often joins a general conversation, and talks with clearness and intelligence.

That this patient's mental symptoms stand in direct relationship to his arterial sclerosis, there can be little doubt. The evidences of such arterial degeneration are the enormous increase of blood-pressure determined by the Stanton apparatus, the thickened, whip-cord condition of the peripheral vessels, and the altered heart sounds. Moreover, he has made most gratifying improvement, an approximation to recovery from the mental symptoms under treatment, dietetic and medicinal, directed against this lesion. It differs in this respect from the average involution melancholia, which, as has been said, rarely shows the physical signs of arterial degeneration. Another noteworthy feature of the case is that there has been so little dementia.

In many cases of involution melancholia the somato-psychic delusions oftentimes take on very strange and weird characters. Under the dominion of such delusions the patient, in many instances, develops a stereotyped way of doing certain things, or indulges in certain gestures or habits which are many times labelled as mannerisms. Such attributes occasionally lead the physician to suspect that he is dealing with dementia præcox. This is well illustrated by the following case, which I saw many times at the Long Island State Hospital at Kings Park. She was diagnosticated there as a case of involution melancholia, but one, at least, of the physicians of the staff was satisfied that the case was one of dementia præcox.

Mrs. X., 42 years old, of common school education and temperate habits, was admitted to the Long Island State Hospital, January 22, 1902. No history of nervous or mental disease in her family. She had been healthy, and of average mental capacity, but inclined to be rather pessimistic. For many years she has been subject to headache of a migrainous character. About two years before admission, she began to fail physically, to be despondent, had "dyspepsia," and finally lapsed into a condition diagnosed by the family physician as "nervous prostration"; she became depressed, detached, uninterested in her family, and negligent in her dress, untidy, and suffered almost constantly from sleeplessness. In October, 1901, her condition was aggravated; she became restless, delusional, threatened to commit suicide, and made several attempts to take her life by throwing herself down stairs, dashing her head against the wall, etc. Soon (January, 1902) she began to express delusions of an absurd nature; said she was changed into a monkey, was all rotten inside, etc.

On admission to the hospital, physical examination showed marked emaciation, slight anæmia, very decided diminution of hydrochloric acid of the gastric juice, and a few hyaline casts in the urine. Otherwise, nothing noteworthy. She appears to be greatly depressed and anxious; she is restless and agitated, expresses ideas of self-accusation, and has absurd somato-psychic delusions, fear of torture, and a desire to be put to death; she talks a great deal, showing stereotypy in her intonation, phraseology, and gestures. She resists everything that is done for her, refuses food, and has to be tube-fed. During the visits of her husband and other relatives, she behaves in the same manner, remaining entirely unaffected by their presence; she has also grown filthy in her habits, collects rubbish, garbage, and fecal matter in her pockets, and is very negligent about her person. From her remarks, demeanor, and answers to questions, it is evident that she is well oriented in regard to time, place, and personality, and has an accurate grasp on the surroundings and a good memory for recent and remote occurrences. She has no insight into her mental condition, believes herself to be as sound mentally as she has ever been, but in spite of this she has never made any request to be discharged from the institution. She is sleepless, and often even large doses of hypnotics fail to produce any effect. She is profoundly restless and clamorous. Almost constantly she screams, in a hoarse, raucous voice and supplicating tone, to have the obstruction which she maintains is in the throat removed. She clutches the throat with one hand, pounds upon the door or floor with the other, and screams rhythmically. The following is a stenographic record of her spontaneous utterances: "I tell you I am perfectly sane, it is no delusion, everything I have taken for the past year and a half is right tight here in my throat, nothing goes to my stomach. The reason my bowels move is caused by a little fluid pushing down into my stomach. Come here, quick, quick, quick, Dr. Taddiken, what I say about myself is so. Oh, Dr. Taddiken, Miss Rock (the nurse), have mercy on me, and put me out of my terrible agony. I am a creature cursed by God. I tell you it can't go on another second, you will have to burn my body at once. Dicky, dicky, dock, slack, quack, quack, quack (an articulate sound, as if a great effort was being made to clear the throat). Dr. Taddiken, I tell you I haven't a breath. If you put your hand to my lips, you will find very little breath. I tell you, you have to burn my rotten body at once. I will never die, my body is all decayed, caused by all the food in my throat. I am the biggest devil and torment in the world." Each of these sentences interspersed with gasping, panting respiration, and frequent hawking expirations. "Miss Rock, you think I do this to annoy you, by banging doors and following you, but I tell you, you have got to get it out at once. I tell you it can't be a sheet, it must be a fire. All the strawberries, tons of candies, thousands of slices of bread, fruit, gallons of milk, tea, soup, and coffee, all the cereals, vegetables, peaches, apples, plums, pears, all the chocolate creams, and all my husband brought me, all I have taken that did not belong to me, is right, tight, tight in my throat. Oh, my God, Miss Rock, look at all the flies gathering on me on account of this food in my throat. Look at the veins in my hands and arms, all bloated on account of that food. Joe, Joe, Joe, dicky, dicky, dicky, oh, oh, oh, my voice is gone, my voice is gone, my voice is gone (each repetition pitched in a higher key). This may seem like the ravings of a crazy woman, but I tell you I am perfectly sane. I tell you it is the Gospel truth, no ten men ever put into their stomach what I put into my throat. Hear, my voice is gone, my teeth are tight, tight together. Quick, fire, fire, fire, Miss Rock, quick, quick, for the love of God. I tell you it can't go on another second. My God, have mercy on me. If the doctor puts that tube in my nose he will find it can't go down. I am a perfect fool to put all that food in and waste it, as it can't go to my stomach. I have known my terrible fate from the first, and I tell you it's got to be fire, fire, fire. Oh, tell Miss Rock to come here quick, quick, she has got to do it at once, she has got to put my body in that fire at once. Oh, doctor, come here quick, all the food I have taken for the past year and a half is tight, tight in my throat." This, freely interspersed with vain supplications for relief, and raucous, almost rhythmical, cries of distress, conveys an adequate idea of the picture she presented. It is worthy of note that, despite her clamorousness by way of shrieks and words, there was remarkably little show of emotion in any other way.

Later, it is noted that her apparent depression and seemingly extreme anxiety, on close study was thought to be superficial, her talk of the most horrible tortures being sometimes interpolated with commonplace remarks about occurrences in the surroundings, thus: "Oh, you have got to burn my body at once, I cannot stand it another minute, dicky, dicky, dock, Miss Rock, you would not like to have me tell the doctor that you are reading a novel while you are supposed to be on duty (this in a very detached way, like a loud "aside"); oh, the horrible tortures," etc.

She developed pulmonary tuberculosis, and died two years after admission to the hospital, the mental condition having remained unchanged.

A sufficient number of cases have been cited to show (1) the very great variation in onset, delineation, and course that melancholia may present, and (2) the difficulties that beset the attempt to put these cases in one of two groups: Manic-depressive insanity and involution melancholia. I have purposely restrained from discussing cases in which depression of spirits, feeling of unworthiness, morbid subjectivity, mild anxiety states, and concernment in relation both to self and others, are symptoms of sufficient importance to the possessor to lead him to consult a physician. Neurologists see many of the cases, and have much difficulty in deciding whether they shall be called neurasthenia, hypochondria, or melancholy depression. Some of these patients eventually become insane (using the term now in its legal sense), but I believe the vast majority of them do not, nor is their mental capacity so interfered with that they have to give over attention to their business. These cases do not come within the scope of the present discussion. That some of these develop involution melancholia, there is no doubt, that occasionally manic-depressive insanity is heralded by such symptoms is likewise true, but that the great majority of them do not become insane, cannot, I think, be gainsaid. Whether or not there is such a disease as acute melancholia is of the greater importance because it carries with it the matter of prognosis. The outlook in manic-depressive insanity and in involution melancholia, there is no doubt, that occasionally diagnosis of either one carries with it a serious prognosis. Not so the cases I have in mind, and that I describe in the first three histories. The prognosis in them is very favorable.

32 West Thirty-eighth Street.

A Nonagenarian Physician.—Dr. Woods, of Birr, in Ireland, probably enjoys the distinction of being the oldest medical man in active practice. He is ninety years of age and makes his professional rounds on a bicycle.—*London Globe.*

REPORT OF A CASE OF PRIMARY LUPUS VULGARIS OF THE OROPHARYNX AND NASOPHARYNX TREATED BY X-RAYS.*

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Primary lupus vulgaris of the pharynx and nasopharynx is sufficiently rare to warrant one placing another such case on record, but especially when the means of treatment are new and the results obtained satisfactory.

The following is a brief outline of the patient's history: L. T., a lad aged 15, consulted me at the Nose and Throat Department of the Royal Victoria Hospital, in November, 1902. He complained, at that time, only of difficult nasal respiration, which condition has existed, as far as he knew, for three or four months, but has become especially marked within the past two weeks. The lad is robust looking, and apparently in good health; his intelligence, however, seems rather below the average. He has always lived on a farm, and been accustomed to outdoor life. His health, from infancy up to the time of the onset of his present illness, has always been good. Regarding the family history, one brother and three paternal uncles have died of pulmonary tuberculosis. One striking feature in connection with this case is that the patient occupied the room in which his brother died of tuberculosis.

The lymphatic glands in the anterior triangles of the neck are felt to be distinctly enlarged. Examination of the heart and lungs reveals absolutely nothing abnormal, and there is no evidence nor history of either inherited or acquired syphilis.

Oropharynx.—Careful examination of this region shows two distinct growths, each situated on the lateral and partly on the posterior walls of the pharynx. The growths are distinctly nodular in appearance, each nodule being about the size of a swollen sago-grain, quite separate and distinct in the central portion of each mass, but merging into one another at the periphery. Their color is pale pink in the centre, but towards the periphery it becomes a darker hue. The infiltration on each side has invaded the posterior pillar to the extent of about two millimeters, and each is separated from the other by a superficial ulceration, 10 mm. wide, involving the posterior wall of the pharynx, the surface of which is covered with a very tenacious, yellowish-colored secretion. The structures anterior to the growths, namely, the tonsils and anterior pillars, are not in the least involved in this process. The uvula, on its palatal surface, apparently seems normal. (See figure.)

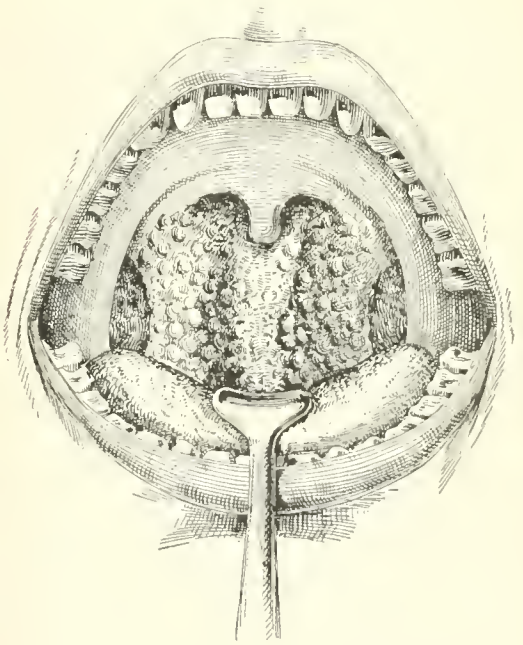
Nasopharynx.—When one examines the nasopharynx, by means of the mirror, it is ascertained that these infiltrations extend directly from their position in the oropharynx, involving the salpingopharyngeal folds, upward to the cushion of each Eustachian tube, and from here towards the center of the nasopharynx along its roof. The infiltrations, however, in the nasopharynx leave a space of about half an inch in the vault which is not involved, and are much paler in color than those seen in the oropharynx. Careful examination reveals the fact that there is absolutely no extension from here into the posterior nares.

The pharyngeal aspect of the uvula shows two distinct nodular infiltrations, each about the size of a lentil, the mucous membrane covering these being quite intact.

*Read before the Twenty-sixth Annual Meeting of the American Laryngological Association, Atlantic City, N. J., June 2, 1904.

The condition as seen at this time in the oropharynx is well delineated in the accompanying illustration.

Under ether, and by means of cutting forceps, I removed the greater portion of the masses involving the lateral walls of the oropharynx. This gave considerable relief to the difficulty in breathing, and the removed portions were sent to the pathological laboratory for examination. Dr. Keenan, who kindly undertook this work, has sent me the following report: "Sections show the specimen to consist of mucous membrane and submucous fibrous tissue. In the submucous tissue there are numerous tubercles. These consist of a central portion of young fibrous tissue with numerous typical tuberculous giant cells, and an outer part showing a small round-celled infiltration. The mucous membrane is absent in part where the tubercles have come to the surface. Tubercle bacilli are present, but few in number. Diagnosis: Tuberculosis of the Mucous Membrane. A guinea pig, inoculated in the peritoneal cavity with portions of the tissue, died in three days from septicæmia. A second one, inoculated with tissue inserted into the groin, was found at the end of ten weeks to have general glandular tuberculosis."



Further investigation of this case was now carried out, and the patient received three milligrammes of tuberculin (Koch), and the temperature, which previously was normal, now showed a definite and typical reaction to its use, rising to 101° within twelve hours, and falling practically to normal within thirty-six hours, and the affected regions showed a marked hyperæmia.

The local treatment, which was carried out subsequent to the removal of the masses under ether, consisted of curetting the infiltrated areas, and subsequently rubbing in pure lactic acid in glycerin. As this gave no encouraging results, the galvanocautery was tried with anything but satisfactory results. At this time, (January, 1903), the patient asked to be allowed to return home, which he did, and remained away until April of the same year.

Upon his return to hospital it was found, on examination, that the local conditions were practically unchanged. I now decided to try what the application of the Roentgen rays would do for this patient, and under Professor Girdwood's care the treatment was kindly undertaken and supervised. The detail

of this treatment, as carried out, is described as follows:

"The patient was treated with a Heinze regulating tube with a vacuum equal to a three-inch spark gap, which was supplied from an 18-inch coil, operated by a Heinze electrolytic interrupter. The apparatus is supplied with a direct current of 110 volts, and requires from 2 to 3 amperes. The tube was placed ten inches from the patient; treatment was begun on April 18, 1903, with ten-minute exposures and without any protection to the healthy tissues for ten treatments, when it was found necessary to stop, owing to inflammation of the surrounding parts. Treatment was suspended for three weeks, and recommenced on May 19. Since that time he has had twenty-three treatments, which have been daily. In these last treatments the face was protected by a piece of wood, which had been painted with eleven coats of white lead on each side, which was sufficient to shut out all unnecessary *x*-rays. This wood is about 12 in. x 12 in., and has a hole in the center about three inches in diameter. The patient opened his mouth as widely as possible and held the screen close to his face, and in such a position as to let the *x*-rays, which pass through the hole in the screen, strike directly on the back of the throat."

In the month of July the patient was operated upon by Dr. Garrow, who removed the enlarged cervical glands from the right anterior triangle of the neck. Unfortunately, through accident, the glands were lost before an examination could be made. After recovery from this operation the *x*-ray treatment was renewed, and at the end of July the local conditions in the throat had entirely disappeared.

The patient returned home and remained there until last November. At this time the condition of the pharynx and nasopharynx had remained so satisfactory that I regarded the patient practically as cured, and presented him before the Montreal Medico-Chirurgical Society.

I did not see the patient again until February of the present year, when upon his return I found that the disease was again showing itself by a small ulcer, a centimeter in diameter, situated in the left nostril, and involving the anterior part of the cartilaginous portion of the septum. The pharyngeal surface of the uvula, when examined, was seen to be infiltrated at its base by three small tubercles; the nasopharynx and oropharynx otherwise remaining in a healthy condition. I wish here especially to emphasize the fact that there is absolutely no extension of the disease from the nasopharynx into either nostril, and that the involvement of the cartilaginous portion of the septum seems to be separate and distinct; this being in contradistinction to the experience of most observers, that when the nose becomes involved it is always an extension forward of the disease from the nasopharynx.

The new site of invasion, as well as the oropharynx, was exposed to the action of the *x*-rays in the manner previously described. The results are, at the present time, most satisfactory, and I think there is every reason to believe that the condition will give way entirely to this method of treatment as it did on the former occasion.

It is only within recent years that lupus, as a distinct pathological condition of the mucous membrane of the respiratory tract, has been duly recognized, and this is largely through the efforts of Demme, Koch, v. Ziemssen, Rubenstein, Lange, and many others. What is necessary in all cases of this nature is to establish the circle of evidence, namely, the presence of the tubercle bacilli; definite results from inoculation; and, I think one may say, the reaction from the use of tuberculin. In the present case the tubercle bacilli were found, though, as usually is the case, few in number, and then only after very painstaking search. Again, inoculation of the material removed from the oro- and nasopharynx into the guinea pig produced a definite tuberculous condition of the lymphatic glands. Tuberculin also gave a very typical and definite reaction, not only generally but locally.

Lupus of the respiratory tract associated with skin lesions of a similar nature is not uncommon, in fact, were all cases of skin lupus examined regarding the condition of these organs it would be found that they are involved more frequently than is generally supposed. That an examination is not made as a matter of routine is accounted for by the fact that lesions of this nature, involving the respiratory tract, produce practically no symptoms in the early stages of the disease. This was well exemplified in a case of lupus of the nose, without any skin affection, which was quite recently referred to me by Prof. Girdwood; following out the usual routine examination, I found the epiglottis very extensively involved, but of this the patient herself was not at all conscious.

It is not necessary here to go over the ground regarding the part which age and sex play in this disease, or of enumerating the symptoms produced depending upon the region involved, because these points are well known and ably described in most articles upon this subject, but for those who further desire to obtain a very extensive knowledge of this subject, I would refer to the scholarly article upon these points by Mygind, as detailed in the *Archiv für Laryngologie,* Bd. 10 and 13. The question, however, which interests us mostly, is that of treatment. On reviewing the literature of the subject one finds that lactic acid, iodine solution, corrosive sublimate, permanganate of potassium, and the application of the galvanocautery, have all had their advocates with more or less varying results. It remained, however, for Eduard Schiff, of Vienna, to first treat and cure cases of lupus of the mucous membrane of the respiratory tract. In a recent communication, published in the *British Medical Journal,* May 5, 1900, he gives a detailed account of the method adopted by him with the results obtained in some of his cases.

Watson-Williams, in his recent work on "Diseases of the Upper Respiratory Tract," stated that the use of the *x*-ray as a procedure, "is worthy of trial." Beyond this work, just enumerated, I have been unable to find any further references to this method of treatment, as applied especially to lupus when attacking the oropharynx and nasopharynx; even Christiansen, in his recent paper published in October, 1903, makes reference to the use of the Finsen light as applicable only in cases where it can be directly applied.

It will be interesting to learn of the further results which may possibly be obtained through the application of the Roentgen rays to lupus when occurring in the pharynx and nasopharynx. I would here state that the patient referred to in this paper as suffering from lupus of the nose with involvement of the epiglottis, has also been placed under treatment by *x*-rays, and although too early yet to look for definite results, the progress already made has been so encouraging as to hope for a perfectly satisfactory result.

I wish here to express my indebtedness to my former house surgeons, Drs. Hannaford McKee, Newbold Jones, and McKechnie, for their careful

notes of the case, and to Dr. Roddick Byers for the accompanying sketch.

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252 MOUNTAIN STREET.

INFANT FEEDING.

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THE proper feeding of infants is now a fairly exact science. Nevertheless, there are many instances where the judgment of the physician is severely taxed, and much depends upon its proper exercise. Innumerable lives have been needlessly sacrificed by failure on the part of the family doctor to recognize or remember certain factors in the régime of the young infant.

The days of experimental feeding, when mother or nurse was accustomed to try, seriatim, the various proprietary foods, until by chance a suitable one was found—if, indeed, the unfortunate infant survived this period, with its days and nights of torturing colic—are now fortunately relegated to the past. The present rule among the intelligent class of patients is to consult the physician promptly, and to place on his shoulders the responsibility of success or failure.

Attention to minute details is important, if we hope for success in infant feeding. The physician called upon to treat a young baby, where it is manifest that there is something radically wrong, should not be satisfied with a single visit or prescription. The case must be gone into thoroughly and scientifically, the cause of the trouble searched for until found, and the child kept under observation until there is no doubt that it is on the right track to the proper assimilation of its food. Otherwise the little patient is taken from one physician to another, or various experiments in feeding resorted to at the suggestion of relatives and friends, until it finally succumbs to athrepsia, or the starvation of inanition.

Such infants as are fed on their natural food, the mother's milk, need occupy but little of our time. There are, however, a few considerations, worthy of attention, applicable to even this fortunate class. Colic is a not infrequent source of trouble among the breast fed. It is usually due to over-feeding, or to too frequent nursing. The first thought of the average mother, if her baby cries, is that it is suffering from hunger, and if the proffered breast is accepted, this conviction becomes more positive. She does not stop to consider that the crying may be due to the discomfort of an already over-distended stomach. Crying soon after nursing, an abdomen distended with gas, and frequent stools containing ocular evidence of imperfect digestion, together with the mother's admission of improper feeding, make the diagnosis in such cases easy. If the parent possesses the average amount of intelligence, a little educational work on the physician's part is all that is required. It is well to begin the new régime with a dose of castor oil, in order to remove from the child's intestinal tract the products of past over-indulgence.

Sometimes we meet with cases of colic, with bad stools and other evidences of indigestion, although the mother observes carefully all our rules of hygiene. In such cases the question of weaning must be considered. Usually the fault lies in some defect of the breast milk. Many such cases can be corrected by careful investigation. Dr. Holt has devised a simple and inexpensive apparatus for examining human milk, and by means of this the physician can readily determine any marked deviation from the normal.

When the breast milk is found to be defective the first indication is to endeavor to restore it to the normal, by proper regulation of the mother's diet and mode of living. If our examination shows the milk to be too rich in fat she must be instructed to take more out-of-door exercise, to avoid alcoholic drinks, to reduce the amount of nitrogenous food in her diet, and to eat moderately.

When the milk is scanty and of poor quality the mother is usually found to be careworn and anæmic,

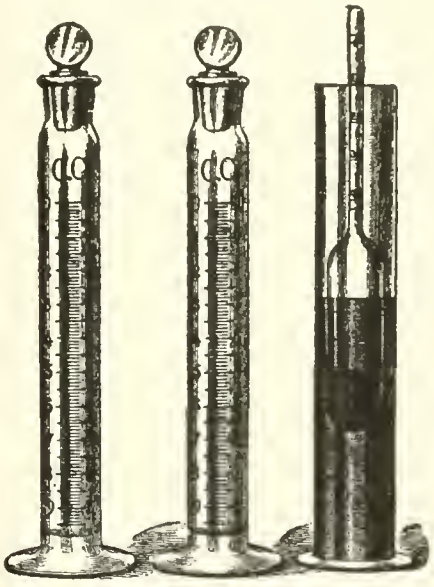

FIG. 1. Holt's Apparatus for Testing Human Milk.

very often overworked, and with vitality lowered by too frequent child-bearing. In such cases rest is, of course, indicated, with tonics and fresh air. The diet must be nutritious, and should include plenty of meat, vegetables, cereals, and fruit. Iron and malt may be given freely. Massage to the breasts with boracic acid ointment is often of advantage. Excessive nervousness on the part of the mother may be allayed by securing for her uninterrupted rest at night. This can be done by giving the baby a bottle at night, and having it sleep in another room. A milk supply deficient only in quantity may quickly be brought to the normal in this particular, by simply increasing the amount of fluids in the mother's diet, especially milk, and gruels made with milk. When, however, the quantity of milk secreted is normal or even abundant in quantity, but the quality poor, as indicated by low specific gravity and fat, very little can be accomplished by dieting, and weaning must be resorted to.

We occasionally meet with cases in which the breast milk plainly disagrees with the child, even though our examination shows it to be normal in every respect, and the mother strong and well. Some neuropsychological influence may be at work here, and if the child fails to gain in weight for a

considerable period, it must be weaned before its nutrition has been impaired.

The return of the menstrual periods to the nursing mother is not necessarily an indication for weaning the baby. Many, I might almost say most, babies, are in no way affected by this physiological process. Where, however, pronounced digestive disturbances in the infant mark the onset of the catemenia in the mother each month, and the child is seriously upset, weaning must be resorted to.

Pregnancy is usually a plain indication for weaning. Almost at once the infant will cease to gain in weight, and will show symptoms of indigestion. Every healthy infant should show a weekly gain in weight of about four ounces, and the mother should be instructed to weigh her baby regularly and to record it in a proper manner. She should be told to report promptly any failure to gain to the physician, so that he may advise her as to the cause and the remedy.

To summarize, the indications for weaning are: (1) failure to gain weight, or actual loss of weight, (2) a milk supply so deficient in quality or quantity as to be beyond control, (3) unconquerable colic and evidences of imperfect intestinal digestion, plainly manifested in the stools; (4) consideration for the mother's health, when it is clear that the strain of nursing is too much for her constitution. The decision whether or not baby is to be weaned is a serious one, and is to be reached only after careful deliberation. Having once decided, however, that the step is necessary, the physician must assume the responsibility and proceed resolutely, *Suaviter in modo, fortiter in re.*

This brings us to the subject of artificial feeding. The simplest plan of furnishing a substitute for the mother's milk is to provide a wet nurse, but a good wet nurse is hard to find. She is at the best an expensive luxury. Her character, habits, past history, constitution must be investigated thoroughly, for we must consider not only the food supply, but her moral and psycological influence over the child as well. Once secured, there is the danger ever present that she will leave suddenly. Higher wages, elsewhere, may tempt her, or her own baby—entrusted to some poor relative and fed on condensed milk—may take suddenly ill and call her away. To provide against such a contingency, where a wet nurse is employed and found to be satisfactory, her milk should be examined from time to time, and its proportions of fat, sugar, and proteids accurately determined. In the event of her leaving, we are then prepared to provide a proper substitute promptly and intelligently. Personally, I have seldom found it necessary to resort to this expedient of employing a wet nurse, except in a few instances where my directions as to milk modification were not carefully followed, or where I was hampered by overzealous relatives, or the mother's desire to experiment on her own account.

In proceeding with our substitute feeding, the mother must be instructed at the outset in the rudimentary principles of asepsis, bacteriology and sterilization, so that she may understand the importance of cleanliness as applied to her baby's food, and give intelligent care to the preservation of the milk, and the condition of bottles, nipples and cooking utensils. She should be told, first of all, to select a good milkman, and the physician should, if necessary, assist her in making a proper choice. The dairy should be visited, and its surroundings inspected to make sure of proper hygiene as applied to the care of the milk.

A dairy of moderate size has certain advantages, it seems to me, over the large stock corporations of milk producers. It is under the direct supervision of the proprietor, who is familiar with every detail in its management. He knows the condition of each cow in his herd, and when sickness occurs, or one of the animals is "off her feed," or acts suspiciously, he is aware of it at once and will not allow this cow's milk to be mixed with his dairy's output. In the large dairy, on the other hand, the details of the management are necessarily left to subordinates, responsibility is divided, and thus grave irregularities are often overlooked for considerable periods. In proof of this, we might cite numerous instances, but it is sufficient to recall the fact that two serious epidemics, one of scarlet fever, the other of diphtheria, have occurred in this vicinity in recent years, and were directly traced to an infected milk supply from a large and well known dairy. In each case the infection occurred in a manner which would have been very improbable in a smaller dairy, run under the direct supervision of an intelligent and conscientious proprietor.

The milk selected for our babies must be furnished in quart bottles, and with "gravity" cream. Some of the large milk corporations supply "centrifugal" cream on their milk. In other words, the milk is put through a centrifugal machine and separated. The bottles are then filled to a certain level with milk, and this in turn is topped off with cream. In this way a milk supply is provided in which the daily percentage of fat does not vary, but it is objectionable as a food for the young infant for manifest reasons.

The source of our milk supply having been settled, the mother must be impressed with the im portance of preserving the milk at a temperature sufficiently low to prevent bacterial growth in it, with the harmful chemical changes produced thereby. In most communities the milkman makes his rounds very early in the morning, and it often happens in the summer season that the milk is left standing in the hot sun for several hours before the household is astir. Careless domestics also frequently allow the milk to remain in the kitchen atmosphere long enough for it to become warm, and therefore unsafe for baby's use.

Sterilization or pasteurization is unnecessary except in very hot weather, or where we have reason to doubt the milk supply itself, or the mother's ability to give it intelligent care. Pasteurization, if accurately done, is preferable because it does not affect the digestibility of the milk. In certain diarrhœal disorders of the summer season, however, sterilization is of advantage. Where Pasteurization is resorted to, the apparatus devised by Dr. Freeman, and which is too well known to need any description, is simple, accurate, and inexpensive. After either process, rapid cooling of the milk is of great importance, because if allowed to cool slowly, such spores as remain undestroyed, take on new life in the warm milk, and fresh colonies of bacteria develop rapidly.

If the baby is in good physical condition when the physician is called upon to take charge of it, his task is much simplified. But if the mother has delayed calling upon professional advice until the child's nutrition has been seriously impaired, and symptoms of gastroenteritis have appeared, the selection of a proper food under these conditions, becomes more complicated. A healthy, well nourished child will digest and thrive on almost any simple modification of cow's milk. The formulæ of Dr. Holt are simple, uncomplicated and scientific, and suitable to almost every ordinary case. It is well, in starting a young baby on cow's milk to begin with a weak proteid mixture, and increase this slowly. The fat and sugar, unless very excessive, seldom give us

any trouble, but the casein in cow's milk not infrequently causes more or less indigestion when first given the young infant.

One of the simplest devices on the market for modifying cow's milk, on the Holt system, is the so-called "Sloane Maternity Milk Set," made by J. T. Dougherty, New York City.

FIG. 2. Sloane Maternity Milk Set.

By this device the sugar percentage, the alkalinity, fat, and proteids are varied easily and accurately from day to day to suit the condition of the infant.

In delicate infants, or in those who have had their digestive organs already disturbed by improper feeding before the physician is asked for advice, other modifications must be tried. Peptonized milk may be used in our Holt formulæ to advantage in some cases, where vomiting and symptoms of proteid indigestion are present.

Milk modified by peptogenic milk powder is well adapted for many cases. It gives a food very similar to breast milk, and is partly predigested. Furthermore, food prepared with it must be sterilized, and this makes it of value in certain forms of diarrhœa, and in hot weather. It is well in beginning to use it, to dilute the milk much more freely than the directions given by the manufacturers of the preparation call for.

There are infants occasionally met with who apparently cannot digest milk as such in any modification. Even a minute quantity disturbs them, vomiting ensues, curds appear in the stools, and fever soon follows. The child does not thrive and loses weight rapidly if the attempt to continue milk feeding is persisted in. These cases are usually babies who have gotten into this condition as the result of some acute illness or of a progressive decline due to prolonged improper feeding. Some substitute must be found them. Gruel, made from barley, oatmeal, or rice, dextrinized, and sweetened with sugar of milk, is of service here as a temporary food. It must not be kept up indefinitely, however, or the child's nutrition will suffer. When the stools have become more normal in character, and are free from curds, the gruel may be supplemented with whey made from fresh milk by the addition of essence of pepsin. Mutton broth and beef juice are useful also, as aids in increasing the percentage of proteids in the diet. Older children are often benefited by egg albumin, but young babies do not digest it well, and when it is given, additional discomfort is usually the result. Milk should not be resumed for a long time, in these cases, and then it is to be given experimentally and in very minute quantities. If it is digested well, it can be increased in amount, but very slowly. It not infrequently happens that several months must be tided over with some other diet, before this time is reached. Cases of this kind are the most difficult ones we have to treat.

If the proprietary foods are used at all, they must be resorted to logically and with a knowledge of their composition. Much harm has been done by them, when they have been given haphazard, and many cases of rickets and scurvy are directly due to their prolonged administration. They are all excessively rich in carbohydrates and deficient in fat. The proteids are deficient in amount and chiefly vegetable. Hence they are unsuited to sustain life without the addition of milk. They all contain more or less of unchanged starch. After the ninth month they may be used to advantage as an adjuvant to the cow's milk, when we wish to increase the amount of carbohydrates in the diet. For younger infants they possess no advantage over the less expensive cereal gruels already referred to.

The essentials for success, it will readily be seen, in the feeding of infants, are, patience on the part of the physician, together with intelligent judgment, the unquestioning confidence of the parents, and careful nursing. When these conditions are present, failures will be few, and even many of the most desperate cases may be saved to robust manhood and womanhood.

PARAPHIMOSIS IN A YOUNG GIRL.

By M. I BEEMAN, M.B.,

NEWBURGH, ONT.

I CAN find no report of a case like the following, and therefore think it may be worthy of record.

A few days ago I was called to see a girl of 13 years, on account of "something growing out of her vagina." In the region of the clitoris there was an œdematous protrusion of the diameter of half an inch, in the center of which was a round lump slightly darker in color of the size of a small pea.

The appearance of the tumor reminded me of the frequent cases of paraphimosis in boys, with the glans penis showing in the midst of the œdematous prepuce, only in this case it was in miniature.

The whole growth was very tender and painful, and careful inspection showed the ends of several long hairs which, with the aid of dressing forceps, were unwound from about the growth. Recovery speedily followed.

It seems that the patient had doubled a wisp of hair from her head and used it to tickle the clitoris, and in doing so had lassoed the organ in such a way as to cause the resulting swelling.

Antistreptococcus Serum in Erysipelas.—Giovanni Grizoni believes that the most rational treatment for erysipelas is serotherapy. The failures in this treatment are due to the technique used in the preparation of the serum used. The streptococci, producing different cases of inflammation, seem to differ in species, so that it is necessary to use a serum prepared from a case of the same type to get the desired effect, or to make one by inoculation of several species of streptococci. The use of the serum too late or in insufficient doses may account for some failures. In a very severe case of infection observed by the author the use of serum had a really marvelous effect. The patient was affected first by tonsillitis, then by erysipelas of the face, extending to the neck and scalp, then by purulent otitis media. Meningitic symptoms came on rapidly, and the patient was in coma and almost moribund when the first serum injection was given. In all four injections were made, and the improvement was immediate and rapid, ending in complete recovery. The short duration of incubation and rapid diffusion showed the gravity of the infection.—*Giornale Medico del Regio Esercito.*

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ARTERIAL SCLEROSIS.

IT is a trite saying that an individual is as old as his arteries, for the continuity of life and the maintenance of health depend, among other things, upon the proper distribution to all of the tissues of blood in sufficient amount and of normal constitution. Of course, consideration must be given also to the inherent vitality and the regenerative powers of the various cellular structures of the body. A full supply of good blood will not, however, change a defective type of cell; while on the other hand, even a perfect cell must eventually suffer in consequence of a supply of blood insufficient in quantity or improper in constitution. Therefore, apart from mere inherited qualities, the nature of which is as yet entirely unknown, the normal performance of function is dependent as an essential factor upon the blood-supply. During early life it may be conceived that constructive preponderate over destructive processes, while at a later period the two counterbalance each other, and finally, in old age, the latter predominate over the former.

There has been a good deal of earnest investigation into the process of arterial degeneration and into the causes underlying it, and it is commonly believed that, as in other structures, the principal factor resides in the blood-supply. A somewhat divergent and novel view is held by Dr. Thomas D. Savill (*Lancet*, September 24, 1904), who attaches the greatest importance in this connection to the muscular coat of the arteries, and more especially to a condition of hypertrophy of this coat, which he maintains is a common cause of increased arterial tension and one of the forerunners of arterial sclerosis, for which it is often mistaken. This view is based on observations covering a period of seventeen years, and dealing with nearly five hundred autopsies on persons sixty years of age and upward, many of whom presented circulatory symptoms during life, and some of whom died from old age.

Dr. Savill defines arteriosclerosis as a chronic generalized thickening, condensation, or degeneration of the walls of the arteries of the body, as a result of which, after death, the lumen does not collapse, as usual, and the walls are harder and less elastic than normal. In accordance with the localization of the morbid process in the coats of the vessels, three varieties of sclerosis may be recognized, namely, intimal, medial, and adventitial. Sclerosis of the intima is to be distinguished from atheroma, which is a patchy fibroplastic infiltration of the intima, while sclerosis is more generalized. Atheroma, in turn, is likely to be confounded histologically with obliterative endarteritis of syphilitic and other origin, which occurs for the most part in younger subjects. Some atheroma can always be found in the bodies of persons sixty years of age and upward, who have died without circulatory symptoms or accident of any kind. In the opinion of Dr. Savill, atheroma is of no serious pathological importance, provided the cardiovascular system is otherwise fairly healthy. The evil results sometimes attributed to atheroma, in the brain for instance, can often be accounted for by the yielding of the vessel-wall between the patches of degeneration and the resulting kinking of the artery.

In many instances it could be legitimately inferred that chronic adventitial and intimal sclerosis of the larger and medium-sized vessels was secondary in both time and importance to changes in the media or to dilatation of the arterial lumen. A distinction is to be made between intimal sclerosis in the peripheral (microscopic) arterioles, and the same condition in the medium-sized and larger arteries. The process appears to be different etiologically in the two situations, as it is also in its effect; in the former, at times it causes obstruction over large areas of the peripheral circulation, while in the latter it is mainly supporting, compensatory, and protective. The existence of intimal sclerosis in the arterioles of the kidneys does not necessarily establish its existence in other peripheral arterioles. The kidneys constitute only a small part of the whole peripheral circulation, of which the voluntary muscular system constitutes a large part.

Histologically, physiologically, and pathologically, the muscular coat of the arteries is much more important than the intima and adventitia, as it also is the thickest in the arterioles and all but the largest arteries. It constitutes the functionally active part of the entire arterial system, controlling the circulation as a whole, as well as the quantity of blood in the various areas and organs, while the intima serves as a limiting membrane and the adventitia as a supporting structure of connective tissue. The media thus forms the parenchyma, or proper tissue of the arterial system, and its imperfections affect directly or indirectly the nutrition and oxygenation of all of the organs and tissues of the body, and disturb not only the equilibrium between the different systems of the body, but also that between the heart and arteries, on which the life and health of the individual depend. The regulator functions of the arteries are also of vital importance not only to the vascular areas they supply, but likewise to the power of adaptability to the different positions of the body that is indispensable to the dynamic equilibrium of different parts of the peripheral circulation. According to the older view, old age was looked upon as a loss of balance of functions, but, according to Dr. Savill, the most important factor of incipient old age is loss of the regulator function of the arteries.

Extensive valvular disease of the heart or disease of the endocardium may exist without inconvenience, and also fat may be deposited outside the heart, and fibrosis amounting even to obliteration of the pericardial cavity may exist without seriously impairing the activity of the central organ of the circulation so long as the muscular wall remains healthy. So, too, extensive patchy atheroma, and even generalized intimal and adventitial sclerosis are quite con-

sistent with extreme longevity and with total absence of circulatory symptoms, accidents, or complications, providing the media be relatively free from hypertrophy or disease, and the balance between the heart and the arteries be not disturbed, while moderate generalized disease of the muscular coat is a serious potential evil. Thus a slight and hardly measurable increase in the muscular coat, distributed over the entire arterial system, must exert a considerable influence on the dynamics of the circulation and on the nutrition of the body generally.

The muscular coat of the arteries may undergo atrophy, hypertrophy, cloudiness, granular degeneration, necrosis, or calcification. The first four are probably due to nutritional, dynamic, and toxæmic causes, and are therefore more or less generalized in distribution, though often predominating in some vascular area, especially in the lower extremities; while the last two may be due to traumatism, or the blocking of the capillary area of the vasa vasorum, and are generally localized and limited. The former primarily disturb the dynamics of the circulation and the nutrition, for example, the elasticity and contractility of the vessels and the cardiovascular balance, while the latter lead to rupture and hemorrhage.

The term arterial hypermyotrophy is used by Dr. Savill to describe an increase in the thickness of the muscular tissue of the arteries, due to an increase in volume or number or both of the individual muscle-fibers. The condition is characterized clinically in the first stage mainly by vertigo on change of posture and other symptoms of high and unregulated blood-pressure; in the second stage by the evident thickening of the arteries, cardiac hypertrophy, and sometimes by hemorrhages into the brain and other structures; and in the final stages, by various circulatory and nutritional disturbances. Sometimes, though not necessarily, it is associated with chronic disease of the kidneys, which is one among many of its causative factors, and it constitutes in itself one of the main pathological conditions on which hemorrhages into the brain and other structures, as well as the incipient phenomena of senile decay, depend. Among other causes of arterial hypermyotrophy are hypertrophy of the heart and high arterial tension; and the consequences are mainly the same as those of increased arterial tension, namely, hypertrophy of the heart and subsequent degeneration of the cardiovascular system. The clinical phenomena consist principally in progressive asthenia, with various circulatory symptoms, and especially vertiginous sensations induced by changes in posture.

Arterial hypermyotrophy is to be differentiated especially from the changes incidental to old age, granular kidney, and arterial sclerosis, or degeneration, but it is so often associated with one or another of these conditions that the separation is at times quite impossible. In treatment the vasodilators, such as nitroglycerin, have proved of especial service in the early stages of the disorder. Finally, it is pointed out that if hypermyotrophy of the arteries, which is the first step to senile decay, could be prevented, life could be prolonged.

An Isolation Hospital for Immigrants is to be built on an artificial island in the upper bay of New York harbor, near Ellis Island.

ORGANIZATION OF THE DEPARTMENT OF HEALTH OF THE ISTHMIAN COMMISSION.

Dr. John W. Ross writes in the *Journal of the Association of Military Surgeons of the United States* on the above subject. The Isthmian Canal Commission appointed Colonel Gorgas as Chief Sanitary Officer; Dr. Ross as Director of Hospitals; Surgeon H. R. Carter, as Chief Quarantine Officer; Major La Garde as Superintendent of Ancon Hospital, and Mr. Joseph A. Le Prince as Chief Sanitary Inspector.

According to the scheme of organization, the Department of Health, with jurisdiction extending beyond the limits of the Canal Zone, is considered an administrative department of the Canal Zone Government. The affairs of the Department are administered by a Board of Health, composed of four members, namely, the Chief Sanitary Officer, the Director of Hospitals, the Chief Quarantine Officer and the Chief Sanitary Inspector of the Canal Zone. The Department of Health is divided as follows: A sub-department of hospitals, under the Director of Hospitals; a Maritime Quarantine Service; a Sanitary Service for the Canal Zone; a Panama Health Office, and a Colon Health Office.

The Ancon Hospital, although in bad repair, has a capacity of about 500 beds. A training school for nurses is to be established at Ancon Hospital, the number of student nurses being limited to 30 first year students, and to a total of 75. Colon Hospital has a capacity of 100 beds, expansible to 300 beds. A new ward building is to be added to this hospital at once. It is calculated that twenty emergency hospitals will be required along the line of the canal. Three are to be established immediately. The City Hospital of Panama contains about 150 patients. It is badly constructed and managed, but steps are being taken to remedy these defects. It is probable that an institution for lepers will soon be established. A hospital for the insane is to be built.

At first only fourteen internes, eight for Ancon Hospital and six for Colon Hospital, will be appointed. Provision has been made for forty-two trained women nurses at Ancon Hospital, fourteen at Colon Hospital, and one at each of the hospitals along the line.

The Sanitary Service of the Canal Zone is well organized. The work is in charge of a Chief Sanitary Inspector, under whom there are eight assistant inspectors. At the head of each of the health offices of Panama and Colon is a physician who will act under the direction of the Board of Health, and be in direct charge of the health and sanitary work of the city.

Taboga Island, lying in the Bay of Panama, owing to the almost total absence of mosquitos, the pure air, the abundance of pure drinking water, and the comparatively dry and invigorating atmosphere, will be utilized as a health resort for convalescents. The French erected on this island a large structure which is capable of accommodating 150 patients, but it is badly in need of repair, having suffered from the same neglect as has everything else connected with the canal during the past twelve or fifteen years. The Commission has authorized an expenditure of $6,500 to put the building in a suitable condition, after which it may, when required, be used as a sanatorium and convalescent station.

Bacteria in Grocery Milk.

Dr. N. Kruskal has recently written a pamphlet on this subject, in which some of the investigations of observers in this country and Europe are reviewed. Park and Bebb, who examined the market milk of New York at different places, and under different conditions, obtained the following results: Samples of milk from individual cows, and when all means were taken to ensure cleanliness, five hours after milking, 6,000; twenty-four hours after milking, 6,933; forty-eight hours after milking, 17,816 bacteria per c.c. From mixed milk of the entire herd under the same conditions, five hours after milking, 4,333; twenty-four hours after milking, 2,766; forty-eight hours after milking, 10,853; seventy-two hours after milking, 329,000 bacteria per c.c. Samples of milk taken in well-ventilated, fairly clean, but dusty stalls, visible dirt from udder removed at the time of milking, 15,500; after twenty-four hours, 21,666; after forty-eight hours, 57,333 bacteria per c.c. In milk taken from cans in ordinary barns, shortly after milking, 30,366 in warm weather; 16,650 in winter weather; 48,000 and 31,000, respectively, after twenty-four hours; 680,000 and 210,000, respectively, after forty-eight hours. Examinations made from milk when received at the depot contained as high as 3,520,000 and as low as 100,000 bacteria per c.c. Shop milk sold in the poorer tenement districts in midwinter contained on the average 1,977,692; in September, 13,163,600; the milk of dairy stores in the fashionable portion of the city, in midwinter, 327,500; in September, 1,061,400.

The milk of European cities has been examined by many investigators. Knochenstiern found in the market milk of Porpat in September, October, and January, in the milk purchased from milkmen, 12,200,000, in the grocery milk 30,000,000 bacteria per c.c. Clauss examined the milk of Wuerzburg, and found, in the winter months, from 1,000,000 to 2,000,000. Hohenkamp found in the milk of the same city in summer from 2,000,000 to 7,000,000. Cnopf found in the milk of Munich, five hours after milking in the winter months, from 200,000 to 6,000,000. Geuns examined the milk of Amsterdam and found in fresh milk 2,500,000, and after ten hours' standing 10,500,000. Parkes found in London's milk 3,000,000 bacteria per c.c.

Kruskal states that although the milk delivered in New York is usually forty-eight hours old before it reaches the consumer, we can still say that the milk in New York is not inferior to that of European cities, where the milk is delivered eight or ten hours after milking. In America, at least in the northern cities, there is an abundant use of ice. The milk is cooled quickly by ice and kept in refrigerating cars at a temperature not much above freezing until it is ready to be taken for final distribution. In European cities ice is too expensive, and the milk is seldom cooled by it during transit.

An Antitoxin against Fatigue.

Should the development of the study of toxins and antitoxins render possible the production of an antibody capable of neutralizing the results of muscular fatigue the consequences could hardly be predicted. Yet a German investigator seriously claims to have taken more than one step in this direction already, and publishes results that are at least surprising. Weichardt (*Münchener medizinische Wochenscrift,* November 29, 1904) says he has obtained a stable antitoxin, which, when taken by the mouth in moderate doses, permits the output of an increased amount of muscular energy without fatigue, and when taken continuously causes a sense of general *bien être* and augments the capacity for work. He commends his preparation to clinicians as a promising analeptic for convalescents, neurasthenics, etc. This fatigue antitoxin is obtained from horses by injecting them with fatigue toxin produced in the muscles of animals that have been subjected to extreme muscular exhaustion. The most rigid precautions are necessary to avoid bacterial contamination during the process of extraction, and the muscle extract, or toxin, is purified from the ordinary products of muscular activity by dialysis. It can then under certain precautions be dried and preserved for a short time, but rapidly loses its potency, in distinction to the antitoxin which may be kept indefinitely. Minute amounts of this body injected into small animals, as mice, rabbits, or guinea pigs, cause all the symptoms of fatigue, and in case the dose is sufficiently large, the substance occasions the death of the animal. Control experiments show that the extract obtained from unfatigued animals, killed without any struggling, is without physiological effect, proving that the toxin is not a product of muscular autolysis. The horse in response to injections of this toxin produces an antibody which differs from the bacterial antibodies in that it is dialysable, which perhaps accounts for its prompt absorption when introduced into the stomach. The effect of the toxin on experiment animals may be neutralized by mixing toxin and antitoxin before administration, or the animal may be protected by preliminary injections or feeding of the antitoxin. The antitoxin appears to be much more powerful than the toxin, as it requires only 1-10 mg. to neutralize 10 mg. of the fresh toxin.

The Diazo-Reaction in Other Diseases than Typhoid Fever.

Although the diazo-reaction of the urine described by Ehrlich in 1882 was at first thought to be distinctive of typhoid fever it was soon found that it occurred also in association with other disorders, while further it failed to appear in some cases of typhoid fever. Despite these facts the reaction has been shown to have a certain diagnostic and prognostic value. In a recent communication on this subject Dr. W. Taylor Cummins (*University of Pennsylvania Medical Bulletin,* September, 1904) reports the results of observations covering 436 specimens of urine from cases of typhoid fever, tuberculosis, and a number of other diseases both in children and in adults. He found, among other things, that in cases of typhoid fever the reaction is useful in differentiating between a relapse and a complication. It was further of signal assistance in separating measles from German measles, being present in the former and absent in the latter. In cases of pulmonary tuberculosis it has great prognostic significance, not appearing until late and being present usually in a rapid case. When once it appears, under such circumstances, it persists until death, the average duration of life after its appearance being about six months. The prognosis is thus unfavorable in every case of tuberculosis presenting the reaction. In a dilution of 1:40 the reaction is of some value in the diagnosis of typhoid fever, but when present with a dilution of 1:150 other conditions can be eliminated, with the exception of a small number of cases of tuberculosis, so that the test is then of considerable value.

The Plague is reported to have appeared in Russia in certain factories where fur coats are made for the troops in Manchuria.

News of the Week.

Congress of American Physicians and Surgeons.—At a meeting of the Executive Committee of the Congress of American Physicians and Surgeons, held in this city December 10, the following officers of the congress were elected: *President,* Dr. Reginald H. Fitz of Boston; *Secretary,* Dr. W. H. Carmalt of New Haven; *Treasurer,* Dr. Newton M. Shaffer of New York; *Secretary of the Executive Committee,* Dr. W. K. Simpson of New York. The executive committee is composed of one delegate from each participating association. The next congress, which will be the seventh triennial meeting, will be held in Washington, D. C., in the spring of 1907, the exact date not yet having been determined.

Fever as an Indication for Mastoid Operation.—Dr. L. Emmett Holt writes that he was incorrectly reported in the account of a discussion on "Otitis in Children," published on page 994 of the MEDICAL RECORD, the omission of a "not" making him appear to say the opposite of what he did say. He held that a continuance of high temperature after paracentesis of the drum membrane was not a sufficient indication for a mastoid operation. "So many unexplained temperatures are seen in young children that to open the mastoid for no other reason than the one given is, I believe, to do a great injury to many children."

Corresponding Members of the Munich Medical Society.—Drs. Carl Beck and Max Einhorn, of this city, have been elected corresponding members of the Aerztlicher Verein von München, an honor now for the first time conferred upon any American physicians.

The Eastern Medical Society.—At the annual election of this society, held on December 9, the following officers were chosen for 1905: *President,* Ephraim K. Browd; *Vice-Presidents,* A. Hymanson and Charles Goodman; *Treasurer,* A. Ronginsky; *Recording Secretary,* M. M. Stark; *Corresponding Secretary,* Emil Altman.

Illinois Society for the Prevention of Tuberculosis.—At a meeting of physicians, recently held at the Great Northern Hotel, Chicago, preliminary steps were taken for the organization of the Illinois Society for the Prevention of Tuberculosis. The plan is to concentrate the efforts of the State Board of Health, the Illinois Medical Society, and the Committee on Tuberculosis of the Visiting Nurses' Association of Chicago. The first work of the Society will be to secure a $250,000 appropriation for a State Sanatorium, where researches can be conducted and consumptives treated. The next step will be to establish branches. Particular attention will be devoted to out-of-door camps. Dr. George W. Webster, President of the State Board of Health, presided, and Dr. Arnold C. Klebs offered a resolution providing for the appointment of a committee of ten to draft by-laws and constitution, and to prepare a list of candidates for directors to represent all communities and interested organizations. The matter was settled by the appointment of the following organization committee: Drs. Arnold C. Klebs, William E. Quine, Charles L. Mix, J. W. Pettit, George W. Webster, N. S. Davis, Ludwig Hektoen, Frank Billings, William A. Evans, Robert H. Babcock, N. A. Graves, E. P. Bicknell, Sherman C. Kingsley, N. B. Delamater.

Milk Company's License Revoked.—Health Commissioner Darlington has revoked the license to sell milk in this city of an old-established dairy concern that supplied large quantities of milk in New York city daily. The company has several dairies, and an inspection of one of these recently showed that it was devoid of the facilities necessary for the proper care of milk. The floor was in an unsanitary condition, the drainage was improper, the wash room was used as a stable, preservatives and coloring matter were found on the premises, and skim milk was labeled as "buttermilk." The question has arisen whether the city has the legal right to send inspectors to the country dairies outside the city limits, but it is contended that the question is too serious to permit of quibbling, and for the last week inspectors have been making the rounds of the dairies in various counties in the State.

Subway Roadbed Question.—At a meeting of the Advisory Board of the Health Department, held on December 13, it was the opinion of many members of the board that the present stone roadbed is unsuitable, and that to keep the air pure a new roadway is necessary. This should be made smooth so as to permit of sweeping and thorough cleansing, which is impossible under the conditions now existing. The state of the air in the subway at present was said to be no worse than it is in crowded surface or elevated cars. The advisory board consists of Dr. Edward C. Janeway, chairman; Drs. Bates, Francis P. Kinnicutt, Abraham Jacobi, L. Emmett Holt, Henry P. Loomis, John A. McCorkle, T. Mitchell Prudden, J. Winters Brannan, and Simon Baruch.

Officers of the Society of Medical Jurisprudence.—At the one hundred and forty-ninth annual meeting of this society, held last week, the following officers were elected: *President,* Dr. Carl Beck; *Vice-President,* Mortimer C. Addoms; *Treasurer,* D. McLean Shaw; *Recording Secretary,* Charles P. Blaney, and *Corresponding Secretary,* Alfred E. Ommen.

Appointment of Dr. North.—Superintendent of Prisons Collins has promoted Dr. Charles H. North to the position of Medical Superintendent of the Dannemora State Hospital. Dr. North's predecessor in the office, Dr. R. B. Lamb, was transferred on December 1 to the Matteawan Hospital.

Commencement Exercises of the New York City Training School for Nurses.—Commissioner James H. Tully, of the Department of Charities, presented diplomas to twenty-nine nurses at the twenty-ninth commencement exercises of the New York City Training School for Nurses, on Blackwell's Island, on December 17. Brennan Hall, the new dining room, named for the late Thomas S. Brennan, was formally opened for inspection of visitors.

Report on Doyen's Serum.—Dr. Doyen has presented to the Society of Surgery a report of the committee appointed to investigate his carcinoma serum. It is written by Dr. Metchnikoff, of the Pasteur Institute, who is a member of the committee, and affirms that Dr. Doyen's alleged gem, *Micrococcus neoformans,* is habitually found in cancerous tumors, but is noncommittal in regard to the value of the serum treatment. The society appointed a new committee of five members to investigate the matter further.

Work of the Carnegie Institute.—At the annual meeting of the board of trustees of the Carnegie Institute, held at Washington on December 13, it was announced that during the year $355,070 had been expended to further research in various departments of science, and that twenty-four research assistants had received $1,000 each. The projects undertaken include the establishment of a department of experimental biology, with stations at Cold Spring Harbor, L. I., and at the Dry Tortugas, Fla.; of a department of economics and sociology; a bureau of historical research; a depart-

ment of international researches in terrestrial magnetism. Special grants were made for an archeological expedition to the trans-Caspian region, and for geophysical research. Other grants were for the encouragement of biological researches at the Marine Biological Laboratory, Wood's Hole, Mass.; also at Dr. Dorhn's laboratory at Naples; for anthropological investigation in the United States and archeological investigations in Syria, Palestine, Egypt, Nubia, etc.; for important astronomical investigations in several of the great observatories and elsewhere; for the publication of the *Index Medicus;* also for other important bibliographical work, such as the preparation of a handbook of learned societies of America, etc.; for investigation of desert vegetation; for a study of the fundamental principles of geology; for extended geological explorations in China, and for investigations in nutrition at the laboratory at Middletown, Conn.

Seney Hospital to Receive Gift.—The board of managers of the Methodist Episcopal Hospital of Brooklyn, last week announced that the $300,000 necessary to secure the gift of $125,000 from Mr. and Mrs. William Halls had been raised, and that the work of renovating and completing the buildings can now be undertaken.

Doctors Awarded Liberal Fees.—From the first account of the executors of the estate of the late William L. Elkins, of Philadelphia, it appears that the estate represents a valuation of nearly $32,000,000. Among the payments made were the following for medical attendance: Dr. Louis A. Duhring, $25,000; Dr. J. William White, $1,750; Dr. Alfred Stengel, $1,100; Dr. W. L. McCandless, $440; Dr. W. W. Keen, $150.

Clinic on Cancer of the Female Organs of Generation.—Drs. A. N. Currier and J. R. Goffe have been appointed gynecologists to the New York Skin and Cancer Hospital. They will hold a gynecological clinic at the hospital, corner of Second avenue and Nineteenth street, every Tuesday and Friday afternoon, from 2 to 4. It is requested that physicians come with their patients, or send a letter with them, in order that they may be kept informed as to the patients' condition.

The North Branch of the Philadelphia County Medical Society is now completing the fourth year of its existence, having been the pioneer "branch" in the new movement of organizing the medical profession of our American cities. The officers for 1905 are: *Chairman,* Dr. A. B. Hirsh; *Clerk,* Dr. T. T. Thomas; *Committee on Scientific Business,* Drs. W. H. Thomas, W. H. Good, and Anna M. Reynolds; *Committee on Membership,* Drs. W. H. Parke, H. B. Mills, Clara Dercum, F. C. Hammond, C. L. Felt, Rose Hirschlar, S. P. Gerhard, and Wendel Reber.

The Board of Medical Directors of the Cincinnati Hospital organized recently, elected the following officers: *President,* Dr. A. B. Isham; *Vice-President,* Dr. Louis Schwab; *Secretary,* Dr. Byron Stanton.

Dr. George B. Roessly, of Cincinnati, has been appointed district physician, to succeed Dr. H. J. Strack, deceased.

Lectures for the Laity.—The Chicago Medical Society has undertaken to deliver a series of public lectures on popular medical topics, and last week a lecture on "How to Prevent Consumption" was delivered by Dr. William E. Quine, and one by Dr. James M. Brown, entitled "Minor Accidents, Frost Bites, and Burns."

Ottawa Tent Colony.—A report has been issued by Dr. J. W. Pettit, in which he gives the results obtained by the Ottawa Tent Colony for the treatment of tuberculosis, which was established by the Illinois State Medical Society. The admissions have been 59, of which 24 were advanced cases. Of these, 6 improved, 3 are convalescent, and several are still under treatment. The incipient cases made considerable improvement from the beginning of treatment.

A New Medical School.—St. John's College, Fordham, is to take advantage of its university charter and establish medical and law departments. The dean of the medical school will be Dr. J. N. Butler, of this city, but the names of the faculty have not been announced. St. John's will hereafter be known as Fordham University.

A Tuberculosis Dispensary.—A new dispensary for the special treatment of patients afflicted with pulmonary consumption will be opened on Monday by the New York Throat, Nose, and Lung Hospital. Patients, who will be required to visit the dispensary three times weekly, will receive treatment, advice, medicines, where it is necessary, food and clothes, and will be carefully instructed how to live hygienically.

Red Cross Reorganization Bill Passed.—Mr. Cullom reported to the Senate last week the bill incorporating the American National Red Cross, and it was passed. It carries out the reorganization plan proposed by former Secretaries of State John W. Foster and Richard Olney.

Quack Advertisements Barred.—The *Boston Herald* has recently announced that it will in future exclude from its columns all advertisements of patent medicines and venereal quacks. It is to be hoped that the support which this course will receive from decent-minded folk will encourage other journals, religious and secular, to do the same.

To Save the Eyes of Small Pupils.—The instruction committee of the Board of Education of St. Louis has recommended the adoption of a plan which they hope will result in saving the eyes of first-year kindergarten pupils in the public schools, by shortening the time allotted to writing. Teachers have reported to the committee that too close attention to writing by the small pupils seems to be injurious to the eyes, and the plan is to shorten the writing periods and give the little ones some sort of manual work which will not cause a strain on the eyes, yet at the same time prove instructive.

Sanitation of Cuba.—The Cuban House of Representatives recently passed a bill appropriating $190,000 for the sanitation of Santiago, Cienfuegos, Cardenas, and Matanzas. The Senate amended this bill by increasing the amount of the appropriation to $326,000 and adding ten more towns to the original four cities where improvements are to be made in the sanitary arrangements. This action of the Senate postpones the final settlement of the matter until Congress convenes again next month. In the course of the debate on the bill some sarcastic remarks were indulged in by several of the speakers, who said the condition of the streets in many cities of the United States was worse than in those of Cuba. Many Cubans who this year visited St. Louis, they said, could testify that the streets of New Orleans were in much worse condition than those of any Cuban town.

The Rhodes Scholarship in Missouri.—Notice is given that all persons who desire to become candidates for the Rhodes scholarship in Missouri should send their application to President R. H. Jesse, of the State University, Columbia, Mo. All applications must be received on or before December 31.

Notice will be sent to all candidates making application as soon as the date of the examination is definitely fixed. President Jesse is chairman of the committee, and the other members are Chancellor W. S. Chaplin, Washington University, St. Louis; President William Henry Black, Missouri Valley College, Marshall, Mo.; Rt. Rev. Daniel S. Tuttle, Bishop of Missouri, and Rt. Rev. John J. Glennon, Archbishop of St. Louis.

Chi Zeta Chi Fraternity.—A smoker was given by the united chapters of the Chi Zeta Chi Medical Fraternity last week. Some fifty members and invited guests were present, and an enjoyable evening was passed.

First District of Ohio State Medical Association.—A meeting of this society was held in Cincinnati on December 8 and 9. The district composes the counties of Adams, Brown, Butler, Clinton, Clermont, Hamilton, Highland, and Warren. About 300 members were present. The meeting was called to order by Dr. Brooks F. Beebe, after which Dr. B. H. Blair, of Lebanon, O., was elected permanent chairman, and Dr. Magnus Tate secretary. The afternoon session was mainly devoted to the reading of papers by Dr. E. S. Stevens, Lebanon; Dr. Mark Millikin, Hamilton; Dr. Joseph Eichberg, Dr. S. P. Kramer, Dr. Charles A. L. Reed and Dr. P. S. Conner, Cincinnati. In the evening, after a dinner at the Business Men's Club, the Academy of Medicine entertained the visitors at the theater and afterwards at a smoker. The second day of the meeting was given up to specially arranged clinics at the various hospitals and to a general clinic at the rooms of the Academy of Medicine.

The Duties of a District Physician.—The jury in the case of Dr. H. Clay White against the Kenton Fiscal Court has returned a verdict in the Kenton Circuit Court, Covington, in favor of the county. The case was an interesting one, as it involved the duties of a district physician and the liabilities of the county for services rendered by such officer under the direction of the County Health Board. The plaintiff is district physician for the Visalia district. He sued the county for services in attending paupers stricken with contagious diseases, claiming he did the work under the direction of the Health Board. The County contended that it was the duty of the plaintiff to attend the cases in question as district physician for the regular stipulated salary.

New York State Hospital for the Cure of Crippled and Deformed Children.—In the fourth annual report of this institution the surgeon-in-chief, Dr. N. M. Shaffer, states that forty-two patients were treated during the year. Of this number seventeen were discharged, four cured, seven much improved, and three improved. The hospital, now at Tarrytown, will be moved in the spring of 1905 to West Haverstraw, Rockland County, the Legislature of 1903 having appropriated $50,000 to secure a site and build and equip a new hospital. The new building will accommodate thirty-five patients, the present hospital having a capacity of twenty-five only.

Ohio State Dental Association.—At the annual meeting of this society, held at Columbus, O., December 6, the following officers were elected: *President,* S. D. Ruggles, Portsmouth; *Vice-Presidents,* H. L. Ambler, Cleveland, H. C. Brown, Columbus; *Secretary,* F. R. Chapman, Columbus; *Treasurer,* C. I. Keely, Hamilton.

Dr. Thomas G. Ashton has been elected Adjunct Professor of Medicine in the University of Pennsylvania.

New Children's Hospital in Chicago.—Approximately $100,000 already has been subscribed for the construction of the Children's Memorial Hospital, Chicago, which will cost $300,000. The nucleus of the new institution will be the Maurice Porter Memorial Hospital for Children. Mrs Porter will give $75,000 towards the erection of the new institution, and another gift of $20,000 is in hand, with many smaller subscriptions.

The Cleveland Medical Library Association held its annual meeting December 10, in the Library Buildings. The paper of the evening was read by Dr. George Ben Johnson, of Richmond, Va., his subject being: "The Medical Men Contributed to the United States by the State of Virginia."

Home for St. Louis Medical Library Association.—The St. Louis Medical Library Association has recently purchased property on Pine street, near Grand avenue, which is to be utilized as a home for the Association and a meeting place for the various medical societies of the city. The Association has been in existence but a few years, but it has made great progress and is exerting a powerful influence for the advancement of medical interests in the city of St. Louis.

Obituary Notes.—Dr. William Gilfillan died December 18, at his home, in Brooklyn, after a short illness. He was born in Derry, Ireland, in 1833. His father was an assistant surgeon on the British Arctic voyager *Dorothea.* He received his medical degree at Edinburgh in 1854. In 1857 he came to this country and secured employment for a time as surgeon on one of the Cunard Line vessels. In 1858 he settled in St. Louis, and two years later came to Brooklyn. He was appointed surgeon and lecturer at the Long Island College Hospital, and held this place until 1869. He was a member of the Kings County Medical Society and of the New York Academy of Medicine.

Dr. Conrad Wesselhoeft, one of the best known homœopathic physicians in the country, died at his home in Newton Centre, Mass., on December 18, at the age of seventy years. He was born in Weimar, and came to this country with his parents when a child. He was a graduate of the Harvard Medical School in the class of 1856. He was president of the American Institute of Homœopathy in 1870, and later held the same office in the Massachusetts Homœopathic Medical Society, and was always very active in promoting the interests of that school of practice.

Dr. Charles K. Law, thirty-six years old, died at his home in Jersey City, on December 13, from peritonitis. He was a graduate of the University of New York Medical School in 1893. He was a member of the Jersey City Practitioners' Club, and of the Hudson County Medical Society.

Dr. Robert J. Barry, of Ansonia, Conn., died on December 15 of meningitis, at the age of thirty-five years. He was a graduate of the College of Physicians and Surgeons in this city, in the class of 1890, and was City Health Officer of Ansonia.

Dr. Frederick C. Cluxton died on December 17, at Bradford, Pa. He was graduated from the University of Victoria in 1871.

Dr. Levi Curtis died at Philadelphia on December 12, at the age of eighty-two years. He was graduated from Jefferson Medical College in the class of 1847, and he served during the Civil War as a surgeon in the United States Army.

Dr. Charles A. Durand, of Chattanooga, Tenn., died at San Antonio, Tex., on November 23, after a long illness. He was a graduate of the Medical College of Ohio in 1889.

Dr. William S. Hunt died at his home in Springfield, Ohio, on November 21, at the age of fifty-eight years. He was graduated from the Cincinnati College of Medicine and Surgery in the class of 1870.

Dr. H. J. Strack, of Cincinnati, was found dead in his office of heart disease, December 10. He was a graduate of the Ohio Medical College in 1901. He had served one year as District Physician, and was Examining Physician of the Catholic Order of Foresters.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

BRADSHAW LECTURES—TREATMENT OF CANCER—TREATMENT OF TYPHOID FEVER—BIRMINGHAM UNIVERSITY MEDICAL SCHOOL—MR. CHAMBERLAIN'S SPEECH ON RESEARCH—MORTALITY OF THE NAVY—GENERAL MEDICAL COUNCIL, DR. MACALISTER ELECTED PRESIDENT.

London, December 2, 1904.

Last evening Mr. Mayo Robson, vice-president R. Coll. of Surgeons, delivered the Bradshaw Lecture at the College. This was the second Bradshaw within a short time, the other being at the Royal College of Physicians on the 15th ult. Some brief notes on each may interest you. Mr. Robson's subject was cancer, the cause of which he dismissed with slight consideration, to speak rather of prevention and cure. As the disease is not infectious in the ordinary sense, there is no occasion for isolation at any stage. When the ultimate causative factor in the life history of a cancer cell has been discovered, we may hope that something in the nature of preventive treatment may also be discovered, but at present nothing of the kind is known, and the serum treatments employed by certain so-called cancer specialists are utterly worthless. Many valuable lives and great suffering might be saved by the recognition of a precancerous stage. That was the period when such preventive measures as exist might be useful; they consist in the abolition of all conditions which are known to be frequently followed by cancer. Whatever other factors may exist in the causation of cancer, chronic irritation is certainly one, and the establishment of the precancerous conditions might be prevented by the removal of such irritations, *e.g.* the pipe and excessive smoking in cancer of the lips and mouth. So quite simple and apparently innocent spots and growths in and under the skin might be a source of danger. If such showed signs of irritation or increased in growth, it was safe to remove them at once. Patients might think little of them, and their medical attendants might not like to seem alarmists, but it was better to alarm and cure than to lull into false security, and have to operate under less favorable conditions. It was certainly wrong to wait for a doubtful growth to become unquestionably malignant. At an early stage it could be removed without risk, and the fears and anxiety of the patient relieved.

The lecturer proceeded to apply the principle thus enunciated to cancer of internal organs.

Passing on to the treatment of fully developed cancer, Mr. Robson advocated entire removal as early as possible of the morbid growth, together with a wide margin of healthy tissue, and, when practicable, the nearest glands. On these lines, the chances of cure, or of relief for many years, were more favorable under modern conditions than was formerly the case. Often entire cures might be obtained.

In conclusion he said: "My purpose will have been served, if I have been able, in however small a degree, to convince those who have the chance of seeing patients in the early stages of their illness, that in many cases cancer can be prevented by treatment in the precancerous stage; that even when cancer has developed, if it be seen early, and thoroughly removed, it is frequently a curable disease; and lastly, that even in the later stages much may be done by surgical treatment to give real relief. Is it too much to hope that some of the views I have enunciated may filter through the profession to the public, and serve to convince them that until a true prophylactic for cancer is discovered they will be consulting their own interests best by seeking medical advice earlier, since to trifle with their ailments in the early stages is to lose the favorable moment, and ultimately to hear the verdict—alas, too often pronounced—too late!"

The Bradshaw lecture at the Royal College of Physicians was delivered by Dr. Foord Caiger—his subject one of perennial interest to every practitioner, the "Treatment of Typhoid Fever." This, he remarked, may be conducted on one of two lines, viz., an active remedial or a passive, so-called expectant method. The active measures are (1) specific, (2) antipyretic, (3) antiseptic. Specific curative serums have not succeeded as in diphtheria. Professor Wright's preventive serum has been shown to confer a considerable degree of protection, and also to mitigate the severity of an attack. Of the antipyretic plan, Dr. Caiger does not favor the use of drugs—at any rate in antipyretic doses—as he is convinced that the pyrexia is a natural defensive element against bacterial invasion. But when pyrexia becomes excessive it must be met by vigorous measures by reason of its effect on the heart muscle and the central nervous system. Baths are the most powerful means, and the cold, the graduated, and the continuous tepid were considered. Of drugs to aid the baths, only quinine deserved any confidence. Of the antiseptic method, the lecturer recognized that the attempt to destroy bacilli in the lower bowels by drugs given by the mouth is quite futile. But he said it is not unreasonable to expect harmless doses may restrict the multiplication of organisms (specific or not). In fact, this is effected as to putrefactive organisms, as shown by diminished fetor of the stools. Of antiseptic drugs, calomel is most widely used, and in suitable cases beneficial, but in exceptional instances, even in the first week, may induce intestinal irritation; so Dr. Caiger has given up its routine employment in the early stage, restricting its use to cases with special indications. The lecturer's experience is that antiseptic drugs in frequent doses have a favorable influence on the course of the attack, but cannot arrest it or lessen the risk of hemorrhage, perforation, or relapse. Sulphurous acid, turpentine, quinine combined with nascent chlorine, and oil of cinnamon are the drugs he favors. The last he begins in doses of 2½ minims, and increases in a few days up to ¼ or 5. The results are favorable. In 147 cases meteorism did not once occur; in three instances progressive cardiac enfeeblement developed without any apparent reason, and consequently Dr. Caiger now gives a grain of quinine with each dose. So much for the active line of treatment. Now as to the passive, expectant, or symptomatic line. Dr. Caiger, as a general rule, would treat a case on symptomatic lines, but would employ in addition, and from the earliest possible period, such antipyretics or antiseptics, or both, as appeared suited to the attack or the idiosyncrasy of the patient. Considering the successes of the cold bath reported from abroad, he thought some responsibility would be incurred by those in charge of hospital cases if they withheld it, except in the rare cases in which it was obviously inadmissible. When toxæmia is prominent—dark, foul evacuations, abdominal fulness at an early stage, nervous depression, and high temperature—antiseptics are required as early as possible; at the outset 3 or 4 grains of calomel, followed in a couple of days by another dose. This is best at an early stage, but in some cases he would even give it later. If free evacuation is not obtained, and the abdomen remains tumid, a turpentine and soap enema should be given. Antiseptics should follow every few hours, oil of turpentine or of cinnamon. In cases characterized by anxiety or mental perturbation, the cinnamon treatment is also valuable. Mental rest is so important that opium may be called for until the cloud has passed. In ataxic cases quinine and chlorine every two hours. In hyperpyrexia the cold pack—or sometimes the bath—followed by quinine to prolong the effect. The lecturer did not favor synthetic antipyretics. Insomnia which does not give way to cold sponging may be treated by hypnotics; if associated with diarrhœa or abdominal pain, Dover's powder or laudanum.

Moderate diarrhœa, not above four or five stools in twenty-four hours, the feeding not being at fault, should be met by a starch and opium enema. If this is not effectual, opium may be required by the mouth. Bismuth and astringents were commended, but not mineral astringents. An ice-bag or large wet compress to the abdomen is of undoubted value, especially if the diarrhœa is associated with distinct abdominal tenderness. In cases in which definite tenderness can be elicited on slight pressure, whether diarrhœa exist or not, few measures are more valuable than continuous cold compresses. Should meteorism arise in spite of care and diet, opium; if it seems due mainly to distension of the colon, turpentine and soap enemata. Sometimes the long tube may afford relief, but by no means always.

Cardiac failure may require the cautious use of stimulants. Alcohol alone has a temporary effect; digitalis, strychnine, and quinine are more lasting. Dr. Caiger ranked himself with those who hold that in most cases alcohol is not required, and often hurtful. A few ounces will markedly increase the restlessness of a delirious person whose pulse is good and circulation well sustained, especially if the patient is young and unaccustomed to alcohol.

For hemorrhage, absolute repose of body, bowel, and

mind; nutriment reduced to the lowest possible point; deprivation of fluids to reduce blood pressure. A full dose of opium given, and an ice-bag applied, our treatment is summed up in the word prevention, and for this, deprivation of fluids, save only a fragment of ice occasionally, is most important.

For perforations, the lecturer said he agreed with those who hold that a moribund condition is the only contra-indication to operation, and in regard to the most favorable time for this, "there is no time like the present." It is a golden rule to examine the abdomen carefully every day. Accurate diagnosis must be arrived at, but in view of the improved results of late, it is better to recommend an unnecessary laparotomy than let a patient die from perforation without the chance operation offers.

Dr. C. E. Purslow presided on Wednesday at a dinner of past and present students of the University of Birmingham, which was rendered memorable by a presentation to the Dean, Professor Windle, who is leaving to take up the presidency of Queen's College, Cork, as well as by a most interesting speech by Mr. Chamberlain. The loyal toasts having been duly honored, Sir F. Treves gave the "Medical School," remarking that though it used to be thought a university should be old, and located far from the haunts of men, times had changed, and to succeed, at any rate so far as science is concerned, it must be young, and situated in a great city. Time was when the man of science was cast into prison. Now he is simply left to starve. If a young man showed exceptional promise for a scientific career, none was open to him, and he therefore drifted into medical practice, a most deplorable thing. We were told that millions were given to hospitals, but the public did not think what they got for their money. All the advances in medicine and surgery were made by men who worked for nothing and gave their discoveries to the world.

Dr. Purslow, as president, then recounted the successes of men of the school. The presentation was next made to Dr. Windle, whose reply was received with vociferous applause.

Mr. Chamberlain, as chancellor of the University, then gave "The Past and Present Students of the Medical School" in a long and most interesting speech, of which I must refer to only one point. He divided the people essential to a university into three classes, (1) students, (2) teachers, and—having done justice to these—(3) the "pious benefactor." This species he found scarce in these days; he had been hunting him for three or four years. When he found him he wanted to drink his health and offer the warmest aspirations for his prosperity. America had many who had covered their land with universities. Here they are too rare. He had heard—perhaps it was only a superstition—that sometimes medical men were consulted by patients as to the disposal of their benefactions. If it were the fate of any of them to enjoy such confidence, he hoped he would gently insinuate the undying renown and gratitude that awaited any one who so established in their university a great school of medical research. It was only a question of a quarter of a million or so. The speaker then went on to show the value and necessity of such schools of research, and pointed to the results already accomplished as an encouragement to further efforts.

The annual report of the Director-General of the Royal Navy shows that the death-rate of the force, 4.19, was the lowest recorded since 1856.

The General Medical Council closed its session on Tuesday. A good deal of business was transacted at the sitting, but not much that will interest you. Dr. Donald MacAlister was elected president in succession to Sir Wm. Turner, and was duly inducted into office by the retiring president. Sir Wm. Turner was entertained by the members of the council at a dinner on Saturday.

OUR PARIS LETTER.

(From Our Special Correspondent.)

VACCINATION INSTITUTIONS—ANEURYSM OF THE POPLITEAL ARTERY—SARCOMA OF THE ORBITAL MARGIN—CICATRICIAL CONTRACTION OF THE PALM OF THE HAND—POST-MORTEM EXAMINATION OF THE HEART SUTURED TWO YEARS PREVIOUSLY—ARTERIAL TENSION—MERCURIAL INJECTIONS—OBESITY—INTUBATION VERSUS TRACHEOTOMY—A CASE OF TETANUS CURED—POISONING BY BALLOON GAS—DEATH OF OLLIER—NEW BOOKS.

PARIS, November 22, 1904.

KELSCH read a long report before the Académie de Médecine on a commission relative to the study of foreign vaccination institutions, and on the transference of the service of vaccination to the Académie, an institution superior in view of its adaptation to the new rôle which devolved upon it by the application of the law of July 27, 1903. Kelsch passed in review the organization and working of foreign vaccine institutions. He discussed, with all the new data, the relation between variola and vaccination, and described the chief improvements which would take place in the vaccination service, under the Académie.

At a recent meeting of the Société de Chirurgie, Nélaton reported an interesting series of observations on syphilitic aneurysm of the popliteal artery, which at first improved under specific treatment, then suddenly ruptured on the thirtieth day of a severe typhoid fever, causing in a few days complete gangrene of the foot and leg. It was necessary to amputate the leg, and convalescence followed. Examination showed it to be a sacculated aneurysm, which extended to the tibioperoneal trunk, and which, in consequence, according to Nélaton, was not amenable to resection. He thought that a resection so extended, in which the anterior tibial artery was included, would lead to a fatal gangrene of the limb, and to a second amputation. Moreover, Nélaton thought that in similar cases it would be necessary to confine oneself to ligating the artery at the level of the opening in the third adductor, without attempting to extirpate the aneurysm.

Walther presented in his own name, and in that of Béclère, the case of a young man who, having already undergone several operations for a sarcoma of the inferior orbital margin, had recently had a recurrence, with lesions so extended that Walther considered further operation impossible. Béclère then treated the patient with *x*-rays. Eighteen sittings, covering a period of four months, sufficed to cause all trace of the neoplasm completely to disappear. Professor Berger treated with equal success a very serious recurrence of a sarcoma of the face, which, in spite of the most vigorous intervention, such as resection of the maxilla and ligation of the external carotid, recurred each time, with the greatest rapidity. Under the *x*-rays the tumor entirely disappeared.

Professor Berger presented a young woman who had had cicatricial contraction of all the fingers of the right hand, following a burn of the palm. Berger did an autoplastic operation, according to the Italian method, the skin being taken from the back. The result was very good, both from the æsthetic and the functional point of view.

Launay detailed the post-mortem examination of the heart of a patient dying from typhoid fever, who, two years before, had received a double bullet wound of the heart. This wound had been sutured and cured by Launay. From the specimen, one could see that the bullet entered the left ventricle at the level of the insertion of the anterior mitral pillar, and passed out of the ventricle at the level of the insertion of the left mitral valve, at the level of the auriculoventricular orifice. The obliquity of the course of the bullet explains a peculiar fact observed, namely, that at the moment of systole, the blood flow was arrested, the muscular contraction sufficing to stay its course, but as soon as the cardiac walls relaxed the hemorrhage started afresh.

The seventh session of the Congrès Français de Médecine was held in Paris in October, 1904, immediately after the Congrès de Chirurgie. The first question on the programme was "Arterial Tension in Disease." The speakers were Bosc and Vedel, of Montpelier, and Vacquez, of Paris. The last mentioned considered only hypertension, and after having studied its diagnostic, clinical, and pathological significance, concluded his address with a discussion of its treatment. In the case of cerebral lesions of this origin, he recommends lumbar puncture, and, in case of dangerous complications, as acute œdema of the lungs, it is necessary to inject morphine.

The second question discussed was "Mercurial Injections." Lannoir, of Lyons, and Balzer, of Paris, were the speakers. They agreed that injection is the most powerful method of administering mercury. But although the limit of the specific action of mercury in syphilis is reached when the method of injection is used, it is none the less true that ingestion and inunction each has its place.

"Obesity" was the third topic to be discussed. Maurel, of Toulouse, and Lenoir, of Paris, were the speakers. According to Maurel, obesity is always the result of hypernutrition. It constitutes a method of organic protection, and disappears only under the influence of hypoalimentation. According to Lenoir obesity is caused by a defect in nutrition, and to explain why one becomes obese he recalled the fact that liberation of fat is made under the influence of a special ferment, lipase, which is found in the serum. Now these ferments are probably the products of internal secretion of glands, and among these the thyroid gland plays an important part. In the discussion which followed, Javal, of Paris, spoke of cases in which he had been able to observe that the ingestion of thyroid gland extract acted almost exclusively on the albuminoids of the body, and not on the fat, hence the danger of the thyroid treatment. Leven laid stress on the constancy of dyspeptic trouble among the obese. According to him, the treatment of dyspepsia alone caused the greatest number to lose flesh, allowing them to eat only food easily digested, and to drink water, without any special treatment. He insisted also on

the necessity of causing obesity to disappear slowly, a rapid decrease depending more on a dangerous dehydration than on the loss of fat.

In a paper read before the Société Médicale des Hôpitaux, Louis Martin showed that in severe forms of diphtheria accidents must be expected, whether intubation or tracheotomy is employed. There is no necessity of immediately rejecting intubation in favor of tracheotomy, for the same mischances occur whichever method is employed. Intubation is to be preferred, and in the cases in which the false membrane is abundant and may act as a valve on the tube, it must be inspected very often, and the tube changed once or twice a day, to bring about the expulsion of the false membrane.

Jeanselme reported an interesting case of acute tetanus, treated on the sixth day after infection with antitetanus serum, and large doses of chloral. In thirteen days the patient received 1,060 c.c. of the serum by subcutaneous injection, and in seventeen days he had taken by mouth and rectum 224 grains of chloral.

Barrier told of a fatal case of poisoning by balloon gas. It is known that this gas is composed of hydrogen containing unusual and toxic gases, chiefly hydrogen arsenide, hydrogen antimonide, and hydrogen silenide. Comparative study of their characteristics shows that hydrogen arsenide is almost entirely responsible for the poisoning. This observation, added to those published previously, shows how dangerous is the manufacture of hydrogen by chemical processes, and increases the interest in substituting for them the electrolysis of water, as is now being done at the Parc d'Aérostation Militairé de Chalais-Meudon.

A monument has been erected in Lyons in honor of her great surgeon, Ollier, who is best known for his work on bone surgery, and especially for his method of subperiosteal resection, which has proved so valuable. On November 13 this monument was dedicated in Lyons with impressive ceremonies. A number of speeches were made by delegates from the Faculté de Médecine de Paris, and by several distinguished foreigners.

Among the books which have recently appeared, we cite that of Dr. Robert Proust, professor of the Faculté de Médecine de Paris: "La Prostatectomie dans l'hypertrophie de la prostate." This book is indeed a monumental work on prostatectomy, which the author has made for some years his subject of choice. It is almost superfluous to recall the considerable part played by Proust in the introduction into France of perineal prostatectomy applied to the treatment of the hypertrophied prostate. One might say that only after the work of Proust and Gosset was the place of perineal prostatectomy really recognized in France, and it has now become a classical operation, perfectly developed in all its details. One finds in this book of four hundred and ninety pages an absolutely complete exposition of the question of radical treatment for hypertrophied prostate. The anatomical and anatomopathological portions are treated with particular care. Immediately following are descriptions of the operative technique of the suprapubic and perineal methods. Numerous detailed observations and résumés in tabular form complete the work, and give to it an added value.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

NEED OF A BABIES' HOSPITAL—GOOD RESULTS OF BATTLE AGAINST SUMMER ENTERITIS IN BABIES—POLITICS AND MEDICINE—POLYARTHRITIS OF CHILDREN—DURATION OF LIFE IN DIABETES—CARCINOMA IN MICE—RARE CASES.

BERLIN, November 24, 1904.

BERLIN does not stand first among the cities of Germany in regard to the hospital care of babies. For this reason an association has been formed under the name, "Verein für Erreichtung eines Säuglingskrankenhauses." To win supporters for this enterprise Ritter delivered an address in the Hotel Kaiserhof, in which he said that there were in Berlin asylums only for well babies. The three children's hospitals have fifty beds for infants, which by no means corresponds with the existing need. These hospitals do not have separate wards, a disadvantage for all concerned. Moreover, the babies ought to have wet-nurses. The hospital in Dresden should serve as model for similar institutions. There mothers and babies who have no home are admitted, and these mothers nurse other babies. From six to nine wet-nurses suffice for forty babies. A school for nurses has also been established there. Some of the daughters of the best families live for a year in this hospital, and later extend among the people a knowledge of the proper treatment of babies.

That infant mortality has decreased is shown by a comparison of the death rate of last year with those of 1900 and 1901. Taking the hottest months, June, July, and August, the number of babies dying in 1900 was 4,425; in 1901, 4,454, and in 1904, 3,522. These figures relate only to babies fed with cow's milk. The "Gesellschaft zur Bekämpfung der Kindersterblichkeit" has existed but one year, and has sent out 60,000 papers containing rules for mothers. It has also superintended the inspection of 170 cow sheds in the city by forty-eight physicians to insure the fact that the milking is done in a clean way, and that the milk is immediately cooled. The splendid result is indeed proof enough of the activity of this society.

Politics has entered the lists against medicine, and, it is hoped, will be worsted. At the end of October the old bill requiring the examination of all meat brought into the city, whether or not it had already been examined, was repealed. The new bill, very favorable to land-owners, who are now of great political influence, offers undoubted difficulties from a hygienic point of view. This explains the stormy applause which greeted Westenhoeffer in the Medicinische Gesellschaft on the reading of a paper on the meat inspection law in its relation to tuberculosis. Last year Westenhoeffer stated that the flesh of tuberculous cows is not infectious, except in the case of miliary tuberculosis. To prove whether the flesh contained bacilli, it was implanted in rabbits and guinea pigs; none died; of the control animals inoculated with tuberculous glands, all died; of seven animals, inoculated with flesh from cows with miliary tuberculosis, all died. In spite of the results of these experiments, the speaker held that the flesh should be very carefully inspected, because of the possibility of its containing tuberculous glands. When the meat comes from abroad, the entrails should also be sent for examination. Slaughtering indoors should be forbidden, and only especially qualified veterinary surgeons should be employed for the examination.

In the same society, November 8, Baginsky spoke on "Articular Rheumatism in Children," and for those to whom it was new the paper contained much of practical value. Baginsky had observed in all 144 cases in the Emperor and Empress Frederic Hospital. Most of these cases occur in the chief periods of growth between the ages of 5 and 10, and 11 and 14 years. No influence of season can be noted, and the influence of heredity is not pronounced. Two groups of cases are to be distinguished, both beginning violently. The first is soon cured without difficulty, while the other runs a rapidly fatal course, or is severe with subacute intervals. The lower extremities are usually most affected. Nephritis is not often found as a complication, but chorea is frequently present, and the heart is almost always affected in severe cases. Only a few of the heart cases live till puberty, and their treatment is very discouraging.

In the "Verein für innere Medicin," Hirschfeld, the well-known authority on diabetes, read a very valuable paper on the prognosis of diabetes. Contrary to the old rule of Traube, that in light cases the sugar disappears with the decrease in carbohydrates, Hirschfeld recommends a more exact examination of toleration. He gives 100 gm. of carbohydrates and records the quantity of excreted sugar. When the excretion amounts to 50 gm. a day, the speaker said, the disease will never wholly disappear. The cases with an excretion of 10 gm. are light. The most important complication is nephritis, which occurred in eleven per cent. of his cases. It was accompanied by polyuria, and occurred in the younger patients. When diabetes complicates renal calculus, the attacks of pain are very slight. Every diabetic patient suffers to some extent from cystitis. Hirschfeld does not agree with Senator that the nephritis is caused by arteriosclerosis. Among the first symptoms noted are the evidences of kidney irritation. Therefore careful treatment is indicated, and a rich diet is always forbidden. Milk is contraindicated in diabetes, because of the presence of milk sugar, but cream is recommended. As causes of death in the moderately severe cases, complicating diseases cover only 7 or 8 per cent., and in the light cases, 30 per cent. From life insurance statistics and from patients observed, the average duration of a moderately severe case is estimated to be about 10 years, and of a light case, 20 to 25 years. The patient who after the ingestion of 100 gm. of carbohydrates excretes only 10 gm. of sugar in 1,500 c.c. of urine in a day, *i.e.* 0.2 per cent., suffers from a disease which does not noticeably shorten life.

Animal pathology has often done good service in the investigation of human disease. For this reason the investigations in the charity cancer hospital are of value. They were reported by L. Michaelis, October 31, in the "Verein für innere Medicin," in a paper on cancer-like neoplasms in mice. Michaelis observed three types of neoplasm: (1) The usual carcinoma; (2) the usual adenoma; (3) a form combining the two types. These neoplasms are subcutaneous, and until they are ulcerated may easily be removed. Metastasis was observed only once in the lungs, but often in lymphatic glands. Infiltration did not occur as in human beings. Infection of other mice is simple. The neoplasm mixed with water is injected sub-

cutaneously, or small pieces are implanted. The neoplasm is not infectious for other animals, or even for other kinds of mice. The liquid if filtered loses its infectious power. Michaelis himself has not observed spontaneous infection, but it undoubtedly exists, if reports can be believed. Experiments in the production of immunization have been without success.

Paul Manasse read a paper on Mikulicz' disease, namely, a symmetrical enlargement of the ovaries and lacrymal glands. Then a boy was presented who lacked the tear and salivary secretions. He was somewhat dyspnœic, but otherwise well, and his blood condition was normal, contrary to what has been observed in other similar cases. Eckstein presented a girl of 20 years who had no nose. The other parts of her head and body were perfectly normal. Baginsky reported a case of Hirschsprung's disease, namely, enormous dilatation of the colon, especially the sigmoid flexure. The case demonstrated was in a child 11 months old, and the colon was as large as that of a man.

Progress of Medical Science.

The Boston Medical and Surgical Journal, December 15, 1904.

A Case of Diffuse Encephalitis Showing the Pneumococcus.—W. N. Bullard and F. Robertson Sims sum up the chief points in this case as follows: After a month of severe bronchitis in a man of 50, there developed a group of cerebral symptoms, weakness, and mild delirium, followed by flaccid paralysis of the left side, with rigidity on the right, and incontinence. Death supervened on the seventh day of the cerebral symptoms, after gradual failure, and coma, with elevated temperature. Autopsy revealed extensive diffuse encephalitis, and bronchitis, with bronchopneumonia (pneumococcus). The pneumococcus was found by culture, free in the tissues, and within the phagocytes of the cerebral lesion. The lesions were related to branches of the cortical arterial system of both hemispheres, and were marked on the right side, where almost the whole of the subcortical projection system was acutely involved by œdema and punctiform hemorrhagic foci. The lesions were histologically simple, consisting of accumulations, within and surrounding the adventitia, of phagocyte cells of the type familiar in cerebral and meningeal lesions, and small numbers of lymphoid and plasma cells. The large cells contained vacuoles, detritus of myelin, and an occasional pair or short chain of diplococci. There was no evidence of acute leptomeningitis or of ependymal changes.

Flies and Tuberculosis.—Frederick T. Lord has performed a number of interesting experiments with flies and tuberculous sputum. He concludes that flies may ingest tuberculous sputum, and excrete tubercle bacilli, the virulence of which may last for at least fifteen days. Bacilli appeared in the stools within at least eighteen hours after the ingestion of the tuberculous sputum. The number of bacilli in each microscopic field increased from about ten in the original sputum, to 150 in the specks. Paraffin sections were made from many flies fed on tuberculous sputum, and tubercle bacilli were found in the intestinal contents of all. No invasion of other parts of the body could be determined. The bacilli in the specks were much larger than those in the original sputum, and showed some evidence of apparent branching. The writer believes that it is probable that the usual contagion of tuberculosis is not by the ingestion of infected food, but by the drying and distribution as dust of infected material through the air. The danger of human infection from tuberculous fly specks is by the ingestion of the specks on food. Spontaneous liberation of tubercle bacilli from fly specks is unlikely. If mechanically disturbed, infection of the surrounding air may occur. The writer states that he has often noted the eagerness with which flies feed on sputum, even when other food is accessible. He has no doubt that flies play a part in cases of primary tuberculosis of the intestines, or the mesenteric lymph glands in man, due to the ingestion of infected food. The writer suggests in conclusion that tuberculous material (sputum, pus from discharging sinuses, fæcal matter from patients with intestinal tuberculosis, etc.) should be carefully protected from flies, lest they act as disseminators of the tubercle bacilli. During the fly season, greater attention should be paid to the screening of rooms, and hospital wards containing patients with tuberculosis, and laboratories where tuberculous material is examined. As these precautions would not eliminate fly infection by patients at large, food stuffs should be protected from flies who may already have ingested tuberculous material.

The New York Medical Journal, December 17, 1904.

Scarlet Fever in New York, and Some of Its Therapeutical Possibilities.—A. Seibert gives a carefully compiled statistical review of the history of scarlet fever in New York, and presents several graphic tables, showing frequency, relative mortality, relation to density of population, etc. He finds that the disease is always present, and is evenly distributed each year among the different districts, in direct proportion to the number of inhabitants. It is most common among school children, and the schools are the chief common centers for contagion. He believes that direct contact is necessary for infection. Seibert believes that we can destroy streptococci in the scarlatinal throat and skin before they enter the body. He employs, four times daily, from a five to ten per cent. ichthyol lanolin ointment, which is rubbed into the entire skin. Swelling and itching are diminished, and desquamation almost entirely prevented. He also uses a fifty per cent. solution of resorcin in alcohol on the throat as soon as an exudate appears, and thus describes his method: The patient is placed upright on the lap of the nurse, as when intubation is performed, the wrists are held down, and the head is held firmly by a second attendant standing behind. A plug of absorbent cotton, wound around a curved applicator, and dipped into this solution, is quickly introduced over the handle of a tablespoon into the nasopharynx, on one side of the uvula, left there a few seconds, and then withdrawn. A second application is made on the other side. No swabbing or wiping away of exudate is resorted to, for on the introduction of the cotton the soft palate instantly contracts, and so presses the fluid into every nook and corner of the throat. The solution penetrates through the exudate and deep into the affected mucosa, and there destroys the life of every streptococcus (or any other germ) it comes in contact with.

Venesection.—G. E. Souwers advocates venesection in acute inflammatory affections, especially of the more vital organs, accompanied by pronounced rise of temperature with a pulse either bounding or of that tense, whipcord character that gives, on examination, the impression that the vessels are strained to high tension by the blood current. The same indication exists when we have a slow, full, laboring pulse, as after an apoplexy, or heatstroke, but when in these latter conditions the patient is pale and flabby, we should not bleed. The author then goes over seriatim the maladies of the various bodily organs, in many of which, he believes, venesection to be indicated.

The Relation of Diseases of the Stomach to Affections of the Mouth, Nose, and Throat.—R. Levy lays down three main propositions: first, that certain affections of the upper air passages, and the adjacent cavities, are causative, in a measure, of some form of stomach disturbances; second, that certain stomach disturbances are the cause of certain affections of the upper air tract, and third, that the relationship existing between digestive disturbances and certain diseases of the upper air passages is so close that treatment must necessarily involve attention to both conditions. Among the diseases of the nose which are more especially associated with gastrointestinal affections are vasomotor rhinitis, nasal irritation, and red nose. Various disturbances in sensation are closely allied to some digestive disorder. Particularly is this true of paræsthesia and hyperæsthesia of the pharynx. Urticaria of the mucous membrane of the throat, a serious and possibly fatal affection, largely dependent on digestive disorders. Among diseases of the larynx, certain nervous affections, such as hyperæsthesia, and laryngeal spasm, are dependent on the same general causes of gastroenteric origin.

Medical News, December 17, 1904.

Diagnosis of Disease in Children.—J. Madison Taylor believes that in this line of work we need not so much new facts as a more practical application of those already recorded and tested. Many valuable truths have been revealed, but are locked up in large treatises, which are commonly used by specialists only. One important factor in this work is the study of morbid phenomena of the mind and morals. Clinical teaching should emphasize the urgency of obtaining the earliest possible indications, omens or prefigurements of departures from normal functionation, especially in children. The evil effects of environment and training, as well as those of inheritance should be recognized and rectified. Thus, the physician should possess clearly defined standards of growth, proportion, activities, sensitiveness, functional competence, intelligence, and capacity for endurance. Wide observation, reading and experience should lay the foundations of these standards. Bohannon has given valuable data from his study of over 1,000 individuals, which, although relating more to the psychic nature than to the physical, still is very helpful in diagnosis. The psychic factor, especially in the observation of children, is more important than is generally thought. Courageous children are usually healthy and strong in mind and body. Timidity has a physical basis. The "only child" in 66 per cent. shows disadvantageous traits. The writer calls attention to Arnold's scholarly work on the clinical significance of the interrelationships between the blood supply of organs and their functional activities. The writer states that there is both a nutritional and sensory reaction exhibited

upon the erector spinæ muscles, and allied structures, caused by the disturbed circulatory equilibrium in areas depending for vasomotor regulation on certain groups of segments of the cord. There is a compensatory relationship existing between, first, the surface muscles and the skin supplied by the posterior divisions of the spinal nerves, and, second, the blood vessels of the cord and the deep structures, organs, and remoter parts innervated by fibers whose cell bodies arise in that region of the cord. A great deal can be learned from careful study of the varying conditions of the back. In most acute conditions there is more or less hypersensitiveness in the tissues adjacent to those segments of the cord which correspond to the areas in which the innervation is disturbed. In places the structures will now and then lose tone, so as to feel like dough, or they may atrophy. Alterations take place in the muscle fibers so that they feel like cords. In acute disturbances of the throat, nose, and larynx, aside from the sensory disturbances, the upper dorsal areas and neck muscles will show changes in resistance. In order to make use of this method of diagnosis, the physician must systematically read clinical facts in the light of broad physiological principles. The writer concludes his interesting paper by presenting a résumé of the diagnosis possibilities of the Roentgen rays in disease in childhood.

Overlapping the Aponeurosis in the Closure of Wounds of the Abdominal Wall.—Charles P. Noble describes the method of overlapping the aponeuroses in the closure of all wounds of the abdominal wall, as follows: The incision in the hypogastrium for operation on the female pelvic organs may be taken as the type. In closing the wound, the peritoneum is first closed with a continuous suture of fine cumol catgut. The fat is then dissected from the upper surface of the aponeurosis of the tranverse muscles on the left side of the wound from one-third to one-half inch. The aponeurosis upon the right side of the wound is then separated for an equal distance from the rectus muscle. The muscles and fasciæ are sutured with medium weight chromicized catgut as follows: Beginning at the lower angle of the wound on the left side, the suture is passed from above downward through the aponeurosis and rectus muscle. The separated bundles of the rectus muscle are united with a continuous suture until the upper angle of the wound is reached, when the suture is passed from below upward through the aponeurosis upon the left side of the wound, and then from below upward through the aponeurosis upon the right side, while an additional suture is taken from above this point to fix the suture, and take off the strain from that part which has brought the muscle in apposition. The aponeurosis is then closed from above downward by catching the aponeurosis on the left side after the manner of the Lembert intestinal suture, and then passing the needle from below upward through the aponeurosis on the right side. When this suture is drawn taut, it slides the aponeurosis of the right side of the wound upon that of the left, and holds the two in apposition. The process is repeated until the lower angle is reached, when the two ends of the suture are tied. In long wounds two or more mattress sutures are placed to take tension off the lines of continuous suture.

The Association of Cancer and Tuberculosis.—W. A. Bastedo presents the following conclusions: 1. Cancer and tuberculosis not infrequently occur together in an active state, and may be intimately associated in the same tissue. 2. There is probably neither specific favoritism nor specific antagonism between the two types of disease. 3. There are a few reported cases in which one of the affections seems to have exerted a modifying influence on the course of the other. 4. Lupus favors the development of epithelioma. 5. Cancer is more common among those with latent tuberculosis than among others at the cancer period of life. 6. The common age for cancer is not the common age for active tuberculosis (Cruveilhier, 1828). 7. The common sites of cancerous involvement are mostly not those of tuberculous involvement, and vice versa (Rokitansky, 1838). 8. A family history of tuberculosis is more frequent in the cancerous than in the general community, and there may be some hereditary relation between the two. 9. A latent tuberculous process in a lymph-node may become active when a cancer develops in the neighborhood. 10. Lymph-node enlargement in the vicinity of a cancer is not always cancerous (Claude, 1899), and may be solely tuberculous.

American Medicine, December 17, 1904.

The Value of the Physiological Principle in the Study of Neurology.—James J. Putnam calls attention to the importance of physiological conceptions and methods in the study of disease. The pathological conception of disease, fruitful as it has proved, is in reality inadequate to the completion of the task which has been assigned to it, and it needs to be supplemented by another, which recognizes, as forming an integral part of each process classified as disease, a great variety of reactions on the part of the organism as a whole, or at least of portions of the organism, not implicated in the primary lesion. It is proper to speak of these adaptive or compensatory reactions as physiological. The degree to which the organism may take part in them varies, of course, within wide limits. We cannot depend upon anatomical evidence for giving all the information needed with regard to the disease, but must study the genesis of symptoms as well, even though they are in reality evidences of healthy reaction rather than of destructive processes. Hughlings Jackson has long stood as a pioneer in this study of the genesis of symptoms, but many other physicians have started researches in this direction that demand the fullest recognition, amongst these, Janet, representing the new school of psychologists, and Meltzer, representing medical physiologists. Although the study of function is so important, we ought not to divorce our conceptions of "functional" from those of "organic" to the extent that is common. The use of these terms, as standing for radically different and antagonistic conditions, is unscientific and misleading.

The Eye and the Digestive System.—Mark D. Stevenson points out that an improperly fitting pair of spectacles produces dizziness, nausea, vomiting, headache, and even faintness; so may abnormal strengths of the eye or its muscles. He thinks that not only the above-named symptoms, but other functional digestive disturbances, and even constipation, may be due to the inadequate nerve supply to the digestive organs in these conditions, because an undue amount of energy is consumed in overcoming the muscular or refractive errors. Likewise, he considers that the nausea and vomiting of sea-sickness are chiefly due to reflexes of the eyes and semicircular canals rather than from anything in the stomach itself. He describes the anatomic nerve relationship between the digestive organs and the eyes. Disorders of the digestive system affect vision, as often witnessed after a too hearty meal, for example, disturbances of accommodation, diplobia, etc. Hemorrhages into the stomach or intestines are sometimes followed by blindness. Jaundice sometimes causes yellow vision.

Röntgen-ray Therapy.— A. P. Rainear discusses Röntgen-ray therapy as applied to malignant growths, chronic ulcers, tuberculous glands, etc. He believes this agent is especially indicated in epithelioma, lupus, acne, rodent ulcers of the neck and face, the so-called birthmarks, and all superficial diseases of exposed areas in which a cosmetic effect is desired. Rainear calls attention to the brilliant results obtained from the use of the rays in severe cases of neuralgia. In facial neuralgia, severe attacks of sciatica, acute gouty paroxysms, and rheumatoid arthritis, he has seen relief afforded in from one to three applications.

The Röntgen Rays in the Treatment of Tuberculosis.—J. Rudis-Jicinsky uses the Röntgen rays in conjunction with the regularly accepted treatment, and gives quinine sulphate internally, to insure better absorption of the rays. Of twenty selected cases of pulmonary tuberculosis, five hemorrhagic cases showed improvement in ten weeks; ten fibroid cases gave three deaths after a lapse of six weeks; in five cases of mixed infection, three patients ceased taking the treatment, but the other two show continued improvement, with steady gains in weight. In six cases of tuberculosis of the peritoneum one patient died, but the rest recovered, and there has been no recurrence. In glandular tuberculosis there were nineteen failures, eight patients cured, and six benefited; in lupus vulgaris, sixteen patients apparently cured, three failures. The greatest improvement was shown in tuberculosis of joints, eight patients with simply tuberculous synovitis were cured in six weeks; four chronic cases showed improvement in four months; one case of tuberculous dactylitis showed good results after six weeks, some deformity remaining, and in two coxalgias the sinuses healed in four months.

Journal of the American Medical Association, December 17, 1904.

Enuresis in Childhood.—M. Ostheimer and I. V. Levi report their personal experience in ninety cases, about equally divided between the two sexes. Various complicating conditions existed, chronic gastrointestinal catarrh being the most common. Nasopharyngeal catarrh, enlarged tonsils, and adenoids are frequently found. Of eight cases with adenoids, six had had the usual operation for removal performed, without more than temporary benefit of the enuresis. The treatment consisted, first of all, of the correction of all dietetic errors. No liquids were permitted after the evening meal. Cold sponging was practised daily, sleeping on the back was prevented, and occasionally the foot of the bed was elevated. In boys, the motility of the prepuce was determined, and phimosis cases were circumcised. Citrate of potash was given when the urine was hyperacid. Tincture of belladonna was given in increasing drop doses, a bitter alkaline tonic being taken before meals. If the belladonna failed to relieve by the time fifteen-drop doses were reached, it was given up, and aromatic tincture of rhus was tried, increasing gradually to 30 minims daily.

If this also failed, as it usually did, one two-hundred-and-fortieth grain of atropine, with half that quantity of strychnine, were given, the dose being increased by the amounts mentioned, daily, until full physiological effect was reached or the enuresis relieved. On this treatment, sixty-seven out of the ninety cases recovered, and in fifty-three of the sixty-seven, the recovery was permanent.

Hæmaturia as the Earliest or Only Symptom of Scurvy.—J. L. Morse records seven cases. In one, the onset of the hæmaturia was accompanied by pain and tenderness in the extremities. In one it preceded any other symptom of scurvy by three months; in another by three weeks, and in another by one week. In three others in which it had been present for one month, two weeks, and two days, respectively, without any other symptoms, recovery was almost immediate under antiscorbutic treatment. The author considers scurvy as the most common cause of uncomplicated hæmaturia in infancy.

Post-Operative Infection of the Eye.—From a study of many thousands of cases of cataract extractions, J. A. White finds post-operative infection in about one per cent. The author follows this procedure in his own cases: The night before the operation a bath and a purgative are given, eyebrow, lids, and lashes are cleansed thoroughly by soap and water, followed by sublimate solution, 1-1000, and alcohol, the conjunctival sac is thoroughly irrigated with a sublimate solution, 1-10,000, and filled with sublimate vaselin. A slerite pad and bandages are then applied to the eye, and it is not opened again until the patient is on the operating table. The bandage is then removed and the sac irrigated anew with a sublimate solution, 1-10,000. The sac, being kept filled with this sterile preparation for twenty-four hours after thorough irrigation, is much more likely to become sterile, and remain so, than if merely washed out. No organisms can live in this medium, as bacteriological investigations have proven. The only defect in the technic is that the sterilizing medium is not applied often enough. The eye does not retain a particle or sign of the vaselin in even a few hours after, expect that the lid is somewhat greasy. But if the contact for a few hours succeeds in destroying or preventing the development of germ life, there is no chance of infection from without while the eye is kept sealed, although there is always danger of infection from within, if there is any pathological condition with purulent secretion, or any affection of the lachrymal sac, or a purulent rhinitis.

Berliner klinische Wochenschrift, November 28, 1904.

Observations on Carbonic Oxide Poisoning.—Strassmann and Schulz undertook a series of tests to determine the degree of absorption of carbonic oxide gas that can take place in the blood after death. The point is an important one medicolegally, since it is sometimes necessary to determine whether an individual may not have been already dead before he was placed in the poisonous vapor. Until recently it was supposed that the detection of carbonic oxide in the blood always indicated that the gas had been inhaled during life, but lately various observers have shown that not only the gas in the pure state, but also when mixed with air or smoke, can penetrate to the interior of a dead body through the skin. The authors' experiments were made on seven bodies, which were exposed to illuminating gas for varying lengths of time in a closed box. The results are in harmony with those of other observers, and show that carbonic oxide can enter the body, and probably penetrate all parts of it if the exposure be long enough. It makes little difference whether the illuminating gas is diluted with air or not, or whether it is stagnant or in motion. A useful differential diagnostic sign is the fact that when the gas enters the blood by post-mortem diffusion the superficial muscles, such as those of the chest, show a difference in color between their upper and lower layers in proportion to their degree of saturation with the gas. The most delicate test is the palladium reaction, which surpasses the spectroscope in sensitiveness.

The Route of Infection in Pulmonary Tuberculosis.—M. Wassermann believes that in many cases of pulmonary tuberculosis the infection reaches the lung from the tonsils and pharynx through the cervical lymph glands and the pleura. Through some local inflammation, or other lesion, the pharyngeal mucosa admits the bacilli, and the cervical glands become secondarily involved. The infection travels down the lymphatics to the pleura, and sets up a local pleurisy, which causes adhesions, and enables the bacilli to enter the lung itself. Adhesions form easily at the apex, for in this situation there is least motion during respiration. Inquiry often reveals the fact that swellings in the neck and pleuritic stitches in the shoulder have preceded the appearance of the pulmonary symptoms, and the author describes several cases in which this sequence of events was observed. The greater activity of the right shoulder favors the lymphatic current on this side, and explains the frequency of apical lesions on the right side.

Münchener medizinische Wochenschrift, November 29, 1904.

Technique of the Gruber-Widal Reaction.—Stäubli describes several innovations intended to facilitate the performance of this test. In order to render it less difficult to secure the necessary amount of blood, and at the same time to make the process less disagreeable to the patient, the author uses a special mixing pipette with rubber bulb not unlike that of the hæmocytometer. An amount of blood equal to 1-20 c.c. is drawn up to the mark 1, and physiological salt solution immediately drawn to the mark 12½. The mixture is placed in a special small tube, and is centrifuged. A mixing block contains eight shallow depressions, marked with the number of the corresponding dilution that each is to contain, and the original pipette is used to measure the amounts of centrifugalized blood and salt solution. The observation slide has similar depressions, and a drop each of the diluted serum, and of the culture, is placed on a vaselined cover glass, which is then inverted over the corresponding depression in the slide, and the whole is placed in the incubator for an hour. By this method only the cover glass, and the platinum loop, come in contact with the typhoid culture, and the dilutions are made with great accuracy from 1-25 up to 1-800. The author also describes a convenient tube for collecting blood that is to be sent some distance for examination.

A Method for Constant Temperature Determinations.—Oertmann describes a form of thermometer which makes it possible to obtain definite knowledge as to the highest point reached by a patient's temperature during the twenty-four hours. The assumption that the records obtained by taking the temperature two or three times a day indicate the highest point reached by the fever, is, of course, open to criticism, and the author has devised a maximum thermometer shaped like a hemorrhoid pessary, which is intended to be kept constantly in the rectum. A modified form is equally applicable to the vagina, and the author claims that these instruments can be retained in position without discomfort. Observations on the temperature for scientific purposes can be best made by means of this instrument, and in puerperal cases the recognition of ephemeral elevations is especially important. The method is also of practical value in all diseases characterized by brusque fluctuations of temperature, such as pyemic, embolic, infectious processes, as well as incipient phthisis. The detection of malingering is facilitated by the use of the instrument.

Deutsche medizinische Wochenschrift, December 1, 1904

Experimental Observations on the Possibility of Increasing the Resistance of the Peritoneum to Operative Infection.—Borchardt describes experiments on guinea pigs undertaken for the purpose of determining the possibility of increasing the resistance of the body to peritoneal infections with the bacillus coli communis. The agents used were nucleinic acid, horse serum, and physiological salt solution. Subcutaneous injections of the two latter proved efficient to protect the animals against subsequent injections of fatal doses of the colon bacillus, but the nucleinic acid was found ineffectual, and also gave rise to severe local reactions. Most of the experiments were conducted by injecting the protecting substances into the peritoneal cavity. All three agents applied in this way sufficed to augment the natural resistance, so that two or three times the ordinarily fatal dose of bacteria could be survived, but the author gives the preference to the salt solution. It was found that the highest point of the resistance curve was reached about forty-eight hours after the injection, which is much later than the highest leucocytosis. The protection lasts about four days. The author believes that by this method the dangers of laparotomy may be diminished.

Intraperitoneal Injections of Serum and Salt Solution to Prevent Operative Infection of the Peritoneum.—Schmidt has devised a special apparatus by which it is possible to inject salt solution or horse serum into the human peritoneal cavity without danger of injury to the intestines. The skin and fascia down to the peritoneum are punctured by a short, sharp trocar, which is prevented from touching the peritoneum by a flange which impinges against the skin. The needle, which has a closed, rounded end, with lateral openings, is passed down to the peritoneum through the lumen of the trocar, and is then punched through the peritoneum by a quick push. In this way there is little risk of injury to the intestines unless adhesions have bound it to the abdominal wall, and even in this case the fluid would simply flow into the intestine. The author has employed the method in five cases, using as injection fluid 5 to 10 c.c. of sterile horse serum in 250-500 c.c. of physiological salt solution. The fluid was thrown into the abdomen seventeen to nineteen hours before the operation. On opening the abdomen the peritoneum was found congested, and but little free fluid remained. The leucocytes increased to about double their normal number up to the time of operation, after which they rose rapidly, in some cases up to four times the normal number. The increased resistance conferred by the

treatment is shown in one case in which the wound burst open on the fifth day after a gastroenterostomy, and allowed intestines to escape, but in spite of this, secondary suture was followed by uncomplicated recovery. In another case, however, a considerable quantity of pus was evacuated from the stomach in an attempt to remove a carcinoma, and this patient did not survive the infection. The author considers that the procedure might also be found useful in cases in which peritonitis is threatened, as early appendicitis, salpingitis, etc., and that by increasing the natural resistance it would assist other internal or operative measures.

Bacteriological Results in the Recognition, Prophylaxis, and Treatment of Puerperal Fever.—Döderlein says that puerperal fever is essentially a condition to be benefited by the application of the theoretical considerations that bacteriological study has developed. The reason why the practical results have lagged behind the laboratory work is because in Germany 95 per cent. of the deliveries are still conducted by midwives, whose skill in asepsis is, of course, very deficient. Two chief types of puerperal fever may be recognized, that due to streptococcus infection, and that caused by saprophytes. The first is to be combated by the most rigorous asepsis, including the use of rubber gloves, while the second must be avoided by not permitting the conditions necessary for the development of the organisms. Complete and spontaneous expulsion of the placenta and membranes is the desideratum, and long labors are more hazardous than short ones. The prolonged sojourn in the genital tract of foreign bodies of all sorts, as bougies, dilators, gauze, etc., is fraught with danger; and other things being equal, prompt, even though aggressive, procedures are preferable to less vigorous but more prolonged methods. Every effort should be made to secure as natural a labor as possible, and thus not interfere with the body's inherent powers of resistance. Puerperal infections of the saprophytic type readily yield to local treatment by irrigation, etc., while true sepsis should always be met by injections of antistreptococcus serum, as well as by antipyretics and alcohol. The operative treatment of puerperal peritonitis has not been successful, though in carefully selected cases, with localized infection, hysterectomy may save life.

Annals of Surgery, November, 1904.

The Bridging of Nerve Defects.—C. A. Powers reviews the historical development of this procedure and summarizes the findings in fifty-six cases. Grafting was done in 22, flap operations in 11, implantation in 10, resection of bone in 7, suture à distance in 5, and tuberlization in 1. He records his own experience in implanting four inches of the great sciatic nerve of a dog in the external popliteal of a man. A report on the case eight years later showed a complete failure as regarded motion, and this in the face of conditions which seemed to promise a good result. The author believes that more cases must be recorded before we can draw final conclusions as to the preferable mode of operating. At present neoplasty and implantation (anastomosis) would seem to be preferable.

Total Avulsion of the Scalp.—The patient of E. J. Mellish was a woman of thirty years, whose hair caught in a belt. As a result the entire scalp, with most of the left ear and all of the skin and subcutaneous tissues, down to the fifth cervical vertebra behind and the bridge of the nose in front, were torn off. The patient received immediate attention and skin grafting was begun the next day. Sixty days later the entire denuded area was covered with movable skin, with the exception of three spots, which soon creatrized. Considerable trouble was experienced in preventing the new skin from pressure effects and microbic invasion. The author refers to several previously reported cases. There are only about a dozen of these, and in several the avulsion of the scalp was only partial. The present case healed more rapidly than those previously reported.

Operative Treatment of Perforating Gastric Ulcer.—A. B. Atherton reports a third successful case. The patient was a man of thirty years, who was operated on three and a half hours after his initial symptoms. An opening the size of a crow's quill was found on the anterior wall of the stomach, just at the narrowest part of the pylorus. It was closed by two rows of silk sutures, the inner one including all the coats and the outer one being a Lembert. The abdominal wound was united with through and through silk-worm-gut sutures. The patient left the hospital well, three weeks later.

A New Operation for Intestinal Stenoses.—The operation is thus described by T. A. McGraw: The tumor or stricture having been found, the coil in which it is seated should be drawn out of the abdomen, and, if neseccary for this purpose, adhesions should be broken or cut, enlarged mesenteric glands should be then removed, and the mesentery repaired. At this stage the two limbs of the intestine leading to and from the tumor, at a sufficient distance from the seat of disease, should be joined together by Lembert sutures and an anastomosis made with an elastic ligature. If the exploratory opening in the abdomen should seem best adapted for the purpose, the wound should now be closed snugly around the protruding coil, the ligatured portion remaining in the abdominal cavity, and the tumor, with a length of gut of two or three inches, outside of the abdomen. If the exploratory incision is made in the median line and the tumor is found to exist at either angle of the colon, it would be better to close the median incision and make a new one over the tumor, just large enough to permit of its easy exit. In every case the tumor should be drawn out of the abdomen at that point which would most nearly permit the resected intestine to occupy its normal position. When the wound has been closed and sutured to the protruding intestine, a firm silk ligature should be tied around the efferent limb just below the tumor and the gut cut off below it, care being taken that not the least portion of its contents is allowed to come in contact with the wound. This part of the gut may now be closed with a circular suture and pushed in until its outer surface no longer projects beyond the level of the skin. It is to be held in position by Lembert sutures and the skin brought over it and sutured. Thus the efferent limb is cared for. When the gut is divided just below the ligature, the efferent posterior should be wrapped in gauze and the surgeon should examine the sutured line which fastens the proximal bowel to the integument and see that the abdomen is thoroughly closed. Layers of gauze soaked in collodium should then be placed over the whole wound so as to seal it hermetically. A large trocar, such as has been used for the discharge of fluids from ovarian cysts, in operations for the removal of these tumors, may now be thrust into the intestine and the fæces discharged. A rubber tube attached to the trocar will carry them into a proper receptacle. When the gut has been thoroughly emptied of fæces, the diseased portion should be cut off and a large glass tube inserted into the bowel and tied in place by an encircling ligature. To this a rubber tube is attached for the disposal of fæces. At the end of four or five days the fæces will find their way through the new channel of anastomosis and pass into the lower bowel. As soon as this is determined by fæcal discharges per rectum, the tube may be removed, the gut sutured and turned into itself, and the wound in the integument closed over it. In this way the abdomen is guarded from all contamination from the opened bowel, have excised the diseased portion, and made the anastomosis and completed the work in what is practically but one operation, for the final disposal of the proximal end by inversion and suture can hardly be dignified by the name of operation.

Pneumococcus Peritonitis.—F. S. Matthews reports five cases, three boys and two girls, all under five years. In one the whole peritoneum was involved, twice mainly the region of the stomach and liver, and twice the hypogastric region. In no case did the patient live long enough for a localized abscess to form. All belonged to the diffuse or spreading type of the disease. Four had empyema. In two the peritonitis followed the empyema, but in two others the process seemed to originate at the same time in the pleura and peritoneum. Pericarditis was found once. Two had pneumonia at the time of death. The author quotes Jensen as recognizing that the infection may come through the diaphragm, genitals, or a wound. Three stages may be distinguished in symptomatology: (1) Sudden onset with high fever, vomiting for a day or two, tenderness and distention. There is little muscular rigidity, and the pain and distention are not so marked as in the other types of peritonitis. (2) After a few days vomiting ceases, temperature falls often to normal. Diarrhœa, often present in the first stage of the disease, is the rule in the second stage. The amelioration of symptoms is pronounced, appetite returns, and the child looks better. (3) Then with the increase of exudate there appears a tense cystic mass in the hypogastrium, temperature rises, and shows marked morning and evening remissions and exacerbations. There is cachexia and weakness, and the case terminates in from one to four months in death from exhaustion or in recovery following operation or perforation at the umbilicus.

Treatment of the Appendix Stump in Appendectomy.—M. G. Seelig shows that simple ligation of the appendix, with ablation distally to the ligature and cauterization of the stump, is not only a rational, but also an absolutely safe method of dealing with this organ. He takes up the various methods of inversion, showing that they are all open to the serious objections of secondary hemorrhage and infection of the operative field. Cases are quoted to prove that these accidents do occur. There follows a detailed histological and bacteriological study of the appendix stump, the result of this study being that a cauterized stump is sterile and that a ligature tied around an appendix causes

a perfect stump formation, so perfect, in fact, that there is no necessity of inverting what remains of the appendix into the cæcum. The author contends that this is the ideal method of dealing with the appendix, both because it is safer than all other methods, and because it is an operation calling for the expenditure of less time than does any of the other methods. He supports his contention by the fact that he has never seen the method fail in some fifteen hundred cases of appendicitis operated upon in Mount Sinai Hospital.

Abdominal Crisis Caused by Meckel's Diverticulum.—Two cases are reported by O. C. Smith and previous cases in literature referred to. Only two of the latter have occurred in America. Both of the author's cases recovered. The symptoms in Case I, a child of 10 years, suggested a commencing general peritonitis, and on section a perforated Meckel's diverticulum was found. In Case II, a boy of 19 years, the symptoms suggested intestinal obstruction. Two coils of ileum were found constricted, the constriction being due to a twisting of the bowel around a diverticulum, extending from a point on the ileum, eighteen inches above the ileocæcal valve to the left pelvic wall. This diverticulum was also twisted upon itself to the point of obstruction. Blanc in 1899 was able to collate forty-eight cases of abdominal disease due to Meckel's diverticulum, including volvulus, invagination, inflammatory and perforative disease, cysts, tumors, and herniæ. The structure is a remnant of the vitelline duct in the embryo, which has failed to become obliterated. It is of rare occurrence in the human subject, but is always to be thought of in obscure abdominal conditions.

French and Italian Journals.

Acetonuria Elsewhere Than in Diabetes.—Beauvy says that although acetonuria has for years been studied, especially in its relation to diabetic coma, still for a long time it has been known to exist in other conditions. It has been said that a meat regime causes acetonuria, and it is well known that diabetic coma is sometimes due to an exaggerated meat diet, but according to Argenson, the acetonuria of meat diet is very slight. The three characteristics of acute acetonuria are, the peculiar fruity odor of the breath, and so penetrating at times as to be noticeable at a distance, the febrile urine, with the characteristic odor; and the fact that the reaction of Gerhardt is generally positive, while the reaction of Lieben is always so (acetonuria generally accompanied by diaceturia). As a rule, this clinical picture exists only when the acetone amounts to about 0.20 gr. to a liter, a figure frequently reached. In the condition of acetonuria, acetone exists in the blood, as Petters and Argenson have demonstrated. The kidney plays the rôle of elimination, and not of formation. But the breath eliminates as much acetone as the saliva, and the perspiration. The origin of acetone has been discussed at great length. Some authorities believe it to be derived from sugar by alcohol or aldehyde; others, from the albuminoids. Schumann has detected acetonuria in a healthy subject after feeding him on fats exclusively, and has determined the cessation of this condition after adding carbohydrates to this regime. But all of these diets cause so marked an inanition that it may itself be the cause of the acetonuria. This is the reason why none of the theories can be considered as being absolutely demonstrated. Although acetone is slightly toxic to a healthy subject, it is not so well tolerated by hepatic and diabetic patients, in whom it causes slight headache, and in whom it passes easily into the urine, as if the liver were incapable of arresting it. It is an exaggeration to say that acetonuria is a phenomenon contingent to the course of diabetic coma—*Revue Française de Médecine et de Chirurgie,* November 7, 1904.

Prophylaxis of Ankylostomiasis.—Dopter, in speaking of prophylactic measures for workmen, in regard to ankylostomiasis, says that the etiological study of the causes inherent in the individual shows the evil influence of a bad personal history—digestive disturbances, etc. General prophylaxis, for the workman, therefore, means prophylaxis against ankylostomiasis. To ameliorate the conditions of the workman, to better the sanitary conditions of his dwelling place, of his diet, to watch over his health from a general point of view, the functioning of his viscera, to treat rationally the different affections, both acute and chronic, which he presents, will give him a greater resistance to infection by the duodenal ankylostoma. It is necessary to follow up vigorously all known measures in the campaign against tuberculosis, syphilis, and alcoholism, the three plagues which depress the organism to a serious degree. The writer then emphasizes the importance of teaching the workmen pursuing trades which render him especially susceptible to this disease, the means of averting it, and of combating it. The masses must be informed as to their danger and the manner of its prevention.—*Gazette des Hôpitaux Civils et Militaires,* October 29, 1904.

Cancer of the Rectum Situated Above the Rectal Angle.—Girard calls attention to a variety of rectal cancer which, by reason of its position and its small size, and also by reason of the fact that the symptoms to which it gives rise are so slight, passes too often unperceived by physicians, and even by the patients themselves. Thus the propitious time for operating is lost. These cancers are generally inaccessible both to rectal touch and to abdominal palpation. They are not accompanied generally by the ordinary symptoms of rectal cancer. There is no sign of stenosis, no loss of blood, and no pain, or at least very little. If pain does exist, it often resembles that of a simple enterocolitis, and so precious time is lost. The growth may in the meantime invade the neighboring organs, especially the bladder, without the least intestinal trouble. When the diagnosis is at last made, intervention has no chance of success. Gerard has observed several instances of such cancers, and in the last case made the diagnosis in time to perform a successful operation. He made a resection of the rectum by the abdominal route. The patient recovered and has remained well for two years.—*La Presse Médicale,* November 2, 1904.

The Value of Fats for Tuberculous Patients.—René Laufer declares that the most definite and constant influence of fats is the same on tuberculous patients as it is on normal individuals, consisting in the retention and preservation of nitrogenous material. The author has observed the effects of the administration of fats in two sets of tuberculous patients. To the first set he gave large doses—150 gr. to 200 gr. daily. These fats were in the form of cod liver oil, butter, and plain oil. To the other set of patients he gave these fats in moderate quantities—100 to 150 gr. In the first set the curve of weight rose at first in a rapid and remarkable manner, then reaching a level and remaining stationary for a time, it finally fell, sometimes below the original weight. This was due to digestive troubles, or to the loss of appetite for other foods, or, finally, to the fact that the fat was not utilized, but was passed out in the fæces without being changed. In the second set of patients, those who received moderate doses, the curve of weight slowly rose, but in a progressive and continuous manner, so that the benefit was lasting. The dose of 100 gr. to 150 gr., according to the susceptibility of the patient, appears to be the maximum quantity that is really beneficial.—*Le Bulletin Médical,* November 5, 1904.

A Case of Perforation of the Interventricular Septum from Ulcerative Endocarditis.—Carlo Gennari observed an exceedingly rare case of ulceration of the interventricular septum, resulting in perforation, which was not diagnosed in life, but by post-mortem examination. The diagnosis had been endocarditis, with aortic ectasia and pulmonary gangrene. The disease existed for some six months before death. There was marked anæmia, daily intermittent fever, intense chills, cardiac changes and an enormous tumor of the spleen. No malarial plasmodia were found, and no tubercle bacilli, but staphylococci were found in the blood. There was gangrene of the lung from thrombi derived from the vegetations of the heart. There was during life a systolic murmur, heard at the apex and propagated toward the aortic orifice, where it was most intense. In the first, second, and third interspaces, to the right of the sternum, there was a systolic pulsation. The murmur was not heard in the great vessels of the neck. There was a systolic fremitus propagated in the same direction as the murmur. These symptoms the author considers characteristic of perforation of the ventricular septum. The pulsation was due to dilatation of the right ventricle, especially the right pulmonary infundibulum.—*Rivista Critica di Clinica Medica,* November 5, 1904.

The Changes in Arterial Pressure in Malarial Infection.—Giovanni Quadri has studied the arterial pressure in ten cases of malarial infections and gives us his results. The effects of the toxic bacteria of several of the infectious diseases on the heart have been studied, with the result that the conclusion was reached that there is a motor insufficiency of the myocardium, without any true myocarditis, and a hypertension of the arteries continuing into convalescence. The myocardium does not respond to the ordinary cardiac stimuli, the vascular dilators, like caffeine and nitrites, having more effect. The author studied cases that were not complicated by any other disease, and measured the arterial pressure with the sphygmomanometer of Riva-Rocci twice daily, at the same hour, between meals, when the processes of the body were most in abeyance. His conclusions were: 1. There is a slight rise of arterial tension in malarial infection; it varies with the length of the disease and the resistance of the individual, not with the type of the parasite. 2. The myocardium reacts to digitalis and cardiovascular remedies. 3. The effect of the cardiovascular tonics was shorter and less than in normal persons.—*Il Policlinico,* November, 1904.

Book Reviews.

Text-Book of Nervous Diseases and Psychiatry, for the use of Students and Practitioners of Medicine. By Charles L. Dana, A.M., M.D., Professor of Nervous Diseases and (ad interim) of Mental Diseases in Cornell University Medical College; Visiting Physician to Bellevue Hospital; Neurologist to the Montefiore Hospital; ex-President of the American Neurological Association; Corresponding Member of the Société de Neurologie, etc. Sixth Revised and Enlarged Edition, with 244 engravings and 3 plates in black and colors. New York: William Wood & Co., 1904.

In the present edition of this well-known standard text-book, the chapters on neurology have undergone little change. Some new ones have been added and slight corrections made. In particular, some comments on the recent method of cytodiagnosis are given.

The most important change from former editions consists in the insertion of twelve chapters in sixty-eight pages upon psychiatry. The classification of mental disorders is in general that of Kraepelin, but somewhat modified to represent the author's own experience. The matter in this division of the work is presented in a way to make this somewhat difficult subject accessible to the profession generally. To this end an excellent chapter is given on normal psychology as expressed in physiological terms and equivalents. Then follow chapters on general symptomatology, methods of examination and diagnosis, general prognosis and treatment, and, finally, those on the individual psychoses. Not the least important feature is the author's standpoint. He says: "I have thought it of especial importance to insist on a distinction between major and minor psychoses, and to emphasize the fact that one may have a psychosis and yet not be in any sense insane. In fact, I am in sympathy with the view that makes as few people insane as possible." In this respect the author differs somewhat from some other alienists, and, in our opinion, differs decidedly for the better. To make room for the chapters on psychiatry without increasing too much the size of the volume, much of the matter on general neurological therapeutics which, having now become part of general medicine, is no longer needed has been omitted from this edition.

New Methods of Treatment. By Dr. Laumonier. Translated and Edited from the Second Revised and Enlarged French Edition by H. W. Syers, M.A., M.D., Cantab. Physician to Out-Patients, Great Northern Central Hospital. Chicago: W. T. Keener & Co., 1902.

The purpose of this work is to render familiar to the practitioner the newer methods of treatment such as seem to the author of value. He does not treat of the well known or the insufficiently tried drugs and procedures, but merely endeavors to make clear the indications and the physiological action of the methods which have had a fairly extensive investigation. Many subjects are thoroughly treated and will help to clarify the rather hazy ideas which prevail concerning them. Among the less well-known remedies, we note the lecithins, the nucleins, the derivatives of venadium, the yeasts, the organic extracts, specific sera, etc., all of which are of extreme interest. At the beginning of each chapter there is a summary of pathological physiology and pathogeny which enables the reader to adapt his remedy in accordance with modern rational methods. All in all, the work is well worth reading, and although the author at times seems too hopeful of benefits to be derived, still he is alive to the dangers and contraindications, and states them plainly.

Outlines of Physiological Chemistry. By S. P. Beebe, Ph.D., Physiological Chemist to the Huntington Fund for Cancer Research, and B. H. Buxton, M.D., Professor of Experimental Pathology, Cornell Medical College. New York: The Macmillan Company; London: Macmillan & Co., Limited. 1904.

Organic chemistry, particularly in its application to vital processes, has kept pace with the innovations that have been made in other departments of natural science within the last years, and now presents much that is perplexing to the student of even a short time ago. It has been the object of the authors to detail in simple manner the modern conceptions of physiological chemistry, and the book should prove most acceptable to anyone wishing to keep abreast of the knowledge of to-day. The principles of ionization and of electrical conductivity in solutions, with the newer views as to the nature of chemical reactions, are briefly indicated, and a chapter on disease and immunity discusses the chemical aspects of these problems. The chemistry of the carbon compounds in general is simply explained, and the nitrogen derivations, proteids, enzymes, etc., are treated in detail. The text is made intelligible by an unusually large number of graphic formulæ, and the only criticism to be made of the useful volume is that the index might with advantage be made somewhat more comprehensive than it is.

Diet and Food, Considered in Relation to Strength and Power of Endurance, Training, and Athletics. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P. Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Author of "Uric Acid as a Factor in the Causation of Disease" and of "Uric Acid; an Epitome of the Subject." Fifth Edition. With Seven Illustrations. Philadelphia: P. Blakiston's Son & Co., 1904.

Although far too little attention is yet given to the subjects discussed in this little volume, still an appreciation of their importance is gradually gaining a strong foothold. The author, a master of the science of dietetics, declares in the preface that as time goes on he is more and more convinced of the importance, both mental and physical, of the right understanding of dietary questions. The present edition is practically the same as those which have gone before, so far as the vegetarian doctrine of the author is concerned; but it contains some new matter adduced in further support of the now well-known views of Haig regarding uric-acid formation and ingestion. One who does not go all the way with the author in his dietary restrictions—and few do or will, we opine—may, nevertheless, read this little book with profit, for he will find in it many hints following which he may formulate a diet list for his gouty patients without condemning them to inanition.

The Principles of Relief. By Edward T. Devine, Ph.D., LL.D. Author of "The Practice of Charity;" General Secretary of the Charity Organization Society of the City of New York. New York: The Macmillan Company; London: Macmillan and Company, Ltd., 1904.

In the opening chapter, the author tells us that "the main purpose of the present volume is to aid the citizen who is conscious of a sense of obligation for the relief of poverty, and more especially those who look forward to active volunteer or professional service in any branch of social work, to recognize the character and extent of such service, to become familiar with its guiding principles, and to apply those principles to such practical tasks as they may encounter." The chapter on "The Elimination of Disease" is one to which the medical reader will naturally turn; and we can assure him that he will read it with much interest. In this chapter the author tells us that he has a friend "in whose opinion physicians are, on the whole, the most bigoted body of men that he knew, with a single exception." But, as we are subsequently informed that this friend was "interested in the manufacture of a proprietary remedy," readers of the Medical Record will probably consider this opinion as a very high compliment to an honest and incorruptible body of men. Further on we learn that puerperal infection "resulting in death occurs as frequently in the practice of physicians as in that of midwives." The service of medical men in the prevention of diseases is ungrudgingly acknowledged; but the author thinks that physicians ought to take the public press and charitable agencies more into their confidence.

Pathological Technique. A Practical Manual for Workers in Pathological Histology and Bacteriology, including Directions for the Performance of Autopsies and for Clinical Diagnoses by Laboratory Methods. By F. B. Mallory, M.D., Associate Professor of Pathology, and J. H. Wright, M.D., Instructor in Pathology, Harvard University Medical School. Third Edition, Revised and Enlarged. Philadelphia, New York, London: W. B Saunders & Company, 1904.

This laboratory handbook has already gained for itself a permanent place in the working library of the active pathologist or bacteriologist. It contains what is most useful of the voluminous literature of laboratory technique, expressed with sufficient fullness to make successful application of the methods described a comparatively simple matter, while the size of the volume is kept within reasonable limits through the omission of much of the obsolete material that so often cumbers the pages of books on this subject The authors are progressive investigators, who have themselves contributed many ingenious and valuable methods to pathological research, and their statements always have the stamp of authority.

The last eighteen months have been particularly fruitful in additions to this field of research, and we find that most of the innovations have been incorporated in this edition. Among them are methods for the isolation of typhoid bacilli from the fæces, sections on the bacilli of dysentery and of chancroid, containing certain improvements in the methods of their isolation, improved methods for imbedding and manipulating frozen sections by Wright not published before, the latest staining methods of Weigert, Wright's blood stain and directions for its application to blood films and malarial parasites, the methods of cytodiagnosis and inoscopy in the examination of serous fluids, Mallory's stain for fibroglia fibrils, etc. The new photographs of malarial organisms are excellent, though we believe that for teaching purposes at least photomicrographs are never as satisfactory as well-executed colored plates.

Society Reports.

NEW YORK NEUROLOGICAL SOCIETY.

Regular Meeting, November 1, 1904.

JOSEPH FRAENKEL, M.D., PRESIDENT PRO TEM.

Two Cases of Bilateral Symmetrical Atrophy of the Thenar Eminence.—Dr. I. ABRAHAMSON reported these cases. The first patient was a woman, sixty-two years old, whose family and personal history was negative. Her occupation was that of a housewife, which necessitated putting her hands in water a great deal, and she also assisted her daughter at needlework. Eight years ago she first began to experience numbness and paræsthesia in both hands, with beginning atrophy of the thenar muscles, chiefly the flexor brevis pollicis. There were no trophic skin changes, and no nerve tenderness. The atrophy was symmetrical in both hands.

The second patient was a woman, fifty-two years old, a native of Hungary. Her occupation was that of a housewife. The symptoms were similar to those in the first case, but the paræsthesia was most annoying at night. There was marked symmetrical atrophy of both thenar eminences. The speaker said he regarded both of these cases as examples of acroparæsthesia with subsequent atrophy.

Dr. CHARLES L. DANA said the unusual feature of these cases was the symmetrical character of the atrophy affecting both hands. Not long ago, the speaker said, he saw a case of atrophy of the thenar eminence of one hand, with paræsthesia and evidence of neuritic disturbance. In this instance the condition had been produced by the Vardon grip in playing golf. In another case the patient was an elevator boy, and the neurosis had been produced by pulling on the wire rope of the elevator. While these occupation neuroses were not particularly rare, bilateral and symmetrical cases of this kind were extremely so.

A Discussion on the Classification of the Melancholias.—Dr. CHARLES L. DANA opened this discussion. He stated that the term melancholia indicated to the psychiatrist a combination of symptoms varying in groupings, duration, and intensity, but beneath all a dominant condition of painful emotional depression. It might occur as a symptom in various organic and degenerative cerebral diseases, but it was recognized in particular as a manifestation of two functional states: first, that occurring at about the period of involution or change of life, and later; second, that occurring in early and early middle life. No one, the speaker thought, disputed the distinctive character of melancholia of the first type as it occurred in middle and late life. The "melancholia of involution" was a chronic and incurable disorder. It was a psychosis accompanied with anxious, worrying apprehension, and was often a natural evolution of the constitutional worrier. It was characterized by hypochondriacal and obsessive ideas, dysthesia, and somatic delusions; by hallucinations, self-accusations, and at times by suicidal ideas and impulses. There was complete self-absorption, narrowing of consciousness, enfeebled attention and power of concentrated or constructive thought. There was no clouding of consciousness, nor retardation of thought, nor dementia. It was an agitated, worrying hypochondriacal psychosis.

The melancholias which were seen especially during early life, and were at least characteristic of that period, had not such a single, definite picture. That form which had been described as acute melancholia, however, was in its typical form a sharply defined condition, characterized by profound emotional depression, retardation and difficulty of thought, clouding of consciousness, and other phenomena familiar enough to all. This form of melancholia, we were told by Kraepelin and his followers, was not really melancholia, but only the melancholic phase of manic-depressive insanity, and it was proposed to substitute this term for all or most of the functional melancholias not belonging to the melancholia of involution. Hence we would have but one real melancholia, the chronic form of later life.

Dr. Dana said he had been trying to fit this scheme to his experience, and for that purpose he had looked over the histories of over 400 cases occurring in his private practice. Of these he had closely analyzed 130, which he had seen more recently and in many instances followed for a long time. From this analysis he had reached the conclusion that chronic melancholia, under the classification of Kraepelin, was indeed a special disease, but not in all cases one of the involutional period. In its milder types especially it seemed to him that we saw pictures of it that would be called anxiety psychosis, or depressive neurasthenia, and it was not unreasonable to suppose that in psychopathic individuals, or those with a special hereditary tendency, the nervous system should be subject to early chronic melancholia. He thought it possiblbe that this same worrying psychosis might appear at the period of adolescence, when the disease was less intense, the somatic and sensory disturbances less severe, but the mental state essentially the same. The sharply defined delusional melancholia of early life, with great activity of thought, clearness of memory, intense self-accusation, and powerful suicidal impulses belonged more to this type than any other. The association and alternation of mania with early, simple recurrent melancholia, was an established fact, and the term manic-depressive insanity fitted this group of cases admirably, but in the speaker's list of 400 cases of melancholia, mostly not asylum types, there was a history of mania in only 8 per cent. It seemed rather forcing the issue, therefore, to use the term manic-depressive insanity for these patients, who never had any mania. He was inclined to regard the melancholias of early life as simple melancholias of the involution type—or preinvolutional, if that seemed a better term. He would at least consciously associate their disorder to that form seen more typically and severely later in life. He would say that there were a great number of simple, functional, often recurrent melancholias that belonged to the manic-depressive type by reason of the neurasthenic and apathetic condition, the absolute loss of interest in life, and psychomotor sluggishness and enfeeblement, but he saw no reason to use the term manic-depressive insanity here. He would only use the term manic-depressive insanity when there was evidence of it.

Dr. M. ALLEN STARR said that Dr. Dana's remarks regarding melancholia would appeal to every neurologist and practitioner who did not constantly come in contact with the severer types of insanity. Those who were doing asylum work, however, might meet with considerable difficulty in grouping certain of the cases. Perhaps five per cent. of the cases in the average asylum could not be positively assigned to any definite group. The speaker said he was glad to hear Dr. Dana make a distinct protest against the term manic-depressive insanity. He had never been in sympathy with that term, for the simple reason that it did not coincide with our clinical experience in this country. He had carefully reviewed the records of about 280 cases that he had classfied as melancholia, and he saw no reason to protest in any way against the classification that was proposed by Krafft-Ebing years ago, namely, simple melancholia, melancholia with delusions, and melancholia with delusions and agitation. Those three types embraced distinct varieties of the disease. The speaker said he also agreed with Dr. Dana that the type that rose to the stage of mania was extremely rare, in his own experience probably not exceeding five per cent. of the total number of cases observed. He thought it would be very unfortunate, therefore, to label these patients with a term like manic-depressive insanity, in spite of the fact that in 95 per cent. of the cases there was no mania whatever. Dr. Starr said that a careful study of his cases of mild melancholia had impressed him with the idea that the condition was a purely toxic neurosis. The symptoms were most severe in the early morning, and passed off largely during the day. Sixty per cent. of his cases never passed beyond the simple melancholic type, which was not the

type met with in the insane asylums. The patients he had in mind were entirely conscious of their surroundings and of their own condition; they were in extreme dread of insanity, and they were not suitable subjects for an insane asylum, and to incarcerate them in such an institution would be an outrage. About 35 per cent. of his cases corresponded to the delusional type, and required watching to prevent suicide.

Dr. Starr said he would like to impress upon the Society the existence of a true toxic melancholia. In fully 60 per cent. of his mild cases he believed that he had to deal with a purely toxic neurosis, and if we could eliminate that poison we could cure the patients. He had noted that any intercurrent disease, such as grippe, pneumonia, or malaria, that produced a decided change in the chemistry and nutrition of the body, arrested the symptoms in these mild cases of melancholia, and he had produced the same effect by the use of thyroid extract. Under the administration of this agent the symptoms of melancholia would be immediately relieved and remain absent until the temperature again dropped to normal.

Dr. Adolf Meyer said that his experience with the melancholias had naturally been of a different sort from that of Drs. Dana and Starr, having been largely confined to patients who were already committed to the asylum. His observations had led him to conclusions which did not essentially differ from those of Dr. Dana, although for practical reasons he would rather favor a different classification. On the whole, he was desirous of eliminating the term melancholia, which implied a knowledge of something that we did not possess, and which had been employed in different specific ways by different writers. If, instead of melancholia, we applied the term depression to the whole class, it would designate in an unassuming way exactly what was meant by the common use of the term melancholia; and nobody would doubt that for medical purposes the term would have to be amplified so as to denote the kind of depression. In the large group of depressions we would naturally distinguish our cases according to etiology, the symptom-complex, the course of the disease, and the results. A distinction into acute and chronic forms was not consistent with experience. Dr. Hoch found that all attacks tended to become longer in advanced years. The distinction had best be made according to the intrinsic nature of the depression. From that point of view we might distinguish the pronounced types from the simple insufficiently differentiated depressions. Besides the manic-depressive depressions, the anxiety psychosis, the depressive hallucinations, the depressive episodes of dementia præcox, the symptomatic depressions, non-differentiated depressions would occur; especially the differentiation of the dementia præcox type frequently caused difficulty, where stupor and catalepsy supervened. The speaker said he was somewhat surprised that no reference had been made to the difficulties in determining the depressions of dementia præcox. He took exception to Dr. Starr's statement that mania was but a rare event and only to be expected in the most agitated cases. He could not recall a single instance where a case of the pure agitated type developed mania, while on the other hand, the type that did not show the agitation, but a great deal of inhibition and subjective inadequacy, was the form that might develop mania.

Dr. Meyer said that he would rather hesitate to accept Dr. Starr's idea that the intermission in the symptoms of melancholia produced by febrile disturbances proved the toxic origin of those symptoms, because an intercurrent disease was apt to produce a change in the symptoms of almost any mental disorder. The shortness of the time for discussion did not permit the review of about 300 cases of depressions to be reported on another occasion.

Dr. Ralph L. Parsons said that some years ago he made out a classification of the insanities that was provisional only, because the facts upon which to construct a scientific classification did not exist then nor did they exist at the present time. Different types of insanity were often very closely identified, and during the same attack the patient might exhibit symptoms of mania, melancholia, and dementia. Dr. Parsons then exhibited a table that he had devised, in which the melancholias were divided into many different types descriptive of their cause, such as adolescent, puerperal, etc.

Remarks on Melancholia.—Dr. Joseph Collins continued the discussion in a paper with this title. (See page 1007.)

Dr. B. Sachs said that in a discussion of the classification of the melancholias there was danger of going to extremes in both directions, and making the classification either too wide or too narrow. Under the inflence of Krafft-Ebing and the older French and German writers the term melancholia was much abused. It should be restricted, he thought, to those cases in which there was a slowing up of all mental processes, associated, perhaps, with some self-accusation. This formed a very definite clinical picture, and he saw no reason why it should be eliminated. On the other hand, there were various forms of depression which could be differentiated from melancholia. In private practice he frequently made the diagnosis of simple depression; this he regarded as a transitory condition, and it had never occurred to him to look upon it as true melancholia, which was a true and very often a serious psychosis. To his mind, pure melancholia had always represented a typical and grave disorder. The question arose whether to discard the older classification entirely in favor of the more recent one of Kraepelin, with its comprehensive term of manic-depressive insanity, which included all types of melancholia, circular insanity, and what not. In picturing manic-depressive insanity, Kraepelin had shown great genius and insight, and Dr. Sachs said he indorsed that writer's wisdom in putting clearly before the medical public the existence of a large group of cases that were characterized by typical symptoms. There could be no doubt about the existence of such a group, but he could not agree with the dictum of Kraepelin that all cases of melancholia were merely one stage of manic-depressive insanity.

Dr. A. R. Diefendorf, of Middletown, Conn., said he was surprised by the difference of opinion regarding the melancholias as expressed by the neurologists and those who saw these cases in asylums, as it was certain that all the cases that eventually came to the hospitals for the insane had passed through the hands of the practitioner and specialist. As regards simple melancholia, there were several groups of those cases. There was one group in which the characteristic symptoms were mental sluggishness, a feeling of insufficiency or inadequacy, a lack of energy, an increased sense of fatigue, a slowing of the train of thought, difficulty of comprehension, perhaps a few indefinite hallucinations, and possibly a few delusions. The emotional attitude of these patients was one of simple despondency. They took an abnormal view of life. There was another type of simple melancholia that occurred early in the course of senility.

Dr. Edward D. Fisher said he would certainly agree with the view that we had to deal with a simple melancholia which was distinct from that described by Kraepelin. Kraepelin's cases were those of later life, and differed from the melancholia which he found in manic-depressive conditions. There was in his so-called melancholia not so much absolute retardation of thought as in the class of cases of the manic-depressive type. Dr. Fisher said he had seen a number of cases occurring in young persons, perhaps about the age of 25, where they simply presented a psychosis which was described as melancholia, and where the patients made a complete recovery within three to six months. He could recall one case in which at least fifteen years had elapsed since such an attack, and there had been no signs of a recurrence. The speaker said he was certainly in favor of retaining the term simple melancholia, and he also believed decidedly in the manic-depressive type.

Dr. L. Pierce Clark said he was not in favor of the term

involution melancholia. He thought the psychosis of the climacteric or the melancholia of involution should more properly be called an anxiety psychosis, because that seemed to be the great predominating factor. In the differential diagnosis of manic-depressive insanity and involution melancholia, the one essential feature was the retardation.

Dr. A. J. Rosanoff said it was well known that depression was the most common symptom encountered among the insane. He thought that all forms of mental disease, without a single exception, might present this symptom. This fact perhaps accounted for the statement of the older writers with regard to the frequent occurrence of "melancholia." At the institution with which he was connected, and probably also at all other asylums, a considerable proportion of the depressed cases admitted had to be set aside as unclassified. The majority of these patients ultimately developed one or the other of the typical syndromes, but a small group still remained which could not be classified among the well-known psychoses. This group contained about five per cent. of the total number of depressed cases admitted to the asylum. This was merely a rough estimate, but the speaker said he felt assured that it could not be far from the actual figures. It had been proposed to designate these cases as "simple melancholia." It seemed to him that any generic term would be entirely inapplicable to an extremely heterogeneous group of psychoses, such as these.

With regard to manic-depressive insanity, Dr. Rosanoff said it must be remembered that many patients presented during their whole life nothing but a number of attacks of simple depression. The diagnosis was made not at all from the occurrence of manic and depressive episodes in the same individual, but chiefly from the exceedingly well-defined symptomatology. He thought that Kraepelin had selected this term for the disease for the purpose of indicating simply that its manifestations might be either depression with retardation and dearth of ideas, or elation with restlessness and flight of ideas, or a mixture of these phenomena, but not that each individual case must present all the possible manic-depressive episodes. Some of the depressed cases of this disease were so mild that the patients were not committed, and were even able to continue their occupation; but even those cases presented the characteristic features of the disease, and one experienced in making the diagnosis of manic-depressive insanity would not have much difficulty in recognizing them.

The occurrence of melancholia with anxiety and agitation at a comparatively early age had been referred to. The resemblance between these cases and those of involution melancholia of Kraepelin was only a superficial one. The speaker thought that probably almost all of them belonged to the dementia præcox group. On analysis their depression was found to be extremely shallow, it being at times but a simulated depression. Moreover, they presented mannerisms, stereotypy, neologisms, negativisms, emotional deterioration, and delusions of an exceedingly absurd or even impossible nature, contrasting with perfect orientation, intact memory for recent and remote occurrences, and a surprising alertness with regard to their surroundings.

Dr. Dana, in closing, said that, on the whole, the position he had assumed in his paper had been largely sustained by those who had taken part in the discussion. He still insisted that we had two forms of melancholia, with a third that belonged more or less to one or the other. The two forms were the involution type and the manic-depressive. Outside of these, there were many cases of simple depression, which he had learned from experience would never be anything else but simple depression, but which, if closely analyzed, would be found to belong to either the manic-depressive or the involution type. In his paper, the speaker said, he had confined himself to the functional types of melancholia, disregarding the group of simple symptomatic melancholias occurring in the course of organic brain disease. The classification devised by Dr. Parsons was very practical and interesting, especially for those working in institutions, but, of course, it was not intended as a text-book guide of melancholia.

A Case of Bilateral Facial Hemiatrophy.—Dr. Edward D. Fisher presented this patient, a young girl, who about two years ago had an attack of persistent vomiting. Following this, progressive wasting of both sides of the face was noticed. There seemed to be no atrophy of the bone, but absolute loss of subcutaneous tissue. There were no sensory disturbances; no electrical changes.

Dr. B. Sachs said the case was unique, so far as his experience and reading went. It differed from the ordinary facial hemiatrophy in the wide distribution of the lesion, and the absolute disappearance of the subcutaneous fat without involvement of any of the other tissues. It was certainly not a scleroderma. The girl's body was apparently well nourished.

The Nature of the Nerve Lesion in Brachial Birth Palsy (Erb's Type).—Dr. Thomas P. Prout read a paper on this subject. He stated that in order properly to appreciate the pathology underlying brachial birth palsy (Erb's type), the etiology of the over-stretching process in its production must be borne in mind, in sharp contradistinction to the oft-repeated statements in the text-books that it is produced by direct compression of the nerve trunks between the clavicle and the transverse processes of the vertebræ, or the clavicle and first rib. It is possible that the Erb syndrome may be produced in this manner, but when it occurs, the behavior of the case is very different from that observed in the cases he was here considering. Pressure lesions in nerve bundles, if uncomplicated, recover rapidly, whereas in these cases we have some condition of a permanent character in the nerve bundle which prevents complete recovery. The cases in which the only etiological factor is pressure recover within a year or eighteen months. The cases he was here considering reach a certain stage of recovery, and then present a permanent palsy of greater or lesser extent. What pathological lesion rendered these cases permanent?

The behavior of the perineural sheath (a dense, connective tissue structure surrounding and supporting the nerve strands) during the process of repair, is of great importance. Since this structure supports the nerve strands, its rupture occurs as a primary factor in the cases here considered. In fact, in any nerve lesion produced by an over-stretching process, this supporting sheath must first give way. In these cases it is torn asunder, and the arterioles belonging to it and supported by it are ruptured. A hemorrhage into the substance of the nerve and its sheath results. These facts have not heretofore been recognized in the literature of this subject. They are of the greatest importance, since they determine the ultimate extent and final character of the lesion. Were it not for the obstructive features of the repair process in the nerve sheath, we might expect a more or less complete recovery, in the vast majority of instances, without operative excision and suture.

Photomicrographs were shown of a case in point. (In all, four cases had been examined to date.) In this instance, only the fifth and sixth cervical roots were involved at the usual seat of the lesion, their junction to form the plexus. The perineural sheath presents many old dense pigment deposits, the site of old hemorrhages. In some portions, the perineural sheath is buckled inward upon the nerve fibres, strangulating them and preventing their regeneration. Evidences of strangulation are not only present at these points, but also in the nerve fibres underlying the pigment deposits. There is obliteration of the myelin sheath immediately beneath these areas, and fragmentation of the myelin sheath above and below. In the more severe cases, the strands of the plexus involved came to an abrupt termination in a mass representing an old organized hemorrhage. In these instances, there is a severing

of the nerve fibers, which are often thrown into folds for some distance from the site of the primary lesion.

The importance of these lesions cannot be over-estimated. Repair of the nerve sheath takes places before regeneration of the nerve fibre, and if this has buckled inward upon the nerve bundles following the relief of tension, the nerve fibres are inevitably going to be strangulated and their regeneration prevented. The same applies to the organization of an old hemorrhage impinging upon nerve strands. The nerve fibre may or may not be ruptured. However this may be, the pressure of the old hemorrhage and the cicatrix in the perineural sheath are sufficient not only to prevent regeneration in the severed nerve fibres, but to determine a neuritis in those not severed, and prevent their regeneration.

The sequence of events in the production of the obstetrical birth palsies may be summarized as follows: The lesions are (1) immediate and (2) remote. The immediate lesion consists in a tearing of the perineural sheath surrounding and supporting the nerve trunk, and the incidental rupture of the blood-vessels belonging to it. Hemorrhage occurs into and beneath the perineural sheath. There is, furthermore, a severance of the nerve strands more or less complete, depending on the severity of the case.

The remote lesion is brought about and its extent determined by (a) the healing of the perineural sheath; (b) the organization of the blood-clot; (c) the ultimate contraction of the cicatrix upon the nerve strands, which not only prevents their regeneration, but determines a pressure neuritis in those not severed upon which it may chance to impinge. This factor is of very great clinical importance. An infant in whom this accident has occurred, who remains more or less continuously peevish and fretful for some time afterwards, and in whom the handling of the extremity greatly increases its pain and irritability, is sufferng from a traumatic neuritis due to pressure upon certain nerve strands of the organizing blood-clot and the contraction of the cicatrix in the perineural sheath. Cases that do not present this symptom have been produced by simple trauma to the nerve, without rupture of the perineural sheath, and will recover spontaneously, while in those cases presenting this sign of a neuritis, a considerable palsy will follow, depending on the severity of the lesion. These facts have an important bearing on treatment.

Dr. Sachs said that a certain number of brachial birth palsies of the Erb type were due to pressure, and nothing else. A large proportion of the cases were absolutely painless; there was simply numbness, but no pain, and no symptoms such as we would associate with a laceration of the nerve. The speaker thought that Dr. Prout took an extreme position in claiming that some of these cases, at least, were not due to pressure, and that laceration of the nerve was necessarily the cause of this type of birth palsy. There was no doubt that in some of the violent cases the nerve strands were torn, but in the large proportion of cases he thought the symptoms were the direct result of pressure and hemorrhage.

Dr. L. Pierce Clark thought from the data which he and Dr. Prout had at their command, that in the vast majority of instances the palsy was the result of stretching and laceration, and not of pressure. This was clearly demonstrated in the operative cases. In these, the recovery of the patients was uneventful, and the progress very satisfactory. The pathological work was particularly interesting, in so far as nothing like it had ever been done in connection with this type of palsy.

Dr. William M. Leszynsky said he understood from the paper that in those cases that did not undergo spontaneous recovery, surgical interference was necessary. That being the case, he assumed that Dr. Prout concluded that in all cases that recovered without operation, spontaneous regeneration of the nerve had taken place, and that those cases, therefore, had no lesion of the kind he described. The question therefore arose, when should we operate on these cases, and how could we know whether spontaneous regeneration would take place or not?

Dr. Prout, in closing, said that if spontaneous regeneration occurred, it was not necessary to operate. This could be fairly definitely known within a year or eighteen months after the birth of the child. The cases that did not recover spontaneously presented exactly the lesions he had demonstrated, which represented a condition in the perineural sheath of the nerve which prevented spontaneous recovery. It was well known that many cases recovered spontaneously, but those that did not were due to stretching, and not to pressure. Those due to the latter cause would in all probability recover spontaneously. If they did not, however, we were not dealing with a pure pressure palsy.

NEW YORK ACADEMY OF MEDICINE.

Section on Surgery.

Stated Meeting, Held December 2, 1904.

Dr. Robert T. Morris in the Chair.

The Results of Four Plastic Operations.—Dr. Carl Beck presented a case of crushing injury of the thumb, a fracture of the first phalanx being shown by skiagraph. If he had treated the patient upon general principles he would have amputated the thumb and then disarticulated the finger in order to get sufficient skin to cover the stump. He tried transplantation of the toe, but on the fifth day following he found that it was to be a failure. Therefore he dissected the skin up from the thoracic region, grafted this in place and got an admirable result.

The second case was that of a man whose face and dorsum of both hands had been severely burned. He was treated at St. Mark's Hospital for several weeks, when it was found that the left hand would have to be covered by skin. Two oblong incisions were made a little anterior to the mammary region, the flaps were undermined and the hand thrust through and fastened there for nine days. This was successful and there was not much disturbance in the function of the hand.

The third case was that of a woman who had an extensive necrosis of the frontal bone. Dr. Beck formed a large osteoperiosteal flap from an area adjoining the defect, twisted it around, and fastened it in place with a perfect result. The defect on the top of the skull was covered over by hair, and the existence of bone was shown by skiagraph.

The fourth case was one of webbed fingers, in which he had tried to separate the fingers and cover with sufficient flap. His success was very good.

Dr. Sturmdorf asked, regarding the defect on the dorsum of the hand, why he did not do an ordinary Thiersch grafting.

Dr. Robert T. Morris said that plastic work during the past decade had undergone many changes, and that heterogeneous grafting was no longer done, because, if attempted, we were almost certain to have absorption of the flap. This was first noticed in attempts at implanting teeth.

Dr. Beck, in reply to Dr. Sturmdorf, said that the hand treated was burned to the third degree, and, under such circumstances the Thiersch method would not have sufficed to ensure functional ability of the hand.

Fracture of the Skull.—Dr. Alexis V. Moschowitz presented a child who had suffered a depressed fracture of the skull from a fall. The fracture was two or three inches in length and one-half an inch broad. The operation performed was according to the method of Heidenheim. Hemorrhage in these cases was usually very great, but by this method very little blood was lost.

Fracture of the Patella.—Dr. Moschowitz showed a young man who, six and a half weeks prior to admission to the Mt. Sinai Hospital, fell four stories. He came to the hospital because of inability to walk. There was a fracture of the patella, and the lower fragment was no larger than the finger tip. There was some separation. The speaker

sutured this small fragment to the patella. The result was almost perfect, as shown by the various movements of flexing the leg on the thigh, and the extended lower extremity on the abdomen.

Technique of Exposure of the Spinal Cord.—Dr. W. S. Bickham read this paper and illustrated the various points in the technique by pictures thrown on the screen. He first considered the relative values of osteoplastic resection of the spine and laminectomy. After laminectomy, patients had such a weak spine that in many instances they had not been able to sit up or even hold their heads up. The osteoplastic resection should be the operation of choice, this being a more surgical procedure. To-day there were many more laminectomies done than osteoplastic resections, and the reason for this he attributed to the fact that the latter operation was so little understood by surgeons. With regard to the features common to both operations, he considered the preparation of operation site, the preparation of patient, surgeon, and assistants, the anæsthetic, the instruments and accessories necessary, the landmarks for operation, the manner of incising the skin, muscles, and aponeurosis, the manner of clearing the soft parts from the spine and lamina, the manner of dividing the lamina, the instruments for making bone resection, the osteoplastic resection, the control of hemorrhage. He then considered the technique of osteoplastic reaction of the spine as follows: The incision, the exposure of the spinous process, the severing of the supraspinous and subspinous ligaments, the excision of the spinous process, the temporary packing of the preliminary wound, and the final suturing of the preliminary wound. Then the forming and turning back of the osteoplastic flap was considered as follows: Incision, division of muscles and aponeurosis, freeing the lamina preparatory to packing, division of lamina and sublaminous ligament, division of the supraspinous, intraspinous, and interlaminous ligaments, separation and turning back of the periosteal flap, freeing the spinal canal of vascular and fatty areolar tissue, opening the membranes of the cord, manner of dealing with membranes, the reposition of the composite flap with the finger of the left hand, the buried sutures in muscles and aponeurosis, the fascial and skin sutures, the provision for drainage when indicated, and the after-treatment. The technique of laminectomy was shown in this same way by means of lantern slides.

Dr. George Woolsey said he had had a number of cases of late in which he had performed laminectomy for tumors of the spinal cord, and in all cases the situation of the tumor was high up in the lower cervical region. From his own experience he said he could not say that the osteoplastic resection was to be preferred to laminectomy—indeed, the former did not seem to be as favorable a procedure as the reader of the paper had pointed out. There were certain objections. In looking up the subject, he found a number of German operators who performed the osteoplastic resection of the spine, and, in one instance, a fatal result was attributed to this method; and another man discarded this operation, saying it should not even be attempted. In every case the operation was for removal of tumors, and always three laminæ were exposed, and often more. He said that with the best localization we could get, the neurologists were liable to error, and often the operation must be extended in one direction or the other; after forming the osteoplastic flap such an extension must present embarrassment in execution and often endanger the vitality of the flap.

Dr. Algernon T. Bristow said that we should all welcome any improvement in technique in these operations, but we should remember that operations anatomically perfect often resulted in the death of patients; patients might die even when subjected to perfect technique. In operating for injuries, we should remember that we were dealing with an organism that had already received a severe injury, and the time of operating and the amount of traumatism inflicted were important factors in determining whether or not the patient would recover. The bodies of the vertebræ were the supports of the spine, and after laminectomy there should not be any great weakening of the spine. In one case he had removed six or seven laminæ, and the patient was shown at the Surgical Society of Brooklyn, the patient walking up several flights of stairs.

Dr. W. S. Bickham said no difficulty was encountered in extending the wound after osteoplastic resection.

Hæmaturia as a Symptom of Hydronephrosis.—Dr. L. Bolton Bangs said that with the exception of Israel authors made very little mention of hæmaturia as a symptom of hydronephrosis. In the past few years but thirteen cases had been reported. Hydronephrosis *per se* was a comparatively rare disease in this country, for nowhere in American literature were recorded any series of cases and individual experiences like those of Israel, who reported forty cases, among them being nine cases with hæmaturia as a symptom. It was inferred, therefore, that either the better conditions under which our people lived prevented this form of renal disease, or else American writers had not thought it worth while to publish their cases. Among the chief causes of hydronephrosis given by authors were: (1) Obstruction to the outflow from the kidney, due to something developed in the kidney itself, as, for example, calculus or new growths; (2) such changes in the position of the kidney as disturb the relation of the ureter to the kidney; (3) obstruction in the course of the ureter. Israel considered changes in the position of the kidney to be the most frequent cause of hydronephrosis, and that it could take place as the result of abnormal obesity, or of a congenitally low situation of the kidney. At the time of doing nephrotomy, Dr. Bangs had satisfied himself that there was no calculus either in the kidney or in its pelvis, and that there was no obstruction in the ureter. The report from the laboratory eliminated the question of neoplasm, but threw no light upon the etiology. Nor did analysis of the clinical history clear up the causation. The patient had been in unusually good health from his infancy up, and there was no history of traumatism; there was only a history of renal colic, or of pain located in the left side; and prior to the onset of nausea and general malaise there was no symptom indicating the beginning of his malady. The time when the blood first appeared in the urine was also vague and indefinite, for its presence seemed not to have been noticed until the fact was so stated by the first consultant. The obstinate constipation, of which he complained and which appeared to be the cause of more misery than any other symptom, was no doubt due to pressure of the renal tumor upon the descending colon; he did not suffer from this after the nephrotomy had reduced the size of the tumor. Therefore, how long the nephrosis had existed and what was its cause there was no means of knowing. The character of the hæmaturia was worthy of some study. The presence of blood in the urine was intermittent and variable in quantity, the latter being increased by light trauma, such as the jolting of a wagon, or by the manipulations of the kidney necessary to a diagnosis, but at no time had there been a serious amount of blood in the urine. After the nephrotomy, the only blood which appeared was found once in the urinous fluid coming through the drainage tube. He had examined the urine from the bladder for nine months, as well as the fluid from the sinus, and at no time was blood found, even microscopically. The degree of hemorrhage during the extirpation of the expanded and attenuated kidney seemed noteworthy. In the speaker's experience, even when deliberately and freely incising a fairly normal kidney for different operative purposes, and even when the manipulation of the incised kidney was prolonged, there had never been any loss of blood in such proportion as to jeopardize the patient. In this case there seemed to be very little kidney tissue left where the incision was made, and the blood appeared to come from the interior of the sac, and not from its cut edges. The patient made a good recovery, and about one year after the nephrectomy made an application for life insurance. In due time the Medical Department wrote for an opinion

as to the young man's longevity. He replied that he had no opinion as to the longevity of a person with one kidney, but that he knew of patients who were well and comfortable and apparently living out their time with one kidney doing all the work.

The Importance in Surgical Cases of Correcting Defective Unstriped Fibre, with Suggestion of Methods.—Dr. Alfred T. Livingston of Jamestown, N. Y., read this paper. He said that the perfect health of the entire organism depended upon normal activities of the circulation everywhere, but the equable distribution of blood in the human body was rare. The most important element in shock he considered to be a disturbance of the normal distribution of the blood; the blood in the peripheral vessels was crowded into the central circulation; there was not enough blood in the peripheral vessels for the heart to contract upon, and the central vessels were overstretched; this accounted for the lowering of the blood pressure. In such cases the use of saline solution was illogical, since a more vigorous action of the heart might be detrimental because of the then existing tendency to increase the abdominal engorgement. If one should try to cause the contraction of the central vessels, then shock would disappear. In operations there were three sources of shock, viz., traumatism, anæsthesia, and the operation. In ordinary operations there was always this double shock, and in cases of injury it was threefold. The patients should be prepared by toning the unstriped muscular fibres, especially those that are deficient in tone. Ergot was the drug of great value in the prevention of shock, toning up the unstriped muscular fibres of the blood-vessels in particular, but it should be given before, during, and after operation in the manner indicated by the speaker in his many papers upon this subject. The vomiting following operations when anæsthetics were given was chiefly due to an abnormal relaxation of the vessels at the base of the brain, and in such cases toning up the blood-vessels by ergot resulted in greatly lessening or entirely controlling this annoying feature. In the majority of cases pain was a sign of vascular plethora about the nerve, and the degree of pain was proportionate to the amount of pressure. The relief of this pain was best obtained by toning up the unstriped fibres, rather than by the giving of opiates. Most surgeons believed inflammation to be due to microorganisms, but the speaker believed it was due to a relaxed state of the blood-vessels, and if we controlled this relaxation inflammation would not occur. Inflammation could not develop or continue unless there was congestion, and this meant a relaxed condition of the unstriped muscular fibres; this could be readily corrected by the use of ergot. The process of healing and repair could be greatly aided by the use of ergot. The various methods of correcting relaxed muscular conditions was then considered under the following headings: (1) Massage, (2) dry cupping, (3) cold, (4) electricity, and (5) ergot. What he wished especially to emphasize was the action of ergot in producing a tonic effect upon the unstriped muscular fibre. Its hypodermic use was referred to only.

Dr. H. Grad said the profession owed Dr. Livingston thanks for bringing the matter so prominently forward. In the ordinary run of surgical cases, in the speaker's experience, the administration of the drug certainly brought about a state of nerve calmness and mitigated to a remarkable degree the nausea, retching, and vomiting following anæsthesia. This might be caused by the mucous that accumulated in the stomach, derived from the pharynx and from the respiratory tract, and also secreted in the stomach itself. It was also claimed that the mucous membrane of the stomach excreted the ether, causing the irritation. This irritation caused a congestion, and this in turn caused a hypersensitive condition of the nerve endings, and hence the vomiting. Irritation of the vomiting center in the medulla also might be the result of ether circulating in the blood. If these etiological factors were operative alone, then ergot would control the vomiting to a very great extent; but if the causes of the vomiting were different, then the administration of ergot would not be effective. Ergot also acted beneficially upon the shock as well, and whether this beneficial effect was an indirect one, by removing nausea and retching and relieving pain, or whether the therapeutic effect was due to bringing about a state of equilibrium in the circulation of the brain, and thereby exerting a calmative effect directly upon the cells of the central nervous system, he could not say, but he had reasons for believing that this latter was the case. When an anodyne was needed in operative cases, he found the administration of morphine together with ergot to be more effective than if morphine had been given alone, and the effect of the agent was more lasting.

Dr. Frederick Holme Wiggin spoke of his experience with ergot in preparing patients for operation, and in the prevention of shock, and also in the treatment of intestinal paresis. It had also been of great service to him in the treatment of epididymitis.

Dr. Bristow said that he had not used ergot as frequently as he felt that he should have. He had used it in peritonitis, but not in a sufficient number of cases to state positively that recoveries were due to its influence.

Dr. Osborne said that in surgical shock much might be done in the way of prevention, but in medical shock, so-called, nothing seemed to be of value. The cases described by Dr. Livingston were due to vasomotor disturbances, with the peripheral blood-vessels depleted and the abdominal vessels distended; in these cases it was apparent that the use of saline solutions was not indicated. The circulation should be equalized, and if ergot would do that a triumph would be attained in the treatment of shock.

Chicago Surgical Society.

At a meeting which was held December 5, 1904, Dr. Arthur Dean Bevan read a paper on "Actinomycosis," in which he referred to the early history of this disease, and stated that the disease manifested itself in four different forms, with four routes of infection, namely, head and neck actinomycosis, with infection from the mouth and pharynx; actinomycosis of the chest through the respiratory tract; abdominal actinomycosis, with infection probably always through the alimentary canal, though possibly in some instances the infection might come by way of the female genital organs; and actinomycosis of the skin. He reported several cases, in one of which there was invasion of the lymphatics. The different forms of the disease were illustrated by the citation of cases, and numerous microscopic slides were shown. Dr. John B. Murphy, in the discussion, stated that the lymphatic glands were not involved in any of the cases he had seen, nor was the infection transmitted through the lymphatic chain and arrested in the lymphatic glands. He mentioned the great infiltration that occurred around small foci of suppuration, and said that this was one of the first things that riveted his attention in the first case of actinomycosis he saw in 1883. This was a typical case of jaw actinomycosis, the infiltration having extended down to and involved the neck to the extent of an inch or more on each side. When the involved area was opened, a number of characteristic bodies escaped. As to treatment, Dr. Murphy's first, second, and third cases recovered, while a fourth one of peritoneal actinomycosis terminated fatally. He had seen two cases of actinomycosis of the appendix, one of his own, and the other in consultation with Dr. Lee. In the first the actinomycotic process was confined practically within the appendix. The appendix was removed, followed by recovery of the patient. The case of Dr. Lee took a different course. Dr. E. Wyllys Andrews stated that most of the patients he had observed had either died or, if they were alive, there was an increasing actinomycotic mass in some part of the body. He recalled the case of a man who had a mass in his chest and who, he thought, was going to die. These cases should be worked up with exceeding care. A comparatively small number of cases of actinomycosis were found to

involve the upper intestine. He thought in nearly one-half of the cases reported the actinomyces were found in the cæcum and in the appendix. Dr. M. L. Harris reported three cases of actinomycosis, regarding them as instances of hematogenous infection. The first patient, a boy, had a slowly developing swelling in the prevesical space, which presented the characteristic hardness. This mass was opened and a small amount of pus obtained. Inoculations from the pus gave a pure culture of the staphylococcus pyogenes albus. No granules were recognized in the pus which was first evacuated, but on the dressings a few days later the characteristic granules were seen, and when submitted to the microscope, proved to be actinomyces. The case progressed, the exudate spread, sinuses and fistulæ were formed about the abdominal wall, and into the lateral wall of the pelvis. The patient was subjected to several operations; the tracts were thoroughly cleared out, and during the operations the abdominal cavity was opened, because the speaker suspected the actinomycosis to be of primary intestinal origin. It was found that the abscess did not have its origin in the appendix, nor could he find any point in the intestinal tract which was involved, so he was unable to explain how the infection reached the prevesical space, except through the blood. The patient was subjected to all the recognized treatments for actinomycosis. Iodide of potassium was given internally—continually and interruptedly; he was given *x*-ray treatment thoroughly, but in spite of all treatment the patient progressed from bad to worse, and died after a period of several months. There was marked reduction in the hæmoglobin in this case before death. The two other cases were detailed at considerable length. Dr. A. J. Ochsner stated that he was almost never without a case of actinomycosis, and that the disease was more common in Chicago than was formerly supposed. He had one such case under treatment at the present time. He recalled half a dozen cases, in which there was involvement of the face and neck, one in which the larynx was implicated, in a number the abdomen was involved, in another the eighth rib, and in others the appendix. He had had two or three cases of actinomycosis of the lungs. As to treatment, he recommended giving large quantities of iodide of potassium for several days in succession, then interrupting its use for days, giving the spores time to develop, after which the dose could be repeated for a day or two, again withdrawn for a day or two, repeated again, etc. This was the method of treatment resorted to by veterinary surgeons when the actinomycotic process was localized in cattle, and was followed by excellent results. Actinomycosis in the human being should be treated on the same principles. Dr. L. L. McArthur narrated the case of a woman who was frequently chided by her husband for dragging at hay and chewing it while playing golf. She developed actinomycosis of the alveolar process, which required three or four months' treatment on the part of a dentist before healing took place. Ten months later she experienced pain in the right iliac region of a colicky character. Her family physician was summoned, and he, feeling a mass there, and noticing she had elevation of temperature, sent her to Dr. McArthur's service at St. Luke's Hospital. The attending physician considered it a probable appendical abscess, and in this Dr. McArthur concurred, and advised operative measures. After opening the abdomen, a tumor was found in the ileocecal region, which involved the appendix, ileum, and the cæcum for a distance of four or five inches. As the tumor appeared to him to be a hypertrophic tuberculosis, although there were no miliary bodies to be seen, with the consent of the attending physician he resected the entire ileocecal region, implanting in the side of the hepatic flexure of the colon the resected ileum. On lifting up the mass from the iliac fossa, a few drops of pus were visible on the fascia covering the iliac muscle. This was mopped up, drainage provided for, and the wound closed. The wound healed after a few weeks, the patient left the hospital, and for three months was quite well, when cough and high temperature set in, with chills and night sweats. The case was now thought to be one of acute tuberculosis. The patient was extremely ill, a tender area was found, with an enlargement in the neighborhood of the gall-bladder, and he considered the condition one of hepatic abscess with burrowing through the diaphragm. An incision over this area was made, and an abscess found which had perforated the posterior sheath of the rectus muscle, and in which were seen for the first time the typical granules, when the nature of the case was cleared up. The patient lingered along for two weeks, and then died. Post-mortem examination showed hypertrophic actinomycotic infection, from which the patient had recovered apparently, but later had developed hepatic abscesses, with perforation of the diaphragm. There were multiple stomach abscesses, which had burrowed into the diaphragm, as well as miliary abscesses along the bronchi.

The Nature of Eclampsia.—Hitschmann describes a case which is unusual in the history of eclampsia. The patient was taken with an eclamptic seizure in the fifth month, the urine containing much albumin. On emptying the uterus manually a large hydatid mole was brought to light, and the eclamptic attack was not repeated. The occurrence of eclampsia without the presence of a fœtus discredits the theory ascribing the disease to the entrance into the maternal circulation of products of fœtal metabolism, and strengthens the views of those who believe that changes in the placental cells can form a poison productive of eclampsia.—*Zentralblatt für Gynäkologie.*

Feeding and the Rest Cure in Typhoid Fever.—H. A. Hare believes that it is a mistake to confine typhoid patients to a purely milk diet. In passing through a siege of this illness himself he was continually conscious of the fact that he was underfed. Since that time, in treating cases of typhoid, he has given a varied diet of liquid and semi-solids, and is positive of the advantages of this method of feeding. The average adult requires at least 2,500 calories a day for normal existence. Each quart of milk represents from 500 to 600 calories. Thus it is evident that for a patient to receive the normal number of calories, he must drink not less than 4½ quarts of milk a day. The pure milk diet is inadequate in this disease. The writer's patients, after the first week of typhoid, receive from one to two soft-boiled eggs a day, in addition to the ordinary allowance of milk. Their diet is varied by the use of whey and curds, rice, which has been boiled to a pulp; wheat, barley, oatmeal gruel, and a cup of corn-starch, with vanilla or some other flavor. The marked ataxia so common in typhoid convalescence is rarely observed in his patients. The patients are hardly more emaciated than are many patients who have recovered from an attack of acute pneumonia. Boils and bed-sores are unknown. The patient's vital resistance is so strong that simultaneous collateral infections do not take place. On account of the deficient secretion of digestive juices, appropriate drugs are administered, such as pepsin and hydrochloric acid, when proteids are taken. The writer does not believe in the use of beef tea. He does not believe that the free use of cold water in itself is the chief factor for good in these cases, but that good feeding and thorough rubbing are most important. In other words, he advocates the employment of the rest cure in the treatment of typhoid fever. Sponging with friction, instead of the plunge, is attended by beneficial results. In cases in which there is profound toxæmia, but in which the temperature is considerably below 102½°, the point at which the cold plunge is considered wise, the writer advocates the use of tepid baths. By the use of hot or tepid baths, with friction, circulatory equilibrium can be reestablished, toxæmia diminished, and the temperature reduced to normal. As to the administration of alcohol, the writer uses it quite largely in these cases, but with good feeding he does not use nearly so much as he did formerly. The patient burns up food products in the body instead of burning up alcohol.—*The Therapeutic Gazette.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 17, 1904:

	Cases.	Deaths.
Measles	103	12
Diphtheria and Croup	329	40
Scarlet Fever	184	13
Smallpox	2	.....
Chickenpox	126	.....
Tuberculosis	310	134
Typhoid Fever	72	16
Cerebrospinal Meningitis	.....	26
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,126	241

The Mental Disorder of Neurasthenia.—Frank Parsons Norbury declares that there is a physical basis to all mental life, and neurasthenia, while not always within the borders of a true psychosis, nevertheless is properly studied as a mental disorder. The writer briefly considers some of the characteristic mental disorders of neurasthenia. In the introspection of neurasthenia there is the functional lowering of the excitability of the neuron, and of these agencies which depress activity, exhaustion or overfatigue (with attending malnutrition) is the chief. In neurasthenia the nervous system suffers unequally from the exhaustion. The higher psychical centers which are concerned in the mechanism of conscious attention are among the first to be affected, and introspection is among the first of these evidences. The sensory and motor centers become involved later, in about the following order: First, depression, marked by introspection; then asthenia, emotional disturbance intensified by the morbid introspection with possible melancholic state. Obsessions form a most interesting and striking group of mental symptoms in neurasthenia. They have their origin in the subconscious self, and suddenly spring into the realm of consciousness, and may become an irresistible impulse. The patient may at first overcome the influence of the thought, but at last it becomes irresistible. One well-known obsession is that of counting. The power of the will is slowly undermined, due to the normal association action of neuron groups being dissociated. Emotions also lose their normal inhibition. Another striking disturbance in neurasthenia is found in morbid fears. They are but the continued evidence of nervous exhaustion. These fears vary with the same degree and insistence as do obsessions. The writer here calls attention to the common fear of heart disease. He says that these morbid fears which are classed as phobias are truly representative pathognomonic mental disorders of neurasthenia. There are cases of neurasthenia in which the nutritive condition is good. Such patients are usually spare, inclined to be tall, and of nervous temperament. Again, there is the phlegmatic neurasthenic, who is overfat. He is anæmic, and usually has inherited the gouty diathesis. Not infrequently the neurasthenic state is but the forerunner to marked diathetic disease. Diagnosis of neurasthenia is made almost wholly by exclusion. Success in treatment demands the recognition of the mental phenomena as of first importance, and treatment must be instituted accordingly. Isolation is the greatest moral factor in treatment and should be enforced. Next, comes rigid, systematized rest, modified according to the individual case. Drugs have only a minor place in the treatment. The spirit of hope is the food upon which these patients thrive. The writer concludes by stating that neurasthenics should be considered from a psychopathological standpoint, and in dealing with them we are clinical workers in mental disease.—*Medicine.*

Coal Dust and Pulmonary Tuberculosis.—Some very surprising results which have attended a series of investigations made by a medical man in the mining districts of Upper Silesia are about to be made public. Among the many illnesses prevalent in his district lung diseases occupied proportionately a very low place, and consumptive persons on coming to reside near the coal mines recovered their health after some time without undergoing any special cure. These facts he is prepared to verify by statistics. The cures are attributed by him to the coal dust contained in the atmosphere, which, he alleges, has a drying and disinfecting influence on tubercle developments in the lungs. Creosote, he says, in explanation of this, is derived from coal tar, and it may possibly be present in a crude state in the coal dust in the atmosphere. It is now proposed to erect a sanitarium for consumptives in the dicerict referred to, in order practically to test the efficacy of the new cure.—*The London Standard.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 16, 1904:

SMALLPOX—UNITED STATES

			CASES.	DEATHS.
Illinois, Chicago	Dec.	3–10	7	1
Danville	Dec.	3–10	1	..
Kentucky, Louisville	Dec.	1–8	3	..
Louisiana, New Orleans	Dec.	3–10	4	2 imported
Maine, Cape Elizabeth	Nov.	1–30	1	..
Eagle Lake Plantation	Nov.	1–30	1	..
New Sweden	Nov.	1–30	1	..
St. Agatha	Nov.	1–30	1	..
St. Frances Plantation	Nov.	1–30	1	..
Michigan, at 75 Places	Nov.	26–Dec. 3	(Present.)	
Missouri, St. Louis	Dec.	3–10	15	2
Nebraska, Omaha	Dec.	3–10	1	..
Ohio, Cincinnati	Dec.	2–9	3	..
Toledo	Nov.	26–Dec. 10	3	..
Pennsylvania, Johnstown	Dec.	3–10	3	..
Philadelphia	Dec.	3–10	1	1
South Carolina, Greenville	Nov.	26–Dec. 3	2	..
Tennessee, Nashville	Dec.	3–10	5	..
Wisconsin, Milwaukee	Dec.	3–10	18	..

SMALLPOX—INSULAR.

Philippine Islands:			
Marinduque Province	Oct.	29	(Epidemic.)
Siguijor Province	Oct.	29	"
Surigao Province	Oct.	29	"

SMALLPOX—FOREIGN.

Austria, Vienna	Nov.	19–26	..	1
Brazil, Bahia	Oct.	29–Nov. 12	36	3
Para	Nov.	15	(Epidemic.)	
Denmark, Copenhagen	Nov.	5–12	1	..
France, Lyon	Nov.	19–26	1	..
Paris	Nov.	19–26	11	..
Germany, Munich	Nov.	19–26	2	2
Great Britain, Glasgow	Nov.	25–Dec. 2	1	..
Manchester	Nov.	19–26	1	..
Newcastle-on-Tyne	Nov.	19–26	4	..
South Shields	Nov.	19–26	..	1
India, Bombay	Nov.	8–15	..	7
Italy, Palermo	Nov.	12–26	36	9
Mexico, City of Mexico	Oct.	1–Nov. 19	15	5
Russia, Odessa	Nov.	19–26	1	..
St. Petersburg	Nov.	12–26	8	1
Warsaw	Oct.	22–29	..	9
Spain, Barcelona	Nov.	20–30	..	7

YELLOW FEVER.

Mexico, Merida	Nov.	20–Dec. 2	2	..
Texistepec	Nov.	20–Dec. 3	21	2

CHOLERA.

India, Calcutta	Oct.	29–Nov 5	..	11
Persia, Gilan Province	Nov.	26	(Epidemic.)	
Mazonderom Province	Nov.	26	"	
Resht	Oct.		10 daily.	
Tabriz	Oct.		400 "	
Russia, Baku	Nov.	4–8	6	..
Ralachany	Nov.	4–8	5	..
Erivan	Nov.	4–8	132	62
Samara	Oct.	17–24	65	14
Tiflis	Nov	7	1	..
Turkey in Asia, Mesopotamia	Oct.	22–29	96	89

PLAGUE—INSULAR.

Hawaii Honolulu	Dec.	10		1

PLAGUE—FOREIGN.

Arabia, Aden	Nov.	4	..	1
Argentina, Salta	Nov.	9–15	(Epidemic.)	
Brazil, Bahia	Nov.	5–12	..	8
Egypt, Achmun District	Nov.	5–12	1	1
Tukh District	Nov.	5–12	4	1
India, Bombay	Nov.	8–15	..	75
Calcutta	Oct.	29–Nov. 5	..	9
Karachi	Oct.	31–Nov. 6	11	9

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Original Articles.

ON WHAT LINES IS THE TREATMENT OF MALIGNANT DISEASE ADVANCING?*

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The principles and methods of work, which expand from the study of individual patients, to general classes, have so far supplanted the display of special cases as a glorification of successful surgery, that we find to-day's interests do not deal with the stream of rare cases and extraordinary or monstrous pathological lesions, which once found its way to cosmopolitan hospitals by highways from every distant town and was the subject of exciting clinics. These are now detained and cared for in the innumerable small hospitals which have sprung up everywhere in the country. They are not missed by the student of to-day, who finds more profitable study of the problems associated with the causation and cure of disease. Resources of medicine and surgery are now on trial—and we must occasionally look over the field to see what to discard and what to hold to. Malignant disease continues to furnish a large share for surgical endeavor and research.

At first thought we would all say that during the past decade much progress has been made—but waves of doubt and depression come periodically to everyone—when after lengthening intervals of freedom and long respite from disease it still baffles his best endeavor when he most wishes to succeed.

Undoubtedly, however, gain has been made in three notable directions, viz., (1) in the recognition of the *principle* that carcinoma and sarcoma are primarily of local origin. This makes the cure almost certain when very early operation is done. (2) In recognizing the enormous value of increasingly extensive operation in advanced cases—widening the field of skin removal and lymphatic dissection. (3) In establishing the value of radio-therapy.

Apart from these we have to record attempts to utilize serum therapy—antitoxin—and tissue metabolism by oophorectomy (Beatson's method) and thyroid extract administration.

Regarding the first two (the principle of local origin, and value of wide removal), we cannot lay too much stress upon their importance, but, as their value has been so often emphasized by every writer, I will say but a word to deprecate the fact that there are still constantly presented to the surgeons to-day many cases operated upon by men who do but little surgery, and allow themselves to remove small mammary tumors without taking away the breast, or to amputate the breast without excising the lymphatics of the axilla, or pectoral muscles, or if these are done with a show of thoroughness, then to incise the skin near the tumor within the margin of safety, so as to make easy suture of the skin possible, paying more attention to the cosmetic effect than justified.

*Read before the meeting of the Practitioners' Society of New York, December 2, 1904.

It is in these cases which constitute such a vast majority of recurrences that the margins of the scars are the first and often the only site of return of disease, showing the undeniable fact of outlying invisible cells left in the cellular and cutaneous lymph channels, at operation.

This puts emphasis on the value of wide removal of skin and extensive skin grafting at the primary operation, and it is this, I believe, that has made the great advance in mammary operations. The dread of mutilation is to all patients paramount, and it should be the first duty of the surgeon and physician, if they expect to maintain the supremacy of surgery over "let alone treatment," that they should prepare the patient's mind for radical work regardless of defect.

Again, in deeper carcinomas, as of the rectum, it seems a wiser and safer operation to excise not only the lower part immediately near the growth which usually lies near the anal region, but to make a conjoint abdominal operation, establish an artificial anus and excise the sigmoid, as well as the sacral lymphatics which are always involved.

In cancers of the stomach it is not clear in my mind that it is wise to tax the resources of surgery to do these elaborated operations which are possible, but so often fatal, and so fruitless of permanent benefit—a triumph of surgical art which is not a triumph over disease, is not one to boast of—and this sentiment so far prevails that most operators are content with the simple, safe and admirable posterior gastroenterestomy in restoring digestive functions as far as the diseased conditions will ever permit.

The advanced cases of cancer of the tongue still tempt the surgeon to remove all apparent evidence of disease—but the almost inevitable early recurrence, coupled with the deplorable condition of the mouth, seems to emphasize the impotence of cutting operations, except in early interference.

I am inclined to think that in this class of epitheliomas we may look for help from radiotherapy. Of this I will speak later.

Three methods of treating malignant disease through systemic and what one might call alterative measures have commended much public attention, and may briefly be referred to as *serum-therapy, antitoxin treatment*, and *oophorectomy*.

The use of serum, so far as its latest advocacy by Doyen is concerned, is *sub judice*, and awaits the report of the French Surgical Commission, to establish any claim to consideration.

Of the more conspicuous use of the principles of bacteriotherapy as advocated by Fehleison in using the toxins of the erysipelas coccus, and by Coley in combining with it the *Bacillus prodigiosus*—to defeat the growth of malignant tumors—there have been enough well recorded cases to establish the fact that a few tumors, mostly of unusual types of sarcoma, have been seen to retrograde and in some cases disappear.

These constitute a very small proportion of the great number which have been subjected to the

treatment, and one may say, therefore, that there is no law of control that has been established.

It seems to me that we have to consider here the fact that the principle of bacteriotherapy on which this method is based presupposes an entirely unsettled problem of bacterial origin of cancer. The predominance of study, it seems to me, tends to the conclusion that cancer has not a parasitic origin. The last report of the Harvard Cancer Research laboratory is rather impressive.

On the other hand we must accept the pathological view that a tumor is a simple mass of cell tissues resembling those normally present, but arranged atypically, and growing at the expense of the organism. This may well be an erratic growth due either to stimulation or to loss of its normal inhibitory powers of growth. As an illustration, take the senile keratoses of the face which so easily degenerate into true epitheliomatous carcinoma, with lymphatic and metastatic invasion.

Here the overgrown cells may be considered as essentially weak and tired out tissue, and to such, an adequate stimulation may restore the equilibrium that is needed to continue the normal state of growth and repair. So with tumor tissue elsewhere.

In this way one may explain the effect of stimulation of antitoxins or serums, which, introduced into the circulation may well be conceived to have the power to correct the errors of tissue metabolism.

Little is really known of the intricate chemistry of growth and repair. We see also, extraordinary changes in the human body, resulting from removal of the ovaries in cases of mammary cancer. The tumor having been demonstrated to be malignant will often retrograde and sometimes disappear, though not usually permanently.

The method devised by Beatson of Glasgow, has commanded much attention, and been given a fair trial, enough to establish the fact mentioned, but not to place it among the list of surgical procedures for usual resort. I have myself removed the ovaries of eight women afflicted with hopeless mammary carcinoma, during five years past, and in all but one have seen retrograde changes with prolongation of life, but ultimate death from the disease; one alone surviving.

The most remarkable one, I showed at a meeting of this society, in the spring of 1901, one tumor the size of a hen's egg and eight small cutaneous nodules disappearing entirely within eight weeks of the oophorectomy. The round, bean-shaped nodules rapidly flattened, then became umbilicated, leaving a ring of tissue which finally melted away, leaving no trace.

Drawing showing the action of radium on a superficial carcinoma forty-eight hours after one hour exposure. The tube was applied to the skin over an area, part of which is occupied by a small, superficial bulla, the remainder by a slough which has involved the epithelial layers. Immediately below this the vessels of the corium show a marked round-celled infiltration. There are a number of large, flat, polyhedral cells near the vessels and in the connective-tissue spaces. About two millimeters below the surface of the area treated, the cells of the new growth have undergone complete destruction, as shown by the peculiar staining qualities of the débris and the pycnotic nuclear remnants. Just below this, on either side, are alveoli still containing unchanged nests of carcinoma.

Beatson's theory is that the ovarian influence stimulates active processes in the mammary epithelium, which takes on the characteristics of germinal epithelium, even to showing vacuolation. Yet, I cannot see that this sheds new light upon the subject in hand, except in the strongly suggestive view that cancer is a tissue metabolism, capable of partial or complete retrograde degeneration through the vital forces, stimulated by altered internal secretions.

It is extraordinary how other internal secretions,

such as the thyroid in myxœdema, adrenals in Addison's disease, and pituitary gland in acromegaly furnish stimulant to the correct conduct of cell-life in other parts of the body, and their withdrawal by atrophy or disease gives degenerate cell action.

We are prepared now to consider radiotherapy as an healing agent in superficial growths, whether ulcerated or not; and we shall conclude, I believe, that here also is furnished an external stimulus of a type heretofore unused, which adds a measure of strength and control to the vital spark left in the decadent cells of the morbid growths.

We may dismiss *phototherapy* from our consideration, because light as such and the various divisions of light rays, even the much-talked-of ultraviolet, are yet without claim of value in true malignant growths.

Lupus alone yields (after very long and patient effort) to the Finsen light. But the same disease subjected to radiotherapy is under prompt control without light rays.

It remains to consider the Röntgen rays, the ionized rays, discharged from the iron electrodes with spark, and the rays from radium.

The technic of using these three new agents is as yet not quite formulated, and I will not detail the many variations in advice given by observers, but express my own judgment as to the value to be placed upon them.

Many cases of tumor disappearance by these means lead us to ask whether microscopical evidence has been given as of the actual change in carcinoma tissue.

Of Röntgen ray effects there have been many demonstrations; of radium radiations, we now have clear proof of the same lethal effect on the nests of cells constituting the tumor. Of this I have had some very definite and beautiful records made by Dr. F. C. Wood.

I show an enlargement (p. 1042) of a section of skin over a carcinoma, recurrent beneath the skin, over which a tube of the strongest French radium (300,000) was laid for one hour only—excision following after two days. The nearest groups of cells, two millimeters below the surface, had undergone complete destruction, refusing the stain of living tissues and showing only débris and nuclear remnants. The cutaneous epithelium was destroyed, round-celled infiltration appears around all vessels of the corium. Similar effects were seen in the substance of the primary cancer mass in the breast, into which the tube of radium was thrust for one day.

The antibacterial action, which is at best very feeble, can play but a trifling part, and the feeble heat emitted by radium is insignificant.

We must look then to the rays, which are of negative electrons emitted by radium and the Röntgen ray, as the agent of power. These equally discharge the electroscope with great rapidity, and in this they are rivalled by the electric spark from the coil passing between iron electrodes. The latter device, in the form of a Piffard lamp, is richer in ultraviolet rays than any known instrument, but its power for good seems to reside in active rays other than the ultraviolet.

A quartz cover allows the latter to pass freely. Let them fall on an electroscope, and nothing results until the quartz is removed, and instantly the electroscope is discharged, showing a powerful emission of electrons. This latter agent we have used in connection with Röntgen rays, finding it to be apparently a strong ally.

What, then, has been the outcome of the application of the three forms of radiant energy just described?

Many tumors dissipated, some unaffected, occasional recurrences, a few cures.

One may summarize it by saying we have gained both knowledge and hope. Many epithelial cancers of the face have been cured abroad and in this country by either one or all the agents.

Typical ones of the lip and other parts that have been shown by me at several meetings of this society are convincing of the permanent value of radiotherapy.

The maxillary giant-celled sarcoma, cured by radium and several times shown by me to this society, remains cured to-day. In most cases where there are lymphatics of the axilla and groin adjacent to this disease, these decline also without special attention when the growth improves under treatment.

The cause must be conjectural, but it is easy to conceive that some by-product of the degenerating growth finds its way along the absorbents to the metastasis in the lymphatics.

Four weeks ago a man was referred to me by Dr. R. W. Taylor for amputation, owing to extensive cancer of the glans. A piece was removed which showed epithelial cancer; several lymphatics were enlarged in each groin. I gave five minutes' exposure to Röntgen ray, followed by five of rays from a Piffard lamp, twice weekly, and had the gratification of seeing rapid appearance of induration and growth, leaving a cicatrizing, granulating surface, which bids fair to be entirely healed in a few weeks, when I shall show the man to this society, I hope cured. Meanwhile, the swelling of the inguinal glands has disappeared.

The Röntgen ray, radium, and Piffard lamp emit somewhat the same influence and excite a grade of local reaction not at all like inflammation of usual type.

Radium notably sets up a brawny change when displaying its severest energy, resembling urticarial wheals, which is supplanted by a curative action.

It alone can be used in deep structural disease, bone and other tumors, where it may be buried for hours, or days, according to its strength.

From radium, therefore, we may expect the greatest future results. As yet few applications in deep growths have been made, owing somewhat to the reluctance of those who possess strong specimens, of which there are but few, to experiment on patients whose only hope has seemed heretofore to be in an operation.

There is promise of a large production of strong radium in Austria, and the next year will reveal further fruits of research and treatment.

13 West Fiftieth Street.

PROBLEMS RELATING TO SIMPLE ULCER OF THE STOMACH.*

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From the dual standpoint of medicine and surgery, I know of few diseases to-day which have more direct and positive interest to practitioners than simple or round ulcer of the stomach. This depends mainly upon the fact that the disease can be cured, as I believe, by timely, judicious, skilled intervention, and at a time and under conditions when delay and ignorance, on the one hand, or too great unbalanced zeal, on the other, do great harm.

Undoubtedly, in many intsances, by proper prophylactic treatment, simple ulcer may never develop, and if it be already present, it may not progress even for a short while, nor give rise to threatening symp-

*Read at a meeting of the N. Y. Clinical Society, October 28, 1904.

toms. If it has developed, and pain and dyspepsia are very marked, frequent, or continuous, and even if one or more hemorrhages have occurred, cure may result from purely medical control and assistance. If, on the other hand, these means have been faithfully and carefully tried for many weeks, and the symptoms still persist, with stationary or increased severity, surgical aid should be called, and in some cases surgery alone will bring about complete recovery, or in certain instances save life. The cases in which surgical operation (excision and sewing up of the ulcer, or gastroenterostomy) effects a cure are those of acute ulcer, in which the hemorrhage is sudden, profuse, repeated, and the menace to life too great to await the slower results of medicinal remedies, or hygiene and time; or those of chronic ulcer, in which the abundant, recurrent bleeding shows that the degenerated, gaping artery of the diseased surface may be obstructed for a while with a clot, but will soon, through its removal, bleed afresh. Here there is but one way to obtain a *cure*, and that is through an operation. Otherwise, whenever the stomach dilates, by reason of enlarging orifice of vessel, hemorrhage recurs, and the patient ultimately will surely die.

In cases of perforation of the stomach from any form or of any duration of ulcer, the formal indication is to operate, and the sooner the operation is performed, the greater the chances of saving life. Instances of cure without operation are known and recorded, but they are very infrequent, and unless special conditions prevail, such as empty stomach, very small opening from ulcer in stomach, chronic adhesions to adjacent organ, etc., even these instances would not have been possible.

With respect to the differential diagnosis, it is well to affirm at present that, while the chemical examinations after a test meal are of value in many instances, they may be misleading, unless we bear in mind other clinical features of the disease which point to the presence of peptic ulcer of stomach.

In the first place, the excess of free hydrochloric acid is not invariably present. On the contrary, there are not a few instances now recorded by competent and careful observers in which the free hydrochloric acid was either about normal in quantity, or decidedly below the average amount of the healthy stomach. The excessive fermentations of a dilated stomach where stenosis of the pylorus is present, due to a cicatrized ulcer, are of considerable value in some cases in fixing the diagnosis, but here again they must not be counted upon, and if they are persistently absent, the possible presence of an ulcer of the stomach cannot be eliminated altogether. Indeed, in a certain proportion of cases the evidences of flatulent dyspepsia preceding hemorrhage or collapse, indicative at first of a sudden perforation, may be almost or wholly lacking.

As regards treatment, I am of the opinion in this disease, as in others, that what results we obtain in hospitals is no proper index of those we obtain in private practice. It must be remembered that hospital patients are often badly cared for before they enter the hospital. In the first place, they do not seek medical advice soon enough; again, when they first get it, it is not always the most careful or the best. Again, the necessities of their existence, their mode of life, their poor, wretchedly prepared and ill-advised dietary is very often calculated to increase, rather than to diminish, the symptoms of the disease from which they are suffering. Admitted, then, that ulcer of the stomach becomes fully developed and chronic, as it frequently does in hospital patients, the dietary and medical treatment ordered at this stage are not as successful many times as we should desire. Hence many surgical operations are indicated or absolutely essential.

On the other hand, the patient in affluent circumstances, who seeks and gets the best medical advice in the beginning, is almost immediately put upon the most appropriate dietary, and gets regularly the most suitable and useful remedies. In my observation, such cases sooner or later get well, and without surgical interference. They may suffer, more or less, from obstinate dyspepsia for quite a prolonged period, but their hemorrhages are infrequent and relatively slight, and as for perforations, they very rarely occur. These patients are usually intelligent and instructed, and when they have before them the nature and threatening possibilities of their disease, they follow willingly and rigidly the rules laid down for them by their medical adviser as regards diet, medicine, and occupation, and the ultimate result is cure in many instances. Of course, there may be, and frequently is, recurrence of painful and unpleasant symptoms of stomachal intolerance for a short period, and after some neglect or unusual indulgence; but these are short-lived if properly met—as they usually are—and disappear as they appeared, very rapidly.

It is a fact of observation that the man who works with his hands may do better, so far as symptoms of ulcer are concerned, if he persists in his work, than the man of brains, who uses his head and has many anxieties for himself and others in a business or professional way. The former may often go on and do his work regularly, without interruption and apparently without interfering with his ultimate recovery. The latter, on the contrary, must at least have a temporary rest from mental toil and worry, if he may hope ultimately to recover. What the accurate explanation is I do not know, nor do I know that it has been absolutely affirmed. I believe, however, from what I do know, that mental effort is often connected apparently with an excessive production of acid secretions of the stomach, and this fact, if true, would explain, when continuous in action, the development and progress of chronic peptic ulcer.

One statement is no doubt absolutely correct, viz., that women with gastric ulcer must go to bed if they wish and expect recovery. Now, this observation is only in accord with what I have just stated, since women, by reason of their sensitive, impressionable natures, would be, rationally, the first ones to succumb to the conditions favored or produced by the action of the nervous system upon the gastric secretions.

It is clear, therefore, to my mind that the neuropathic condition is, in many instances, an underlying factor of great or even primary importance in the production and continuance of chronic ulcer of the stomach. No doubt persistent hyperacidity, which is present in so many instances, not only where anæmia exists, but also quite independent of this state, has much to do with the development of the ulcer, and when the ulcer is present, unless properly and continuously neutralized, prevents its healing. No doubt also that the blocking up or obstruction of the circulation in limited areas of the stomachal mucous membrane renders it far more susceptible to corrosive action than it would be if the blood current had in these places a normal flow.

On the other hand, we have cases of chronic ulcer in which there is no hyperacidity during life, and no occluded or diseased vessels in limited areas, and if we seek for a plausible or convincing explanation of facts observed, either during life or at the autopsy, we are obliged to concede the important action of diminished or impaired nerve force. This

explanation, it seems to me, is satisfactory, when we note how many exceptions there are if we estimate the influence of mere dietary regimen. It has been affirmed, for example, that meat eaters are more likely to suffer from chronic ulcer of the stomach, and vegetarians are relatively exempt from it. Later observations prove that numerous exceptions may be found, and when nervous energy is reestablished, any moderate or rational dietary may be acceptable and perfectly tolerated. The symptom, continuous pain, with tenderness over a limited area, is more characteristic than any other of the presence of ulcer. And yet even this symptom may be counterfeited in some examples of neurasthenia, probably, and where chronic ulcer does not really exist. Despite observations from prominent clinicians, who affirm that, with pain and prolonged dyspeptic symptoms, and although the amount of hæmatemesis or melæna is slight and infrequently repeated, we shall always find ulcer present if the patient is operated upon, I continue to believe that this is an extreme view, and will not be justified by future experience. Indeed, I am still of the opinion that a pronounced anæmic condition, with marked depression of nerve tone, and particularly where free hydrochloric acid is absent during prolonged periods, will account satisfactorily for quite a number of them.

The clear indication, however, in such cases is to insist upon rational and somewhat prolonged medical treatment by experienced clinicians before surgical interference is advised or attempted.

The question of hemorrhage is often doubtful, even with good clinicians, and in order to recognize it special tests must be used (Campbell Howard), and I am quite skeptical as to the use of orthoform to allay pain, and if it does, to regard this fact as corroborating strongly the diagnosis of gastric ulcer. In those instances in which the "circumscribed spot of tenderness in the epigastrium is accompanied with a similar tender spot to the left of one of the lower dorsal vertebræ," I agree that this symptom has great importance in determining our diagnosis of gastric ulcer.

With regard to the tenderness, however, we must bear in mind that it proceeds largely from the locality of the ulcer, and if this be situated under the costal cartilages or upon the posterior wall, pain on pressure may not be felt. Moreover, it should be remembered that ulcer, and even perforation from it, may occur without previous stomachal symptoms. The most important symptom in determining the existence of perforation is abdominal rigidity. There may be no abdominal distention, and the pain may be badly localized. Although the abdomen may be tympanitic everywhere, the liver dullness may not be distinctly obliterated. Even the abdominal rigidity, although well marked, may not be as limited as is usually believed. Fever may or may not be present, depending somewhat upon the degree of peritonitis. Usually after the first period of collapse the temperature is apt to rise. This rise of temperature may be somewhat due to the application of warmth and use of stimulants on the part of physician or nurse. Of course, the localization of the peritonitis may sometimes explain the absence of increase of temperature. Occasionally the pain accused is situated in the lower abdomen, and in this case may be due to a complicating appendicitis. More frequently the pain is most marked towards the upper part of the abdomen on the right side. There are instances in which all symptoms point to perforation of the stomach, including abdominal rigidity, and yet the subsequent histories go to prove that the perforation did not occur. In one analogous case I have seen, in which the perforation was supposed to be in the bowel, the rigidity lasted a brief period and then disappeared. It was mainly because of this fact that the consulting surgeon decided against the existence of perforation, and although subsequently the patient died, as there was no autopsy, the correct diagnosis could not, in my judgment, be absolutely affirmed. No doubt many cases of gastric ulcer should be to-day studied by the internist and by the surgeon.

Theoretically, with past experience to guide, treatment of ulcer belonged essentially to the physician. With lately acquired knowledge, it is wisdom and duty to find out which cases belong to the surgeons, and at what stage of the pathological process. It is probable in many instances laparotomies have been too long delayed, owing to more than one good reason. Of these I should mention particularly lack of operative experience, faulty surgical technique, and a decided opposition on the part of medical men to permit operations upon their patients, which they considered unjustifiable, when the fatal or injurious outcome of very many of them was fairly estimated. Physicians are at the present time in a different medical attitude, and yet they still wish to prevent hasty and unfortunate operatory procedure. It is true that the surgeon has one great advantage over the physician, namely, that he can better study living sections, and is not given over so much to the study of dead lesions, as shown at the autopsies.

On the other hand, the family physician has opportunities to study to more advantage and with greater care the previous clinical history of a given case, and hence his final judgment appears to me, in general, more reliable. I am obliged to confess, however, that the too advanced value placed upon mere laboratory researches jeopardizes sadly even good medical judgment, and renders the physician liable, at times, to form or support opinions which formerly he would not have held. In so far I believe he is to be sympathized with, while retaining the hope that in the future chemic and microscopic research will cease to retain their actual exaggerated valuation.

My own belief is that in many instances in which pain in the epigastrium and obstinate stomachal indigestion, with or without periodic vomiting, exist, it is wisdom to treat the patient as though gastric ulcer might develop, even though it be not yet present. This is especially true of anæmic young women, who have been overworked and victims of wrong dietary, and of many cares and anxieties. In many of these cases it is, of course, proper to give a test meal, and later have a microscopical and chemical examination of the stomachal contents. If there has been an excess of free hydrochloric acid, with evidences of inordinate products of gastric fermentation, my judgment as to the importance of preventive treatment would only be confirmed.

On the other hand, even if the microscopical and chemical examination of the gastric contents after a test meal is doubtful or negative as to the presence of ulcer, I do not believe, with the acquired knowledge which has come to us from well-observed cases, medically and surgically, that we should be justified in following a very different plan of treatment. We must admit, also, that there are numerous instances in which the patients or friends object very strongly to the idea of introducing a stomach tube, either for preliminary washing before giving the test meal, or later to withdraw the contents of the stomach which are present.

In these patients we may be able, as we know, to

obtain sufficient gastric contents by forced regurgitation on the part of the patient himself, to satisfy in a measure our requirements. In instances, of course, where there has been a late attack of hæmatemesis, or blood in notable quantity has been found in the stools, without other rational, assignable cause for these signs, our diagnosis of the beginning or advanced presence of gastric ulcer is even surer, and our course of conduct as to treatment more imperative. Besides, we should not make any attempt to introduce the stomach tube. The cardinal principles governing medical treatment of declared gastric ulcer are (1) absolute or relative rest, mental and bodily, if possible. Frequently bed is the place for such patients, although at times, as stated, and especially with those who labor essentially with their hands, cure may be obtained without this rule being absolutely enforced. (2) The use of rectal feeding in a measure or altogether, and the partial or complete relief of stomachal digestion, at least for a time. Gradual return to feeding with much care and many limitations may later be counseled and enforced, and wherever anæmia is notably a factor in the make-up of the disease, its special treatment should not be ignored.

I place great emphasis on the latter part of the treatment, when pain has disappeared and the ulcer is almost or entirely cicatrized, because I believe the nervous system is often affected as to its function, and it cannot be fully restored unless the healthy formation of healthy blood is effected, whether the anæmia be a primary or merely a complicating factor. The nervous system, after all, receives its sustenance in the main from the blood, and unless this be normal, both in quantity and quality, the derangements of the former are more than likely to continue and become worse.

There is a great difference between the medicinal treatment of acute and chronic ulcer of the stomach. This was pointed out specially by Fenwick, who emphasized the truth of it, and showed how closely it was based upon anatomical and pathological conditions essentially distinctive. In very many cases acute ulcer will be greatly improved and perhaps cured by a relatively short treatment, with diet, rest, and the use of a few medicinal agents. No such happy outcome should be looked for in chronic ulcer of the stomach. Here months, and indeed years, may elapse, as we know, before the patients have become completely rehabilitated. In the vast majority of such cases, if food be given by the mouth, it should be in the form of milk, just as in the days of Cruveilhier, who first insisted upon its crowning efficacy. As a rule, it is wise to give it peptonized and warmed, rather than raw or cold. In case it is thus allowed, on account of some personal peculiarity, a liberal addition of lime water may be added. Kumyss is not advisable by reason of its acidity. Matzoon or zoolack is less objectionable. Milk, after being heated almost to the boiling point, may be diluted and cooled with the addition of rice or barley water. It may also be made more digestible and soothing with gelatine or isinglass. The former is indicated whenever there is any evidence of bleeding from the ulcer. A small quantity of arrowroot with milk, a little cream and gelatin, as in Meig's well-known formula, are not undesirable at times. It seems objectionable to permit milk in any form, according to Murdock, whenever the gastric contents show little or no hydrochloric acid present. In these cases we should allow albuminized water, beef juice or light broths, diluted or not with barley water, rice water, or oatmeal gruel.

I am opposed in the beginning of treatment to anything further in the way of food. Even the addition of light soups with cereals or vegetables is objectionable, because of possible local irritations or fermentations produced. Indeed, I have little doubt that if all food be interdicted by the mouth for many days, and the patient be nourished solely with properly formulated enemata, he will progress more favorably than if we attempt to give him at first the mildest nourishment in liquid form by the stomach. We know the old-time formulæ of some at least of these enemas with egg, milk, beef extract, whiskey, etc. All of them are objectionable after a time, and produce rectal intolerance. Besides, once every twenty-four hours the rectum must be flushed thoroughly with warm water, to get rid of any remaining and infecting detritus. A bad taste is often complained of by these patients after several days of treatment, and this may cause nausea and even vomiting. Most of the objectionable features of enemata may be gotten rid of simply by giving them under the form of warm water, heated to about the temperature of 100° Fah., and repeated four or more times in twenty-four hours. The amount given each time should be from six to ten ounces, and should be introduced slowly and with very moderate pressure. These enemata may be continued occasionally two weeks or more, without producing any untoward consequences. There is no bad taste in the mouth, the strength of the patient is kept up fairly well, and there is little or no complaint of suffering from excessive thirst.

There is one food which I have omitted above, and which, it is claimed, is especially valuable when hydrochloric acid is deficient in the stomachal secretions, and that is buttermilk, freshly made and freely taken. In several cases it really appears to have been followed by a permanent cure. Is it possible, in view of the late discovery of a great French scientist, Metchnikoff, that buttermilk in ulcer of the stomach is a true elixir of life?

Of the different medicinal agents, none has received as many encomiums as the salts of bismuth. Of these, the most widely used is the subnitrate. To be of any service it must be given appropriately before food, or on the fasting stomach in the early morning. In any case small, insufficient doses are of very little value. Probably the best way to give bismuth is to suspend it with water, to which is added a little milk sugar. Cane sugar should not be used on account of its proneness to acid fermentation. A fair proportion of prepared chalk and lime water may be added, and thus we have, as I believe, an admirable and efficient formula, which is likewise not unpalatable—a decided advantage. I have rarely, if ever, been disposed to prescribe the silver salts in suspected ulcer of the stomach. The nitrate of silver, we are told by some writers, is useful, and possibly covers over certain sensitive areas, by reason of its decomposition, with the coating of an albuminate film. And in certain hyperæsthetic conditions in which there is intolerance for all kinds of food—even in liquid form and most bland—it may be of service. In case the bowels become at all constipated, some natural salt like sulphate of soda may be given, or the liquid form of magnesia, which is preferable because of its well-known alkalinity, as well as its aperitive qualities.

In the treatment of anæmia I would prefer to make use of the vegetable forms of iron, rather than the perchloride, protochloride, or carbonate, which may be more or less irritating locally by their acidity and perhaps slightly corrosive action; this is without doubt true of the tincture of the perchloride unless given with pure neutral glycerin.

The pain of ulcer, when excessive, may perhaps be allayed with orthoform. A question of moment

is the time during which liquid diet by the stomach should be continued. Of course, this is variable according to the patients, and may be enforced from several weeks to as many months. Certainly, so long as there is marked tenderness on pressure, it would be hazardous to deviate from a stringent rule in this regard, and would render the patient liable to a sudden relapse of all painful and distressing symptoms. Despite the fact that much has been written on this topic, nothing better or more accurate has been stated, and provisionally we should abide by the indication which proceeds from local tenderness. When, however, this symptom has completely disappeared we may gradually and with continued watchfulness return to a moderate and somewhat varied diet, always selecting meats and a few vegetables very easy of digestion. Among the latter, when properly prepared, rice is especially good. Potato, on the other hand, in any form is bad, and will often occasion distress and renewed symptoms of grave import. The white meats are, I believe, preferable. Roast beef and beefsteak should be withheld for a long while. As far as possible meat should be roasted or broiled, and very few prepared dishes with gravy or sauces permitted.

While it is claimed that it is desirable to make a further chemical and microscopical examination of the gastric contents before solid food is allowed, I do not assign much practical importance to the results obtained. They differ so frequently, and particularly with the first findings and before any kind of regular treatment was followed. There are cases, for example, in which no free acid was originally found, and later on it may be found again in even more than normal quantity. What is true of free acid is likewise true of rennet. It may not be discovered at first and later appear, or vice versa—present at first and later be absent.

In certain cases in which there is marked hyperacidity without gastric symptoms, revealed by chemical analysis of the stomachal contents, and the general condition is below par, forced nutrition will occasionally benefit both conditions. Even in those instances in which acid gastric catarrh or an ulcer of the stomach is present, it is desirable, according to C. v. Noorden, "to give large amounts of food after the first eight or ten days of moderation."[1] Personally, in these cases, I should be very skeptical about the advisability so soon of such a liberal dietary, although recommended by this eminent authority.

The two complications most to be dreaded are: (1) hemorrhage; (2) perforation. The former may be very profuse and alarming, and yet rarely does a fatal result immediately follow. Absolute rest and quiet in bed should, of course, be insisted upon, and no nutriment be permitted except by the bowel. Cold applications to the epigastrium are indicated. I have but little faith in the use of gelatin hypodermically. On the other hand, we have to-day in the repeated use of a solution of adrenalin after this manner a most potent remedy upon which we shall rely later, more and more. When not given subcutaneously it may, of course, be given by the mouth several times a day in doses of ten to twenty drops of the 1 to 1,000 solution. Ewald's suggestion of washing out the stomach with iced water makes no appeal to me. If hemorrhage is not arrested by these means we must consider the propriety of a surgical operation.

The indication to operate may also be present if the hemorrhage is frequently repeated, although at no time very profuse. Even though hemorrhage may be slight and rarely repeated, if stomachal distress is great and continuous despite well ordered and judicious treatment continued for several weeks or months, we may think that an operation is required. The two operations hitherto upheld are resection of gastric ulcer with sewing up gastric wall, and gastroenterostomy. The former has had a very great fatality, and surgeons are generally to-day in favor of making an artificial anastomosis between the stomach and the intestine by posterior gastro-enterostomy, or by Finney's method of pyloroplasty.[2] In many instances one of the latter operations will give complete relief to symptoms; and the explanation of this fact seems to be that the stomachal digestion is more rapid, and food being held in the stomach a shorter time is less exposed to the prolonged action of the hydrochloric acid secreted oftentimes in excess.

Unfortunately in many instances there is a return of the characteristic symptoms of ulcer. There may be again hæmatemesis, gastric distress, and even perforation. These symptoms are due to the formation or progress of fresh or other ulcers. In point of fact, where one ulcer is present, others also often occur. Indeed, unless the underlying cause or causes of ulcer of the stomach be neutralized continuously, or overcome, it is improbable that a permanent cure will follow. The lower segment of the stomach after an anastomosis with the duodenum or ileum has been effected, takes on a similar rôle to the pylorus, and hence ulceration at this site is in an equal degree likely to occur if other conditions remain about the same. It is true that since the surgeons have abandoned anterior gastroenterostomy, renewed and grave symptoms of ulcer after operation have not occurred as frequently as previously, still the mortality in these cases is very high in the aggregate. Even the latest report of operation for gastric hemorrhage, at the Boston City Hospital and Massachusetts General Hospital, 1898 to 1903 inclusive, reads: "Ten cases; ten deaths." The physicians should not be blamed, therefore, at their lack of enthusiasm for operation in such cases, even the most threatening, at least for the present. It is to be hoped and expected that with larger experience and improved technique surgical results will improve.

On the other hand, when the surgeons ask us urgently to turn over our cases to them sooner for operation, claiming that their success would in that case be greatly and speedily increased, we fail in a measure to recognize the validity of their reasoning. Their strong ground of argument is that to be successful they must operate while the patient is still in fairly good shape, and not unduly weakened from repeated hemorrhages and insufficient nutrition. On our side we claim if the patients who have gastric hemorrhages have most careful and judicious medical treatment they will rarely reach the stage where an operation is imperatively needed, and we should not prejudice, as it were, the curative effects of hygiene and medicines in any particular case, until it is proved beyond peradventure to be useless. Alas! for the uncontrolled tendency of the day which would seek to cure all human ailments with the knife, and allow less and less to the sanest, most instructed, broadest way of regarding departures from health and well being. It should be borne in mind, also, even with a very profuse initial hemorrhage, that it may not occur again, and even if it does recur, it may be in far less amount. Moreover, such cases are susceptible of cure by mild medicinal and hygienic treatment. Again, such ulcers, although sometimes existing singly in a given case, may exist with one or more other ulcers at different sites. If this be true, it is

too dangerous to excise and ligate all of them. Finally, even if search be made for numerous bleeding points, they cannot invariably be found—at all events soon enough to offer chances of a thorough and successful operation. And in such cases when the stomach is, as it were, "weeping blood," nothing further can be done except a gastroenterostomy, and this operation, as we know, in such a condition is of uncertain value.

The claim that old ulcers of the stomach, which have been allowed to remain unrelieved or uncured too long under mere medical treatment, should be operated upon for fear lest carcinomatous changes take place at their site, is, in my judgment, not sufficiently, by reason of the extreme infreqency of this occurrence, to justify a formidable and too often almost immediately fatal operation. If acute or sub-acute perforation occurs, and as soon as the initial collapse has been at least partially recovered from, it seems advisable to operate as speedily as possible. In similar instances, although it is possible that recovery may occasionally take place under wise medical care, the chances are so very few that it seems only right to turn over the patients to the surgeon almost immediately for operative interference. To delay uselessly for a more exact diagnosis of the precise nature of the perforation is not justified by the latest reports which have come to us. In these cases, where morphine has been given to relieve pain, the condition when seen by the surgeon is often obscured, but with a reliable history of the previous symptoms and the presence of persistent abdominal muscular rigidity during a few hours it is indicated to operate.

In chronic perforations, where adhesions with adjacent organs have already been formed, and which limit the extent to which the extruded gastric contents are carried, and consequently localize the subsequent peritonitis, operation may be deferred a little while, or until the signs of an abscess cavity are undoubted by reason of physical signs, or the results of exploratory puncture.

A most interesting question in connection with operations for simple ulcer of the stomach is to determine what the ultimate results of such operations are. We know to-day that the immediate results are frequently very good, and that the various painful or threatening symptoms of the disease are often entirely relieved for a while. The inquiry about after results has rarely hitherto been made, at least in a systematic manner, and so as to include numerous cases. When it has occasionally been made, the outcome is at times unsatisfactory, partly because some of the patients could not be followed up, or when found they would not answer questions addressed to them.

In regard to hemorrhage from erosive or recurrent ulcers, Maunsell Moullin[3] writes: "There is no difficulty in arresting the bleeding, but it must always be borne in mind that the operation deals merely with one of the consequences of the ulceration, not with the cause, and that it cannot in any way prevent other ulcers forming subsequently, or bleeding taking place from them if they do form. I have known recurrent ulceration to follow gastroenterostomy, in spite of the fact that the artificial communication was acting in a perfectly satisfactory manner. In two of my cases no further trouble has followed, but in several others after an interval the hæmatemesis occurred again. If adhesions are present and are left after operation, the patient will always be liable to suffer pain after taking food. Simple division of adhesions is of little use. The only really useful method is to excise a smaller or larger portion of the gastric wall, and bring the cut edges together by sutures. It is evident that where adhesions are extensive the condition is practically incurable." Hence, surgeons would now urge an earlier exploratory operation than physicians hitherto have considered advisable. Another reason why physicians are opposed to early operations is because, despite repeated attacks of hæmatemesis with melæna in a given case, no cause subsequently may be found that is sufficient to account for the symptoms. It is true that occasionally, even under these circumstances, benefit to the patient has followed operation. Such "singularly happy coincidences" do not justify, in my judgment, hazardous operations at an early period of a *possible* ulcer of the stomach. In an able article by John Lindsay Steven,[4] "On the Surgical Treatment of Diseases of the Stomach from a Physician's Point of View," I find some interesting and telling thoughts. Steven wisely remarks that in the very nature of things the physician sees more of the natural history of ulcer of the stomach than the surgeon does. He sees the cases earlier, and he sees them later, when the surgeon has done his best. The surgeon's interest, perhaps, tends to slacken when the wound is healed up and the patient is so far restored to the status quo ante. It then falls to the lot of the physician to watch the ulterior and, in a way, natural progress of the malady, and to compare the course of the comparatively few cases which should be and have been operated upon with the much greater number of nearly similar cases of the disease in which no operation was justified. From this it follows that the physician's outlook on operations for gastric ulcer, excepting those for perforation, is scarcely likely to be so hopeful as that of his surgical brother. Much of the foregoing is copied textually; some of it is changed to suit my own appreciations.

Later, Steven writes, in speaking of dilatation of the stomach, and this it seems to me may be applied as well to simple ulcer of the stomach: "A cure by medical means must always be preferable, for, however successful the operation, there must ever be the risk of a cicatrix yielding and giving rise to hernia, or of obstructive complications arising from the dislocation of normal relationships which is necessarily involved in any surgical procedure. There is also, I think, some danger of the artificial opening contracting somewhat in the course of time."

Finally, Steven writes, and with this I cordially agree: "When medicine has entirely failed surgery must be resorted to." But, fortunately, medicine does not fail so frequently as some late surgical authorities would have us believe. Thus Murdock writes: [5]"So far as I have been able to learn in only two out of thirty-two cases which I have reported have the patients suffered from a recurrence of the ulcer."

"Under medical treatment Lenthe found the mortality in fifty-five cases to be only 2.4 per cent., and Fenwick observes that when the disease is taken in hand at an early stage and properly treated the mortality does not exceed 4 per cent."

Contrast this with reports from surgeons of operations for chronic gastric ulcer, and we must conclude that the mortality "from gastroenterostomy is higher than the mortality from chronic gastric ulcer when the patients have the benefit of proper medical treatment."

For example, in fifty-two cases of gastric ulcer at Mount Sinai Hospital from 1898 to 1904, there were ten cases of hemorrhage. In only one case

was surgical interference required, and this was the only one of the ten which was fatal. (Manges.[6]).

NOTE.—Dr. F. H. Murdock's latest report[7] regarding "orthoform in the diagnosis of gastric ulcer" is interesting and important. He writes: "As this remedy will not anæsthetize nerve endings when they are protected by skin or mucous membrane, it is certain that if it relieves pain in the stomach it can do so only by coming in contact with a surface from which the mucous membrane has been removed." My own experience, as reported in my paper, has not confirmed such an absolute judgment, nor does it wholly coincide with the experience of others. Orthoform does not invariably relieve ulcer of the stomach, where the diagnosis seems reasonably sure; in some instances of stomachal disturbance, where probably there is no ulcer, orthoform occasionally gives temporary relief, and this it accomplishes as a local analgesic by contact "with nerve terminals through highly inflamed tissue."

Addendum: The following report of laboratory work from a most reliable observer gives additional value to my paper:

DEAR DR. ROBINSON:—

In answer to your esteemed favor asking for my laboratory experience with specimens from cases of simple gastric ulcer, I beg leave to submit the following:

Stomach Contents.—The belief that the examination of stomach contents obtained after a proper test meal, showing marked increase of HCl is a *certain* indication of simple gastric ulcer, is faulty. My laboratory records show a decided HCl hyperacidity in a large percentage of cases of reported simple gastric ulcer, but we cannot overlook the few instances of normal and even diminished HCl where the clinical diagnosis of simple gastric ulcer seemed justified—and on this account a *positive* diagnosis of this lesion must not be made by laboratory methods alone.

These exceptional and usually complicated cases do not detract from the usefulness of the knowledge that gastric analysis gives us.

The usual, but by no means invariable rule, that increased HCl is suggestive of simple ulcer and diminished or absent HCl suggestive of carcinoma is still a good one, and these points are often of much corroborative value in the clinical picture.

The presence or absence of lactic acid may be somewhat suggestive, but does, I believe, not merit the importance which has been attached to it as a factor in the diagnosis of carcinoma. The few complicated cases where, for example, a carcinoma develops in a chronic ulcer, may give confusing results on analysis of stomach contents, but this does not outweigh its value in the majority of cases.

The mere appearance of the contents or vomit may teach much.

The analysis of gastric contents is as yet of no use in differentiating between gastric and duodenal ulcer. In gastric neurosis, increased, normal, diminished, absent, and even continuous secretion of HCl may be found, thus simulating all other pictures from the purely analytical point of view.

Urine.—When attention was first directed to evidences in the urine of faulty body chemistry in cases of gastric hyperacidity, my conclusions were as follows: A lowered urea-uric acid ratio constant in all. In cases of hyperacidity due to gastric ulcer—a normal ratio or a high ratio of mineral and ethereal sulphates and no excess of indican. In cases of hyperacidity in gastric neuroses—a lowered ratio of mineral and ethereal sulphate and a decided excess of indican. Further observation has, however, shown cases which do not follow these lines.

Fæces.—In the chemical and microscopical examinations of fæces I have made in cases of supposed gastric ulcer, no specific changes were found which would be of value in diagnosis. The latest medical litreature (Boas, *Deutsche medizinische Wochenschrift,* and Roessel, *Deutsches Archiv für klinische Medizin*) recommends a careful *chemical* search for blood in the fæces as an aid in the diagnosis of gastric ulcer.

Blood.—All the evidences of a secondary anæmia are usually very pronounced. The reduction in coloring matter and number of red corpuscles—some change in the character of the latter, with a normal leucocyte count, and the usual slight changes in the differential count.

Hoping the above is the information you desire, I am

Yours very faithfully,

FREDERIC E. SONDERN.

New York, Oct. 20, 1904.

REFERENCES.

1. *Medical News,* August 27, 1904, p. 414.
2. Finney's operation is especially adapted to those cases where "the obstruction of the pylorus is due to spasm from the presence of chronic ulcer, perhaps at some distance from the pylorus." (F. B. Lund. *Boston Medical and Surgical Journal,* September 1, 1904, p. 242.)
3. *British Medical Journal,* February 20, 1904, p. 419.
4. *The Lancet,* May 28, 1904, p. 1487.
5. MEDICAL RECORD, October 1, 1904.
6. *Medical News,* October 8, 1904, p. 683.
7. Ibid, p. 693.

THE "YOLK CURE" IN THE TREATMENT OF THE UNDERFED.*

BY HEINRICH STERN, M.D.,

NEW YORK.

WHO is underfed?—Some time ago I attempted to answer this question.† I concluded that underweight and underfed are *not* synonymous conceptions, that an individual of underweight but in metabolic equilibrium is not underfed, and that in the real underfed there is always a traceable disease or disorder which, directly or mediately, prevents normal ingestion or complete utilization of foodstuffs, giving rise thereby to bodily decline.

Does overfeeding alone avert the further deterioration or does it tend to restore lost body-substance in these instances? No,—overfeeding, on the contary, may even call forth aggravation of the patient's condition on account of overloading, overburdening the digestive organs and overproduction of alimentary poisons.

As overfeeding *per se* is not a rational therapeutic procedure, what ought we to do to prevent further waste and to cause reparation of lost body-substance? We must attempt to prepare the organism that the nutrient material is received properly, and that it is elaborated and assimilated.

It is absolutely useless to try to check bodily decline by forced feeding, without paying attention to the condition of the digestive organs and the general assimilatory qualities. As soon as the organism is able physiologically to dispose of the ingesta the tide of body-decay is stemmed in all those instances in which some digestive-assimilative disturbance, directly or remotely, stood at the foundation of the malnutrition. In advanced cachectic states, of course, when reparation of the digestive and assimilative functions cannot be any longer accomplished, body-decline will continue, uninterruptedly, as a rule.

We are wont to consider a number of chronic affections as "wasting diseases." Such pathological states, however, occasion little or no body-waste so long as the digestive and assimilative properties are maintained at or near the physiological standards. In chronic ulcerative phthisis, for instance, it is often astonishing how little loss of body-substance has occurred, even in cases which have very far progressed. In such cases, the inroads made by the disease itself are in a measure counteracted by the good digestion and assimilation.

The treatment of the so-called wasting diseases resolves itself in the prevention of waste. The secret of success in the treatment of consumptive affections lies in the proper management of the organs

*Read at the meeting of the Manhattan Clinical Society, November 4, 1904.

†Who is underfed? MEDICAL RECORD, May 21, 1904.

of digestion and assimilation. The most potent factor in maintaining physiological digestion and assimilation is an adequate food-supply, that is, a nourishment not only sufficient as regards the quantity, but one which the declining organism with the weakened or impaired organs is able to anabolize, one, in other words, which furnishes the needs of the specifically affected and altered organism. If the food is not adapted to the digestive and assimilative capacity of the patient, he will slowly starve, although his food-receiving organs may be filled with it to the point of bursting.

As a matter of course, measures other than dietary fulfil a certain, more or less important, purpose in the management of the condition of subalimentation; their specific value, however, is mostly of a negative, of a defensive character so to speak, as their application does not tend to actually overcome body-decline and much less to increase body-weight, but to a retardation of metabolic and catabolic processes.

The most rational therapy for the digestive and assimilatory apparatus of the underfed as well as for the condition of underfed, is the one in which the diet plays the most prominent rôle, that is that diet which is not selected for the disease but for the individual, that diet which is altered as the patient's condition alters, that diet, in short, which does not call forth anorexia, sitophobia, cardiac irritability, dyspnœa, or other untoward phenomena, but that diet which is the least bulky, the least burdensome to the alimentary organs, the richest in heat-units, and the most potent protector of body substance.

In the "yolk cure" we have a dietary regimen exhibiting all the advantages of a nutriment of the first order without its usual drawbacks.

Under "yolk cure" I understand a dietary regimen in which the greater portion of calories is yielded by the yolk of the hen's egg, and in which the latter forms the only fatty substance. Besides this *rigid* "yolk cure" we may speak of *modified* forms of the same. A modified "yolk cure" is a dietary regimen which is either (*a*) not a succession of "yolk days" (that is when days on which yolks do not preponderate in the diet are inserted), or (*b*) when the yolks although contained in the diet in a certain amount, do not furnish the bulk of the calories and are not the sole representatives therein of the fatty ingesta. In a majority of instances a modified "yolk cure" will be found to offer certain advantages over the strict regimen when the patient's alimentary tract is in good condition and after subsidence of the acute decline, or after the patient has started to gain in body-weight. Moreover, the "yolk cure," modified according to the individual needs and desires and remodified from time to time in accordance with the changed conditions in the organism is the only means by which a yolk diet may be continued for many months and even for years.

The yolk of the hen's egg in the raw or half-raw state is very readily digested. Experiments conducted by me in the healthy human stomach show that two raw yolks (slightly seasoned) leave the stomach in 70 to 90 minutes; three in 70 to 100 minutes; four, in 80 to 100 minutes. One yolk taken in hot water and whiskey leaves the stomach in 50 to 70 minutes; two leave the stomach in 50 to 75 minutes. One yolk taken in a cup of hot coffee (some sugar, or milk) leaves the stomach in 60 minutes; two leave the stomach in 60 to 70 minutes.

The "idiosyncrasy" for eggs which undoubtedly exists in a number of even healthy individuals, in my opinion is solely due to the white of the egg. I have never found it when the yolks only were partaken of. The white of the egg, containing the bulk of the latter's proteid substances, in the face of retarded digestion, in gastric motor insufficiency or in any other condition detaining the ingesta in the gastrointestinal canal, is liable to yield hydrogen sulphide and ammonia; the yolk which is at no time lodged in the stomach as long as the egg white, does not exhibit the elements for the production of hydrogen sulphide to the degree that the latter could call forth any untoward consequences.

Yolks are very well assimilated. This is proved by the comparatively small amount of fat in the fæces when yolks had formed the exclusive fatty substance in the diet. It is a known fact that the higher the melting point of a fat the slower and more incomplete will be its assimilation. The raw yolk, beaten up, being liquid, is quickly and almost totally absorbed. According to my own findings from 1.5 per cent. to 3.5 per cent. of the yolk-fat reappears in the fæces. The great absorbability of yolk fat will be appreciated when we understand that milk-fat reappears in the fæces of the adult to the amount of 4.4 per cent. to 6.6 per cent., and in those of the nursling to that of 5.1 per cent. to 7 per cent. The residue left by yolk-fat in the fæces is smaller than that of any other animal fat.

Yolks are well-borne and well-liked in almost any amount by almost every individual. This cannot be said of any of the other fatty ingesta. Suet, lard, and tallow are not well tolerated by the ordinary stomach in large amounts and certainly not in quantities that yield the bulk of the necessary heat-units. A great proportion of these fats, 10, 12, and more per cent., usually reappears in the fæces. Olive oil, like all vegetable fats, is not well-borne in larger than the ordinary amounts. Besides, the individual of our zone does not easily develop a taste for large quantities of vegetable oil; the acquisition of an aversion for it is much more frequently the case. Cream and butter are agreeable to the patient as a rule, but when taken in amounts to furnish the mass of body-fuel they are liable to decompose in the stomach, setting free thereby fatty acids of low molecular weight. These low fatty acids tend to derange the digestive functions and the systemic equilibrium. Moreover, they are the forerunners of the so-called acetone-bodies which, with more or less justification, have been brought into casual relationship to the coma of the diabetic and various other, apparently autotoxic, conditions.

Furthermore, the yolk of the hen's egg contains a diastatic ferment assisting in the conversion of amyloid substances. It does not exhibit the fermenting qualities of either the pancreatic or salivary starch-converting enzyme; its ferment-properties, however, are important nevertheless and should not be underestimated. Again, yolks are efficient stimulators of gastric secretion and may be looked upon in certain respects as digestants. They may be partaken of in hydrochlorhydria and in all conditions characterized by deficient flow of the gastric juice.

That lecithin is contained in the yolks is a fact too well known again to receive attention on this occasion. The ingestion of yolks hence may tend to the restoration of nerve force and the amelioration of the state of subalimentation.

An average yolk of the hen's egg contains between five and six grams of fat, representing about fifty calories. These, as we have seen, are almost totally assimilable calories. It takes, therefore, about twenty yolks to furnish one thousand and about thirty yolks to make up fifteen hundred calories. From eight to twenty calories, yielded by yolks, per day and kilogram of body-weight will be found necessary in overcoming the condition of underfed.

Yolks supply but very small amounts of nitrogen. However, it is body-albumin-saving in a much higher degree than any other article of food with which I have experimented. Of course, the excreted nitrogen while under the rigid, unmodified "yolk cure" exceeds that which had been ingested; the deficit, however, is so trifling that, practically, it does not need to be taken into account. The modified "yolk cure," on the other hand, may be so devised that the patient remains in nitrogen balance.

In a paper read before the New York State Medical Association on October 18, 1904 and published in *American Medicine,* December 3, 1904, entitled "Concerning the Suppression of the Acetone Bodies in Diabetics," I have already referred to the "yolk cure" as it should be pursued in diabetes complicated by acetonuria. I have reported some cases in which after adherence to the specific regimen the excretion of acetone substances had completely ceased and in which the glycosuria, at the same time, had diminished or vanished altogether. In all these cases, the "yolk cure" had called forth systemic and nutritive improvement, and increase of body-weight, vigor, and resistance. In one of the reported instances, that of a diabetic boy, 15½ years old, whom I presented to the association, excreting very large amounts of sugar and acetone substances, the body-weight increased, while under the "yolk cure" from 98½ pounds to 122½ pounds.* Not wishing to repeat myself I refer those interested in the treatment of diabetic cachexia by the "yolk cure" to my original article in which they will find an outline of specific technique and a number of cooking recipes for diabetic yolk dishes.

While in the strict antidiabetic regimen carbohydrates have no place at all and proteids are limited to a minimum, and while the antidiabetic, antiacidotic "yolk cure" has to conform to these restrictions, the "yolk cure" for the non-diabetic underfed does not take the question of carbohydrates and proteids into consideration. On the other hand, quantity and quality of each food-stuff have to be determined when treatment of the non-diabetic underfed is undertaken. We should ascertain whether, when, and in what amounts a certain type of food is tolerated by the stomach, to what extent the nutritive substances are elaborated during the process of digestion, and what proportion of the nutritive and calorific principles is utilized for the general processes of anabolism. This is by no means an easy task in the majority of cases of under-alimentation; a minute study of the individual digestive, elaborative, and assimilative conditions, however, is imperative if we wish to augment absolute and specific weight of the underfed individual. Simple clinical methods at the disposal of every practitioner enable him to study his patient's alimentary qualities to the extent that he can prescribe the indicated dietary regimen in many of the common forms of malnutrition. In other, rarer, cases in which clinical observation and simple diagnostic methods alone do not afford sufficient insight into the alimentary conditions, resort must be taken to more complicated methods of examination and determination. The latter, not easy of execution in many instances, are but rarely performed by the general practitioner.

One fact we may be assured of, namely, that the yolks are well-tolerated by almost every underfed individual. Yolks hence are to be the basis of the nourishment of the underfed. It is for the clinician to determine in what kind and in how much of a menstruum the yolks are to be ingested. Here it is where the difficulty arises. In some cases it will be found the yolks are best administered in milk, coffee, or tea. In others in the form of a modified eggnog. Their beneficial effect in many instances are only noticeable when they are taken together with certain carbohydrates in suitable amounts. Taken in soup or broth, together with beef, lamb, or chicken, they often give rise to bodily improvement which does not ensue in the same degree when other types of ingesta serve as vehicles. Again, in other cases, especially in those of phthisis pulmonum, an ordinary mixed diet in which the fat substances are merely replaced by the yolks, is frequently all that is necessary to stimulate the assimilative properties and to cause increase of weight, vigor, and resistance.

If a patient who is not in the last stages of a consumptive affection, does not gain in body-weight while he is under the "yolk cure," the latter as a rule is not properly executed, that is, the food which is partaken of together with the yolks is either not the right kind or is ingested in amounts not suited to the alimentary condition. While the proper kind of nutriment favors the specific yolk action, food wrong in character or amount, or in both, retards or suppresses the absorption of the yolk constituents.

On the other hand, the yolks facilitate the digestion of certain amounts of carbohydrates (diastatic ferment) and that of comparatively large quantities of proteids (stimulation of gastric secretion). They do not seem to possess properties which render other fats added to the food easy of absorption. Again, impaired fat absorption appears to be directly responsible for the underfed state in a rather large percentage of cases. As experience (fecal examinations) has shown me that yolks are almost as completely absorbed in most instances of disease followed by loss of body-weight (in not too-far advanced stages) as they are in the normal individual, all fatty substances in the food should be replaced as completely as possible by yolks. When improvement has ensued, it might not be necessary to insist upon yolks as the sole fatty nutrients in all instances; some other fats, in limited amounts may be added to the diet or what seems more rational, one or more days on which the yolks do not form an important part in the diet but on which the common fat substances are ingested in limited amounts, may be intercalated every week. On the other days, however, the yolks should continue to furnish the bulk of the heat-units or at least they should form the sole fatty matter entering the organism with the diet.

A sample of a yolk menu destined for a consumptive weighing 110 pounds (50 kilograms) whose normal weight ought to be 140 pounds (63.63 kilograms) but whose alimentary system admits the ingestion of some carbohydrates and of almost normal amounts of proteids, is given in the following. This patient should obtain food to the value of 35 calories per day and kilogram of body-weight, that is 1,750 calories in the twenty-four hours.

	No. of yolks.	Calories yielded by yolks, approximately.	Total calories approximately.
Breakfast:			
250 c.c. skim milk with 4 yolks	4	200	290
30 grams wheaten toast			75
Early lunch:			
Cup of coffee, 2 yolks	2	100	100
Dinner:			
One plate of soup, 4 yolks	4	200	225
Beef, very lean, 150 grams			125
30 grams wheaten toast			75
4 o'clock:			
25c c.c. skim milk, 30 c.c. whisky, 3 yolks	3	150	370

*The weight in the meantime has increased to 126½ pounds.

	No. of yolks.	Calories yielded by yolks, approximately.	Total calories approximately.
Supper:			
Porridge of farina or rice, 100 grams, 1 yolk, skim milk.....	1	50	350
Apple sauce, 75 grams.....			30
At bedtime:			
Night cap (90 c.c. hot water, 10 c.c. whisky, 1 yolk, teaspoonful granulated sugar)	1	50	110
Total	15	750	1,750

In a prolonged yolk diet, the proportion of the various types of nutritives may and must be altered according to the prevailing alimentary circumstances; a dietary as outlined in the foregoing, however, may be looked upon as a standard in the suitable cases. The whole eggs may be well tolerated in certain cases; when whole eggs are employed extra yolks may be added to them. In order to avoid monotony and aversion, the latter being invariably the consequence of the long-continued use of the same kind of meat or of the same kind of farinaceous material, a variety of dishes in which yolks may be incorporated should be devised.

All yolk dishes must contain salt in sufficient amounts. Flavoring and seasoning substances may be added to the various articles of food as long as there is no contraindication to their employment; it should always be borne in mind that spices are not inert substances and that their use may as well retard as increase digestive activity, as the case may be. As a general rule, patients under the "yolk cure" are not subject to obstipation. Mild laxatives may be employed in cases tending to this condition.

The "yolk cure" in its various modifications has nothing in common with the legion of unnatural and irrational feeding-systems extolled here, there, and everywhere. It is not a fad with me and I hope it will not become one with others. It has its limitations, to be sure, but if conscientiously employed in certain forms of malnutrition, it will increase the body-weight and restore bodily resistance when other dietary régimes have proved decided failures.

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TRACHOMA.

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Although a great deal has been written upon the subject of trachoma in recent years, it continues to present a fruitful field for further interesting investigations.

Trachoma is known to have existed from time immemorial. The ancient Egyptians suffered from it as long as four thousand years ago, and the eyes of well-preserved mummies of that period offer unmistakable evidence of its baleful activity. Celsus, an ancient Roman writer, has left an excellent description of the scourge as it existed some twenty centuries ago, and in no way did the malady at that time differ from that of to-day. Curious to relate, the treatment of the disease at that remote period was, in principle, precisely like that employed by many of our modern surgeons, and from the fact that the ancients endeavored to arrest the progress of the malady by surgical intervention, which in those pre-anæsthetic days must have been extremely painful, we are permitted to infer that they were prompted to have recourse to these heroic measures by a full knowledge of the disastrous consequences that are apt to follow an uncured trachoma.

It appears that the disease had its origin in the sandy plains of Egypt, and from the fact that it is more prevalent in that country than in any other part of the globe, it has been termed "Egyptian Ophthalmia." With the improved facilities for traveling, the disease has found its way throughout the world, but nowhere is it as troublesome as in the land of its origin. So contagious is the affliction in Egypt that but few of the natives escape an attack, and trachoma alone is responsible for the extreme prevalence of blindness which forces itself upon the attention of travelers in the Holy Land. During the hot and dry months of July and August, when the intense heat of the day and the blinding rays of a scourging sun unite with the heavy night-dews in their relentless action upon the tender organism of the eye, the most violent outbreaks will occur, and, to make the distress complete, the desert liberally furnishes that irritating, fine sand, which, by the agency of a hot wind, is as rapidly as surely adding to the tortures of the already overtaxed eye.

Like most contagious diseases, trachoma flourishes where the rules of sanitation are neglected. The unhealthy state of the dwellings in Egypt, together with the sparing use of water for cleansing purposes, are the principal factors that favor its continued activity in that country. That cleanliness is the keynote to its prevention has been amply proved by the fact that, in those parts of Egypt where Europeans have taken up their abode and taught the natives the habits of that virtue which is next to godliness, this dreaded eye disease does not assume the dangerous form that it does elsewhere in the same country.

When we consider the highly contagious nature of granular lids and the rapidity with which the contagion spreads, we can readily understand that it assumes the proportions of a veritable scourge in countries where it is endemic. The transmissibility of trachoma is of such alarming portent that the United States Immigration authorities have classed it under the head of "dangerously contagious diseases," since the ocular defects which it is apt to produce are liable to render the sufferer a public charge.

A characteristic feature of trachoma is the epidemic form which it assumes from time to time, particularly when the summer is unusually dry and warm. The earliest epidemic of which we have an authentic account occurred in Europe in the twelfth century, when it was introduced from the Holy Land by crusaders, who had contracted it while warring with the Saracens. Ever since that time Europe has been the scene of periodical epidemics of varying severity, which have swept over the densely populated portions of that continent like huge tidal waves, leaving suffering and blindness in their wake.

Perhaps the most disastrous epidemic that ever invaded Europe raged in the beginning of the last century, when the malady was brought from Egypt by the soldiers of Napoleon. In 1798, when Napoleon opened his Egyptian campaign, no fewer than 20,000 of his troops contracted the dreaded Egyptian scourge. The men suffered so intensely that for a long time they were unable to use their eyes, many of them becoming blind. This incapacity of the men has indeed been held largely responsible for the failure of Napoleon's Egyptian ventures. These soldiers, when recalled to Europe a few years later to take part in the extensive Napoleonic wars then raging, disseminated the disease in every country they invaded. This particular epidemic was so violent and destructive in character that it did not begin to subside until the lapse of thirty years, and it is estimated that fully a million people contracted the disease.

The recent epidemic in New York City has been

ascribed to the extensive immigration of Russians and Roumanians to the lower East Side. The habits and surroundings of these people are decidedly unhygienic and furnish all the elements favorable to the propagation of a contagious disease. The apartments of these people are crowded and ill-ventilated, the bath-tub is unknown, one wash-basin and towel serves for the whole family, and the food is anything but wholesome.

The principal sufferers of the New York epidemic have been children. In some of the public schools as many as twenty per cent. of the children had some form of ocular defect that was traceable to granular lids. Notwithstanding the energetic measures taken by the health authorities to eradicate the disease, there are still many cases that have escaped detection.

Trachoma is an inflammatory and slowly progressing disease, in which the inner surface of the eyelids is studded with small elevations or granules. Like all true hypertrophies, trachoma runs a definite course. It progresses up to a certain point, then the inflammatory action subsides and retrogressive changes occur, during which the granules atrophy and finally disappear entirely. Unfortunately, this absorption of the granules does not cure the disease, for the conjunctiva, instead of resuming its normal state, is replaced by dense scar tissue, which shortens and contracts the lids, leading to consequences decidedly more troublesome than the original granules. Usually there is a direct relation between the severity of the primary, morbid process and that of its sequelæ, and from three to ten years elapse before all the changes that take place in a trachomatous eye have made their appearance.

The course and character of the malady are greatly influenced by racial conditions, climate, and environment. In New York City, the principal sufferers are children of Jewish and of Irish extraction. Very few negroes contract the disease. It is noteworthy that the right eye usually fares worse than the left, probably because, being nearer the right hand, it is rubbed and irritated more frequently than its fellow.

Most of the patients are boys, and those between the ages of ten and fourteen experience the greatest inconvenience, because at that period the eyes are first used in hard and earnest study. When a girl contracts the trouble, the attack is usually a mild one and devoid of serious consequences. One reason why boys are the principal sufferers is doubtlessly because they are less cleanly in their habits than girls. Many boys do not possess a handkerchief and acquire the habit of wiping their watery eyes with hands not overclean. During warm weather the rapid spread of granular lids is readily accounted for by the frequency with which boys patronize that potent disseminator of contagion—the public bath. Although the disease is more contagious during the summer than the winter months, it is decidedly more troublesome during the latter, the symptoms being aggravated by the cold and damp winter weather.

The infecting element in trachoma is the secretion which, evidently, contains a specific microorganism that sets up the disease by being transferred from one eye to another. This implies that trachoma is contagious from the time the eye begins to discharge up to the time the secretion dries up—a matter of a year or more in most cases. The infection, the sources of which are numerous, may take place through the medium of the finger, a towel, a handkerchief, or any other article brought in contact with the eyes. Experimentation has shown that the secretion from a trachomatous eye, like gonorrheal pus, has no effect whatever when introduced into a healthy eye, and that there must be an abrasion or inflammation of the conjunctiva in order that the infection may find a fertile field. As long ago as 1816 Mackenzie, a Scotch oculist, by way of experiment, applied to his own eyes compresses soaked in trachoma secretion, but, being in good health, proved immune against the disease. A few years later, in 1820, a French oculist experimented on five boys who were hopelessly blind from amaurosis, but who had healthy lids. He introduced the trachoma secretion into their eyes, but in every case the result was negative. When, however, the secretion is applied to a lid that is congested, or in which there is an abrasion, it seldom fails to produce the disease.

When trachoma attacks an eye, it sets up a low grade of inflammation. Autoinfection quickly follows, and one part of the conjuctiva after another becomes inoculated until the activity of the disease has reached its climax. As the inflammation advances, it extends down to the lymph glands, and these glands, which in health are invisible, now become hypertrophied and project through the conjunctiva like balls of fine shot.

That the granules in trachoma have nothing in common with the granulations of wounds excepting appearance, is proved by the construction of the conjunctiva and the nature of the disease. No mucous membrane throws out granulations unless its susface has previously ulcerated, and in trachoma there is no true ulceration. If these trachoma granules were true granulations, adhesions between the lids and the globe would be of frequent occurrence, whereas they are not.

We often see cases of so-called mild trachoma, in which the symptoms are slight, showing fine, velvety granules and scant secretion. These are really cases of follicular conjunctivitis, a harmless, catarrhal disorder of the lids, in which no part deeper than the conjunctiva is involved. These elevations, which are extremely vascular, readily bleed upon manipulation. They give the conjunctiva a red, velvety appearance, instead of the grayish frog-spawn appearance of a trachomatous lid. With proper treatment there is everything in favor of a satisfactory cure within a few weeks, and when recovery takes place, there are no cicatricial or other destructive changes.

Of true trachoma there are two varieties, the acute and the chronic. Most of the cases that apply for treatment are of the chronic variety and evidently have existed for months and even years before they come to us. Usually the disease advances so slowly, and the symptoms at first are so slight, that no attention is paid to them; and it is not until the granules become at all numerous and troublesome, or until the eyes are accidentally inspected, that the true condition is brought to light.

The extent of the trachomatous involvement is not always commensurate with the severity of the symptoms, for frequently the lids are found densely covered with granules, and yet no uneasiness is experienced. On the other hand, a few scattered granules may cause considerable distress. This may happen either in the case of the lids sitting too closely upon the eyeball, enhancing the irritation of the granules, or by poor health of the patient, which magnifies the distress.

There appears to be a direct connection between granular lids and adenoid growths. It is a clinical fact that most children suffering from trachoma also have adenoid vegetations in the nasopharynx. Since both conditions are dependent upon a strumous or lymphoid diathesis, it is quite likely that the same cause is operative in the production of both conditions.

In the early, or inflammatory, stage of trachoma, the granules are accountable for the symptoms, while in the late, or cicatricial, stage, the scar tissue is the offending agent. In both instances the free movement of the globe is interfered with either by the granules or by scar tissue which act as foreign bodies and set up a mechanical irritation.

Patients with trachoma frequently complain of having sand in the eyes; the lids feel stiff and heavy, and the eyes burn and itch. The sensation produced by the granules is by no means painful: it is an uneasiness that irritates and tires the eyes and makes them sensitive to light. When the irritation is severe, an active mucopurulent discharge is thrown out, the lids are swollen and tender, the eyeball is inflamed and the patient holds down the head to avoid the light. The lids are drooping, partly to shut out the light and partly owing to the congestion and weight of the lids.

When the lid of a trachomatous eye is turned over, the conjunctiva is found thickened and thrown into folds that resemble a cock's comb. The color is deep red in recent cases and grayish in advanced cases, and the surface is covered with masses of granules that appear like warts or frog-spawn. It is particularly in the depressions, or culs-de-sac, of the lids, that the granules are large and numerous. The fact that trachoma usually begins in the lower lids explains why, as a rule, more granules are found there than in the upper lids, but sometimes the latter are in a worse condition. This shows the necessity of thoroughly everting the upper lid when inspecting an eye for signs of trachoma.

Frequently trachoma is accompanied by an ulcer of the cornea, a decidedly troublesome complication. The action of the roughened lid upon the eyeball is purely mechanical, but the irritation it sets up is sometimes so severe that the cornea is completely destroyed and blindness follows. When the cornea is attacked in trachoma, its epithelial layer is first detached by the friction of the lids, and the cornea loses its polish. The process of destruction is then hastened by the corroding action of the discharge, and the cornea becomes ulcerated. Whenever, in the course of trachoma the cornea becomes involved, the case is a serious one, for rarely does an ulcer heal without leaving an opacity behind that impairs the sight. The danger is the greater if the ulcer is deep or is situated near the center of the pupil. Corneal involvement is mostly found in individuals with prominent eyes or closely fitting lids, or else in persons in poor health or with a faulty diathesis.

Another morbid and highly undesirable process that is apt to occur in trachoma, either alone or in conjunction with a corneal ulcer, is pannus, an affliction in which a highly vascular membrane creeps down from the upper lid and usually stops abruptly when it has covered the upper half of the eye. The membrane is situated beneath the conjunctiva, giving the eye an inflamed and clouded appearance and obscuring the sight in the upper half of the pupil. Pannus frequently occurs without any apparent or known cause, even during treatment, and in this way it can in a short time destroy the result of months of treatment. With appropriate attention a pannus of recent origin may undergo complete retrogression, and the cornea may acquire its normal transparency, which is more than can be expected after the healing of a corneal ulcer.

It is particularly in the late, or cicatricial, stage that we encounter the many troublesome sequelæ for which trachoma is noted. The prominent cicatricial changes that follow the absorption of the granules never fail to tell of the previous existence of the trachomatous process. Through the contraction of the scar tissue the lids become shortened and inverted, frequently destroying the integrity of the cornea and interfering with the free movement of the eye.

The treatment of trachoma consists in removing the granules, which is accomplished either by surgical means or by the use of astringents. The astringents commonly employed are copper sulphate, silver nitrate, and mercuric chloride. Silver has the feeblest action and therefore is borne best. Copper, being applied in bulk, has a strong cauterant action, but its application is painful. Bichloride stands between the two and, in many respects, is the most satisfactory agent. In acute cases in which the granules are vascular and the secretion abundant, a 2 per cent. solution of silver nitrate or a solution of one of the organic silver salts, or a 1-1000 solution of bichloride will often remove the granules. For home use, citrate of copper ointment, 15 grains to the ounce, can be prescribed. The complications that result from trachoma, such as corneal ulcer, pannus, etc., are best treated by eradicating the source of the trouble—the granules.

When the trachomatous process is well established, the non-surgical method of treatment is tedious and unsatisfactory. The main objections to the use of astringents are the great length of time necessary to effect a cure and the pain attendant upon this course. When caustics are used, sufferers soon lose their patience and discontinue treatment as soon as the urgent symptoms have abated. This lack of completeness in the treatment of trachoma is accountable for many relapses.

Only those cases of trachoma that undergo early treatment before the cicatrices are formed, can be completely cured. The most that can be done for advanced cases is to arrest the progress of the disease and so prevent the troublesome sequelæ.

The only satisfactory way to treat trachoma is by surgical procedure. The operation most in vogue is that of expression, which is accomplished with Knapp's roller forceps or with Noyes' angular forceps. If the conjunctiva is dense and firm, it is necessary to scarify it before the granules can be readily expressed. The operation of expression is extremely painful and is usually done under ether, a procedure to which many parents object. For this reason many prefer to have their children treated with the tedious and uncertain astringents. It was to overcome this popular prejudice against operating that I substituted cocaine anæsthesia for general narcosis. The treatment of more than a hundred cases by this method justifies my belief in its efficacy. Cocaine expressions are attended with no pain, and but few sittings are required in order to effect a cure.

Complete local anæsthesia is obtained by rubbing into the conjunctiva a 20 per cent. solution of cocaine and applying to the lacrymal opening some vaselin to prevent the escape of the cocaine into the nose. As soon as the lid is insensible to pain, it is grasped with an expressing forceps and, with a stripping motion, repeatedly executed, the granules are crushed. The operation should be sufficiently energetic to obliterate the granules, without causing an undue reaction, otherwise adhesive bands may unite various parts of the bruised conjunctiva, and the contraction of the lids that follows acts precisely like the shortening produced in the cicatricial stage of trachoma. This is one of the things to be prepared for, when removing all the granules at one sitting. It is preferable not to attempt too much at one time.

After the squeezing a 1 per cent. solution of silver nitrate or a solution of an organic salt of silver can be rubbed into the conjunctiva, and the patient in-

structed to call again as soon as the soreness has left the lids.

Inasmuch as trachoma is usually found in children in poor health, it behooves us not only to apply local treatment, but to attend to the general health as well. Plenty of outdoor exercise is necessary, together with a liberal supply of milk and eggs and other wholesome food, and possibly cod-liver oil or syrup of the ioxide of iron internally.

The personal hygiene of the sufferer should be improved wherever feasible, and in order to prevent the spread of the disease, all the conditions that syrup of the iodide of iron internally.

Institutions for children should be frequently inspected, special attention being directed to the eyes, to the sanitation and to the food; and the inmates should be cautioned against using the towel, washbasin, or other individual article of another child. Children that have granular lids should be kept apart from the others, until the lids are entirely well.

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THE PRESENT ATTITUDE REGARDING THE TREATMENT OF PROSTATIC HYPERTROPHY.*

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As late as fifteen years ago, no other relief of the symptoms caused by enlarged prostate was taught to be justifiable than the use of some form of catheter in the hands of the invalid or his attendant, and our teachers then pointed with pride to that triumph of the methods of a surgical antisepsis then in vogue, which made it possible for an occasional victim to eke out a catheter life of one or more decades. Up to this time and thereafter an occasional departure marked the evolution of the surgery of the prostate, but all failed, in that *sine quâ non,* that they were wanting in anatomical foundation. When this was supplied it lay in the nature of things to see a rapid development of a well-planned operation, such as a shelling out of the prostate, by either the perineal or the suprapubic route. Success has marked the removal by either or both combined, and the strife is on, as to which is the best method. We can cite an analogous contention waged between the adherents of perineal or suprapubic lithotomy, and in a like manner between those who contend that the fibroid or cancerous uterus may be removed by laparotomy or per vaginam. These analogies ought to suffice to show that the prostate may be removed either way, but modern surgery demands respect for anatomy, and every stroke of the knife must reveal anatomy, nor must the laws of physics be neglected in an operation. Mindful of these two ends, the perineal route, with the various mechanical aids for bringing the prostate into view, deserves the lead, and all the more so since the integrity of the sexual function can be maintained by sparing the seminal vesicles and the ducts opening into the prostatic urethra, which are often sacrificed in the suprapubic operation. These factors tend to establish the perineal route as the operation of choice, but there are findings at times, which must needs make the suprapubic operation one of necessity. The presence of a calculus, however its presence may be recognized, certainly calls for the suprapubic incision, as does the presence of a large diverticulum or vesical hemorrhage.

On the other hand, the perineal route is one of absolute necessity, when there is suppurative inflammation of the prostate or diseased conditions of the urethra, such as stricture or perineal extravasation. A cystoscopic examination should be part of the routine in studying every case of prostatic enlargement. The size and consistence of the prostatic enlargement may determine the method of choice. Thus if the growth is largely vesical and moderately perceptible to rectal palpation the suprapubic incision is better. If the prostate is beyond reach, by rectal examination, owing to the narrow pelvic outlet, *sectio alta* is better, and the same holds good for some exceedingly stout patients when access to the prostate from the perineum is difficult, owing to the great development of fat. If the residual urine be not great and other factors demand intervention the perineal route should be preferred because of the small capacity of the bladder, which would limit the manipulations of the hand. The presence of a bilateral hernia and of enlarged abdominal veins would oblige us to attack the prostate from the perineum.

From total abstinence in the surgical treatment of the prostate, the pendulum has swung at the present hour to the extreme of operating in every case. It behooves us, therefore, to try to formulate exact indications for operative intervention. When absolute retention can not be relieved by catheter, or there are intravesical hemorrhages, certainly the patients are benefited more by a radical operation than by temporary suprapubic puncture. Nor can there any longer be a question of operation when a stone coexists. An individual septic from the foul condition of the urine, infected by long badly performed catheterization, is eminently in need of an operation. This then narrows us down to the individual afflicted with the first signs of prostatic enlargement. Shall he be condemned to a long siege of catheter life and its pitfalls, or forthwith be subjected to the chances of an operation. I should in such class of patients draw the line as to social conditions, and when these are of the highest order advise a carefully conducted catheterism by the physician, and upon the slightest evidence of deterioration in the status of the patient advise operative intervention. In the lowest walks of life an operation at all times is to be endorsed for economic reasons, and because of the deplorable lack of sanitary conditions. The wish to dispense with catheterization may come from the patient. We can then hold out to him the chances of an operation, provided his physical condition warrants. When such complications weigh against the performance of an operation of the magnitude of prostatectomy we may still offer the patient the benefits of Bottini's operation. Very rarely shall we be called upon to establish permanent suprapubic drainage with a watertight fistula. The catheter *à demeure* also has a very useful mission to fulfil, to be used both in lieu of very frequent catheterization, when the introduction is attended each time with great difficulty and pain, and also in the treatment of the cystitis, prior to one or other of the operative measures. In view of the bad showing made by vasectomy and the very great risk incident to ligation of the internal iliacs, no cognizance should be taken of either of these any longer. Such patients, with infected bladders, who submit themselves for any of the operative procedures, who have not received the direct personal attention of a physician in the matter of catheterization and disinfection of the bladder, must needs undergo preliminary treatment supplemented by cystoscopy, unless it be that one or more of the accidents peculiar to prostatic hypertrophy show themselves to such an extent that the operation grows forthwith to be an emergency procedure. In the performance of the operation the choice of the

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method of anæsthesia must be wholly in accord with the physical condition of the patient. In skilful hands a rapid removal of the gland will be possible under the influence of the nitrous oxide gas in the vast majority of instances. Spinal anæsthesia may be effectually used at times, and chloroform will be necessary when either of those mentioned is contra-indicated.

We do not purpose going into the details of the treatment after prostatectomy, but the impression should not prevail that even the most thorough removal of the gland relieves the patient at once of any further needs of the catheter. The brilliancy of a prostatectomy performed within a few minutes is eclipsed in the eyes of the patient by a somewhat protracted after-treatment. As a rule, the patient derives the full benefits of the operation within two or three months of its performance. The maintenance of the sexual function is more likely, when the prostate is exposed by the perineum, as the seminal vesicals can certainly be spared. The uninterrupted flow of urine rendered possible by the removal of the prostate will cure the cystitis and reduce the frequency of micturition, particularly the nocturnal. On the other hand, when there are complications of atony of the bladder, large diverticula, and infections of the kidney, good end results will be difficult to attain.

The Treatment of Dysentery.—Joseph Herbert Ford distinguishes two sharply defined varieties of dysentery—the one caused by the Bacillus dysenteriæ, the other supposed to be caused by the Amœba dysenteriæ. Clinically, each of these is divided into the two sub-varieties—acute and chronic. Besides these, must be considered mixed infections by both of these organisms. These last varieties are of great importance but are seldom recognized. The frequent occurrence of the mixed infections is noted especially in cases following a chronic course, for then the bacillus is found in the stools only when the disease is undergoing an exacerbation, and thus examinations made for it at other times—the results being almost invariably negative—have led to erroneous conclusions. Doubtless the bacillus, like the amœba, remains quiescent in the intestinal walls till it is aroused to activity by some unfavorable circumstance. The prophylactic treatment of dysentery consists in the use of pure water, the avoidance of any polluted food, and of unripe fruit which might cause catarrh of the stomach or intestines and so temporarily lower the vitality of these organs. The best general hygienic precautions should be observed in regard to the dwelling house. When a patient is suffering from the disease, the most careful attention should be given to everything connected with the sick room, especially to the bed and bedding and to the dejecta of the patient. In the case of acute bacillary dysentery, the specific treatment consists in the hypodermic injection of the appropriate antitoxin. The dose is 10 c.c. and should be repeated daily, or even oftener if required. Infection by one type of the B. dysenteriæ does not yield to treatment by the antitoxin developed from the other. To avoid this difficulty, a serum is now developed from both these types of balicci—acid and alkaline. The writer has had the most gratifying results from the use of anti-dysenteric serum in acute cases. Of medicines given by mouth, the saline laxatives give better results in the United States and in the Philippines than do any other drugs. The oil of turpentine is very serviceable, especially in cases in which there is pronounced tympanites and great prostration. As an injection per rectum, olive oil gives the best results in acute bacillary cases. It acts as a sedative to the inflamed surface and removes mucus better than does any other agent. Milk is excellent in these cases when olive oil is not at hand, and may be mixed with egg albumen and a faintly acid antiseptic. Potassium permanganate is probably the best of this class. In acute amœbic dysentery, the only beneficial treatment per os is eliminative. The use of salines is here indicated. Eucalyptus gum in solutions of from 0.1 to 0.4 per cent, injected 3 or 4 times daily, is the most valuable drug for use per rectum in cases of acute amœbic dysentery. It is an astringent as well as possessing antiseptic and amœbicidal properties. Its solution is acid in reaction which is prejudicial to the amœba. This drug is much superior to quinine, but if it cannot be obtained quinine should be used in solutions of 1 per cent. twice or three times daily. The quinine solutions usually employed are entirely too weak to be efficient. In the acute mixed infections, treatment per rectum is most important. Eucalyptus gum in solution of milk and olive oil give the best results. Olive oil gives better results in bacillary cases and in mixed infections than in those of purely amœbic origin, and in acute rather than in chronic infections. The best prophylaxis of chronic dysentery consists in the exercise of great care during the course of convalescence from the acute form. The physician's observation is necessary for several months after all symptoms have subsided. Chills must be carefully avoided. An abdominal binder should be worn. In cases of chronic bacillary dysentery, the most valuable drug for use in enemata for routine employment is oil of gualtheria in solutions of from 0.05 to 0.2 per cent. Antitoxin is of some value in these cases, but it never gives the satisfactory results following its use in acute cases. In cases of chronic amœbic dysentery, no drug can equal eucalyptol for use in enemata. It is intensely toxic to bacteria and protozoa and is a stimulant to chronic ulcers, and controls any catarrhal process in the large intestines. It has a general tonic influence on the small intestines and promotes digestion. Surgical treatment of the chronic ulcers has in a few cases been successful. A line of treatment which meets with success in one locality does not necessarily have the same results in another, as has been proved. The writer has given the results of his observations in the treatment of cases in the United States and in the Philippines.—*The Journal of Tropical Medicine.*

Fractures Treated by Electricity.—Francesco Blasi has made interesting experimental and clinical researches on the treatment of cases of fractures, in rabbits and in man, by different forms of electricity, in conjunction with immobilization. Rabbits were placed under the same conditions, and then a fracture of both bones of the forearm produced. This was immobilized, and the electric current was applied to the limb daily. Galvanism, faradism, and static electricity were all tried, and in another series of cases no electrical treatment was given. In the rabbits the galvanic current reduced œdema very rapidly, there were no signs of suffering, and after the apparatus was removed the animal walked and ran well at once. The other forms of electricity seemed beneficial to a less degree, and there was some limping after removal of the bandages. The formation of callus was more rapid and greater under galvanism. Four cases in man were treated, one of over a month standing without any tendency to union. In this case the patient was cured in about three weeks from the beginning of electrical treatment. The other cases all did well. His conclusions are: 1. Galvanic electricity is beneficial to fractures. 2. It favors all the conditions necessary to the formation of a callus. 3. It reduces to a minimum the period of functional incapacity. 4. No strong apparatus for immobilization is necessary, simply a temporary splint and bandage. The most noticeable thing was the absence of atrophy and disability after removal of the bandage.—*Annali di Elettricità Medica e Terapia Fisica,* October, 1904.

Untaxed Wood Alcohol.—Because wood alcohol is untaxed, and is sufficiently like grain alcohol to be substituted for it without easy detection by the inexpert, an enormous fraud is perpetrated all the time on the users and consumers of alcoholic preparations.—*Philadelphia Press.*

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THE HOSPITAL PROBLEM IN NEW YORK.

HOSPITAL Saturday and Sunday fell this year on December 24 and 25, and collections for the support of the hospitals were taken up at the services on those days in most of the synagogues and churches in New York. In addition to this, employers of labor and the various trades, through their unions, have been asked to contribute to the fund, in return for which the hospitals will provide for treatment, if necessary, for any member of a contributing union or for any one recommended by a contributing employer. Last year the amount contributed by the churches was $15,672, and by the collections made in the trades and professions and upon the various Exchanges through auxiliary committees and by means of subscription lists, enough was realized to bring the grand total up to $75,670—less than $3,000 more than is needed to make up the deficit in one hospital alone of the fifty in this borough.

A year ago Mr. Frank Tucker, vice-president of the Provident Loan Association, called attention to the fact that twenty of the private hospitals in this borough were running at an aggregate annual deficit of nearly half a million dollars—a condition which clearly cannot continue indefinitely. Assuming that this deficit is unavoidable and cannot be reduced by any economies consistent with the proper conduct of the hospitals, either the charitably disposed must respond with much greater liberality than in the past to the appeals of the hospital managers, or the hospitals must close their doors. To meet the difficulty Mr. Tucker has suggested that an endowment fund of $10,000,000 be raised, the income of which should go to supplement the incomes of the hospitals in this borough. This suggestion he renews in an article in *Charities* of December 17, in which he reviews the report of the Presbyterian Hospital, which shows a deficit for the year past of $72,936, in spite of the fact that the institution received and applied toward maintenance $45,603 in legacies. Mr. Tucker shows that the hospital has been meeting about the same deficit for some years past by drawing on its endowment fund, with the result that out of a total of $651,600 received in endowments, $370,000 has been spent, leaving only $281,600 to meet deficits in the future. With an average annual deficit of $70,000, it is pointed out, a radical change in the hospital's policy must take place within four years unless it receives some unusual gift or legacy.

This condition, he says, is not peculiar to the Presbyterian Hospital, but is common to the greater number of private and quasi-private hospitals in the city. He asks where the remedy is to be found, and concludes that relief must come from some hitherto untried measure entirely distinct from the present methods of raising money. Taking the Presbyterian Hospital as a type of all the others, it is shown that the management is economical, every effort is made to collect a fair charge from patients who are able to pay, the managers give liberally themselves, and use every legitimate influence to induce others to contribute, and yet there is an annual deficit of over $70,000. Where is the remedy to be found? Mr. Tucker again answers the question by urging "the raising of a large endowment fund, the income to be used in supplementing the present incomes of the group of New York hospitals which find themselves in the same financial condition as the Presbyterian, the fund to be administered by an independent board of men and women selected for their knowledge of social conditions."

We would not say or do anything to discourage the raising of a ten-million-dollar fund for the support of the hospitals, and we wish Mr. Tucker a full measure of success in his endeavor to secure it, but any relief which such a measure would afford could only be temporary. Unless hospital managers have less of human nature in their composition than other men, the existence of this large sum earning interest for their benefit would not stimulate them to the practice of greater economy, and the probability is that the income from the fund would soon be found inadequate to meet the growing financial wants of the beneficiary hospitals.

The problem will never be solved in this or any other way which takes no account of medical public opinion. What the hospitals need more than endowments, and more than annual subscriptions, and without which they will always be in financial straits, is the sympathetic approval and moral support of the medical profession. These they unfortunately have not. The great majority of practising physicians in this city to-day are, if not actively antagonistic, at least coldly indifferent to the welfare of the hospitals under private management, and would view with complacency the closing of their doors in consequence of lack of funds. These medical men do not deny the good done by a hospital such as the Presbyterian to the sick poor, or the educational advantages it offers to the young graduate on the house staff, but they regard it (we speak of the Presbyterian Hospital only as a type, and because Mr. Tucker made its financial needs the text of his appeal for a guarantee fund), whether rightly or wrongly, as a close corporation run in the interests of the select few comprising its visiting staff, and working injury to the great mass of practitioners whose patients it takes away. It must be admitted that there is some foundation for this general antagonism to the non-municipal hospitals among the profession, and there is no doubt that the hospitals are themselves in great measure to blame for the existence of this feeling. A more liberal policy toward the general practitioner, who would often gladly secure for his patient the benefit of hospital care if it were not that he must thereby of necessity lose the "case," and a stricter compliance on the part of the hospital authorities with the ethical rule which governs the transfer of a patient from

the care of one practitioner to that of another in private life, would go far to modify medical public opinion which is now by no means friendly to the hospitals under private management in this city.

A PERMANENT TUBERCULOSIS EXHIBIT.

The great success of the tuberculosis exhibit in connection with the meeting last year at Baltimore has naturally suggested the advisability of making a permanent exhibit of this kind. New York should naturally take the lead in this, for it was the pioneer city in many directions in starting the present crusade against tuberculosis. It has been surpassed, however, by other municipalities in certain departments of the propaganda, notably by Berlin, which has established within the last two years such a permanent exhibit. It is designed especially for the laity, but it finds its most appreciative visitors among physicians and those engaged in the work of social betterment. In a health talk before a lay society recently, Dr. James E. Newcomb, of this city, gave a general description of this exhibit, from which we learn the following details:

In the western part of the city (Charlottenburg), easily accessible by many lines of urban transit, a large building has been erected which is officially known as the "Permanent Exhibition for the Welfare of the Working Classes." It contains all sorts of safety machinery and apparatus for the preservation of life and limb among the artisans. The tuberculosis exhibit is placed in a commodious hall in the front wing of the building, and is in charge of Dr. Arthur Kayserling, who is the Secretary of the International Tuberculosis Society and editor of its journal.

The museum contains various graphic and statistical charts illustrating the ravages of the disease, models of the respiratory system, and of other organs most commonly affected, collections of sputa receptacles gathered from various countries, models of disinfection apparatus for rooms, dishes, furniture, clothing, etc., portraits of men who have been or still are actively identified with the crusade, culture tubes showing the methods of studying the bacillus, charts showing the effect of good housing in reducing the amount of the disease, and the nucleus of a good library. Over the main entrance to the hall is a large map giving the names of the countries belonging to the International Society, each with its national seal and date of admission. At the time of Dr. Newcomb's visit the list was as follows: Belgium, Denmark, Germany, England, France, Italy, Norway, Austria, Portugal, Russia, Sweden, Spain, Hungary, Uruguay, Argentine Confederation, and Switzerland. It was a matter of both surprise and regret, the lecturer said, not to see the name of the United States, but Dr. Kayserling informed him that the organization of our new national society, effected last summer at Atlantic City, would doubtless be soon followed by formal application for admission to the international organization. The museum also contains models of various sanatoria, and of their detailed construction, of shelters, beds, sleeping bags, improved tenements, devices for illustrating proper ventilation, and related matters. Scattered around are various cards, charts, etc., each containing some aphorism impressing on the visitor the fact that tuberculosis is a communicable, preventable, and curable malady.

The museum is opened on certain days at certain hours, on one or two evenings, and for several hours on Sunday, so that all persons interested can visit it at a personally convenient time. Up to date the installation of exhibits has cost only about fifteen hundred dollars, and such care has been taken in the purchases that good value has been secured for the monies expended.

The general impression made on the visitor is most satisfactory. Upon him is most strongly impressed the fact that the doing for the patient of the right thing at the right time yields most satisfactory results. No attempt is made to exploit any of the disputed questions relative to the pathology of tuberculosis. It is useless to bring before the laity any of the various scientific problems of the crusade, so long as the conditions governing them are but imperfectly understood by physicians themselves. To mystify the question in the minds of the public by continual references to peculiarities in the life history of bacteria is to stray on ground where we are not sure of our own footing. The lay mind becomes confused from inability to follow the lines of argument advanced and suspects that the whole matter of germ life is thereby discredited. The Berlin exhibit wisely keeps to the main proposition that tuberculosis is a communicable, preventable, and curable disease.

We would recommend the establishment of such an exhibit to the serious attention of our local authorities. The expense involved in assembling it would be trifling in comparison with the benefits to be secured. It might be housed in some one of our public buildings connected with the Health Department, and it would be most advisable to secure the cooperation of the Committee on Tuberculosis of the Charity Organization Society, which has amply justified its formation. We can think of no other method by which the expenditure of so small a sum as that named above would accomplish so much good.

Wounds of the Ureter.

In the *Journal of the Association of Military Surgeons* for December, Dr. G. T. Vaughan discusses this subject in connection with the report of two cases of gunshot wound. The rarity of gunshot wound of the ureter is indicated by the author's inability to find more than one authenticated case on record. Previous to 1877 division of the ureter was usually treated by removal of the corresponding kidney, and even as late as 1893 Hermann Thompson states that in ureteral lesions, a complete cure is obtainable only by such removal. Yet as far back as 1877 Tauffer had done a successful ureterovesical anastomosis, and in the year Thompson wrote the second successful operation was done by Novaro. The enormous increase of intra-abdominal surgery of late years has resulted in a collection by Bovee of 111 cases of ureterovesical anastomoses, with but 7 deaths. To these Vaughan now adds two cases, both successful. The author concludes that this operation is indicated whenever the lower part of the ureter has been divided or resected, and the proximal end is long enough to reach the bladder. He believes it is to be preferred to any of the methods of uretero-ureteral union which have so far been suggested or practised, for the reasons given by Baldy, which are that, first, it is much easier of performance; secondly, it is less likely to be followed by stricture; and, thirdly, in case a stricture does form, it is more accessible and more easy to treat.

The Addition of Bicarbonate of Sodium to an Infant's Food.

The adulteration and preservation of food by chemical means are matters which are being widely agitated at the present time. The general consensus of opinion with regard to adulteration is that the practice should be prohibited. With respect to the addition of chemicals to preserve food, opinions are somewhat divided, but it would seem that a stand is to be made against the indiscriminate use of so-called food preservatives.

Dr. Godfrey R. Pisek writes in the *Archives of Pediatrics* for November upon a phase of the food preservative question of which little notice has been taken. Many of the textbooks state that, in order to overcome the difference between breast milk and cow's milk, one to two grains of bicarbonate of sodium should be added to each ounce of the infant's food. "A young infant taking twenty ounces of food would receive forty grains of bicarbonate of sodium or two ounces of lime water, which contain not far from one and a half grains of calcium hydrate. The forty grains of bicarbonate of sodium will neutralize about eighteen grains of absolute hydrochloric acid and the two ounces of lime water about one and a half grains, or about one-twelfth as much. . . . The food for an infant taking only twenty ounces would probably not contain more than 0.75 to 0.8 per cent. proteids; about one-fifth of it would be milk. In other words, there would not be more than four ounces of milk in the mixture. If the diluent was water, it would not be acid, and therefore only the acidity of the milk would have to be overcome. This leaves forty grains of bicarbonate of sodium to four ounces of milk. In short, there is added to fresh cow's milk two and one-half times as much bicarbonate of sodium as would be needed to neutralize it if it was sour."

The writer holds that the gastric juice of an infant's stomach is not nearly sufficient to neutralize the amount of bicarbonate of sodium added to the food, and that in other respects the addition must tend to prevent gastric digestion.

The Catholic Physician.

A paper bearing this title was read by the Rev. Charles Coppens, S. J., before the Medical Section of the Second Australian Catholic Congress, held recently, and is reprinted in the St. Louis *Review* of November 3. The author lays stress upon the fact that a great responsibility weighs upon the conscience of the physician for the proper performance of his professional duties, but he also argues that a medical man has no right, in certain cases, to act as master of life and death. In the case of pregnancy, in which the physician concludes that in order to save the life of the mother, the child must be sacrificed, the author contends that such a procedure is unjustifiable, and that consequences must be left confidently to God. Under no circumstances, thinks the author, should abortion be performed. It is asserted that the medical profession has not only failed to exert its influence as it could and should have done to check this evil, but it must bear the blame for having encouraged and promoted the abuse. The paper goes on to say that in many families in the United States there are few or no children, partly because physicians pronounce themselves as opposed to large families.

The paper offers the opinion that the only hope of saving modern society is the practice of such morality as the Catholic Church proclaims and enforces on her children in the face of the world's opposition, and that this is emphatically true in respect to the propagation of the human species. Therefore, Catholic physicians and surgeons are strongly urged to obey closely the precepts of the Church, and never to advise the practice of abortion.

Catholic medical men are also bidden to take care that no patient, whether a new-born child or a dying adult, is permitted to pass away without receiving the last rites of the Church, and to be especially heedful not to let the use of anæsthetics cloud the mind of the dying man or woman, at the moment on which a happy eternity may depend.

News of the Week.

New Charter of the Red Cross.—A new charter of the American National Red Cross has been passed by both houses of Congress. This charter, which puts the organization practically under the control of the Government, was drawn by two former Secretaries of State—Mr. Richard Olney and Mr. John W. Foster. Under it the governing body of the general society is to consist of a central committee of eighteen members. Six of these are to be chosen by the incorporators of the parent organization; when six or more State and Territorial societies are formed these will be entitled to elect six members, and the President of the United States will also have the appointment of six central committeemen, one of whom he must designate as chairman. This control committee will select from among its members seven to constitute an executive committee. The accounts of the organization must be audited by the War Department.

Opposition to a Public Pool Bath,—It has been proposed to construct a public plunge bath on East Twenty-third street, in this city, at a cost of $250,000, but the project has met such decided opposition on the part of the Advisory Board of the Health Department and others, that it will probably be abandoned. Dr. Simon Baruch sent a protest to Comptroller Grout against the undertaking, pointing out the unhygienic conditions inseparable from a pool bath and the impossibility of preventing such a bath from being the means of the spread of various diseases of the skin and eyes. He showed also that the sum of a quarter million dollars, which such a pool would cost, would suffice to hold two or three adequate "rain baths" which would afford cleansing facilities to a far greater number of persons without exposing them to the danger of contracting loathsome diseases. It is believed this timely protest will kill the project, for it is inconceivable that the Health Department, to which the question has been referred, will report in its favor.

Degrees in Pharmacy at Columbia.—The Columbia University Council has authorized the degree of Graduate in Pharmacy to be conferred, as in the past, by the New York College of Pharmacy, but has provided for the establishment of a course of higher grade leading to the degree of Pharmaceutical Chemist. Candidates for the degree of Pharmaceutical Chemist will be required to pursue a course of study extending over two full academic years. After 1907 the advanced degree of Doctor of Pharmacy, which is now conferred by the College of Pharmacy upon those who hold the degree of Graduate in Pharmacy, and who take an advanced course in addition, will be conferred only upon graduates of the advanced course who already hold the degree of Pharmaceutical Chemist.

Hospital News.—A new wing is to be added to the Jewish Hospital on Classon avenue, Brooklyn, at a cost of $125,000. The hospital association has

$80,000 on hand, and it is proposed to hold a bazaar to raise the $45,000 still needed for the annex.

New Pavilions at Bellevue.—The construction of four new portable wards to be built on the Bellevue Hospital lawn to relieve the overflow of patients during the winter has been begun. These wards are to be built of wood sheathed with corrugated iron and builders' felt. They will be fitted up with all the conveniences of an inside ward. Each will accommodate thirty patients. They will be finished before the end of January.

New York Post-Graduate Hospital.—The directors of the New York Post-Graduate Medical School and Hospital have appealed to the citizens of New York for $100,000, the raising of which will make effective a gift of an equal amount conditionally pledged.

A Trolley-Car Sanatorium.—A committee of the New Jersey State Charities Aid Association has devised a plan for the establishment of a trolley-car settlement for pauper consumption patients at Snake Hill on the Hackensack Meadows. It is believed that the Board of Chosen Freeholders, which has charge of the county institutions at Secacus, will provide for the tuberculosis colony on the highest point on the hill. The president of the Public Service Corporation, a trolley company operating in northern New Jersey, has promised to place at the disposal of the committee several trolley cars whose days of usefulness are over. The cars will be taken to Snake Hill and placed on stone foundations at a considerable distance from the penitentiary, almshouse and lunatic asylums. The first patients to be admitted to the trolley-car settlement will be consumptive men and women inmates of the almshouse. There are about twenty of each. The town of Scotsdale, Ariz., has a tuberculosis colony inhabiting about 1,500 abandoned trolley cars.

New Children's Hospital in Chicago.—Approximately $100,000 already has been subscribed for the construction of the Children's Memorial Hospital, Chicago, which will cost $300,000. The nucleus of the new institution will be the Maurice Porter Memorial Hospital for Children. Mrs. Porter will give $75,000 towards the erection of the new institution, and another gift of $20,000 is in hand, with many smaller subscriptions.

Chicago Detention Hospital.—The annual report of the Detention Hospital, Chicago, shows that the total number of patients admitted during the year was 1,604. The average daily number in the insane department has been 1,780, and at the poorhouse 1,160. The total cost of maintenance has been $376,422.

Cook County Hospital.—There were treated in this institution during the year 22,301 patients. The total cost of maintenance was $329,268.96.

Michael Reese Hospital.—A new hospital by this name will soon be constructed in Chicago at a cost of $400,000. It will be a six-story, fire-proof structure.

Dedication of Elgin (Ill.) Hospital.—Archbishop Quigley, of Chicago, took part in the dedication and consecration of St. Joseph's Hospital, just completed at a cost of $45,000. The building was erected through the efforts of the Sisters of St. Francis. It is said to be one of the finest structures for hospital purposes in Northern Illinois.

Cook County (Ill.) Hospital Commission.—President Brundage has appointed a Nominating Commission, consisting of twenty-five well-known physicians, to select the attending staff for the Cook County Hospital. This commission will announce in a short time their choice of candidates.

The Presbyterian Hospital of Cincinnati, owing to lack of funds, will be closed in January. For many years Mr. Alexander McDonald has given it a yearly donation of $7,500, and in addition has made gifts in all amounting to $250,000. But recently he informed the trustees of the hospital that, inasmuch as the Presbyterian Church, as an organization, had failed to support it as liberally as he felt it should, he would withdraw future contributions, notifying the trustees that they would have to look elsewhere in future for financial assistance. His announcement was followed a few days later by the resignation of the Board of Lady Managers.

Berlin's New Hospital.—Apparently the new hospital under construction in Vienna, to replace the now somewhat antiquated *Allgemeines Krankenhaus,* will be eclipsed by an institution shortly to be established in Berlin. A description in the *Globe* states that is to be called, after the famous pathologist, the Rudolf Virchow Hospital, and will be fitted with accommodation for 2,000 patients. When fully equipped it will have a staff of 650 physicians, nurses, attendants, and servants. In connection with the hospital there will be a pathological and anatomical laboratory, bathhouse with medico-mechanical institute, section for Roentgen appliances, and a separate building also for apothecaries. Hitherto the largest German hospital was that at Eppendorf, near Hamburg, with accommodation for 1,600 patients.

Graduates of Washington University, St. Louis.—The authorities of the medical department of this university complain of unfair treatment at the hands of the editor of the *Journal of the American Medical Association* in a "Table of State Board Examination Results in 1903," published some time ago in that journal. It was there stated that three out of thirteen graduates failed in the license examinations during the year, a record of 23 per cent. failures. The *Bulletin* of the University for December says that the Illinois State Board of Health certified that seventy-seven Washington University graduates were examined in that State during 1903, and all passed successfully. This would reduce the percentage of failures to 7½. Furthermore, the three men who were reported by the Association *Journal* as having failed were old graduates before the organization of the Medical Department of the University in 1891.

A Physician's Gifts to His Patients.—Dr. George W. Little, of Glens Falls, N. Y., has reversed the usual current of Christmas gifts by presenting to each of his patients a souvenir silver spoon. The spoon is ornamented with a medallion relief of the donor, and bears the inscription: "Dedicated to the patients who have survived my practice."

Fight for Pure Drugs.—The members of the Retail Druggists' Association of Chicago, at a recent meeting, passed resolutions expressing regret that certain pharmacists have been inexcusably careless (*sic*) in selling spurious drugs. They also pledged themselves to cooperate in prosecuting druggists who in the future dispense chemicals of an inferior quality.

Dr. A. J. Loomis has resigned from the visiting staff of the Jersey City Hospital after a service of eighteen years.

Dr. Thomas G. Ashton has been elected Adjunct Professor of Medicine in the University of Pennsylvania.

Expectoration in the Subway.—Dr. Darlington, of the Board of Health, is carrying on a vigorous campaign against the spitters everywhere, and especially in the subway. Detectives are posted at many of the stations to arrest unwary offenders.

Society of the Rutland Railroad Surgeons.—A meeting of the surgeons of the Rutland Railroad Company was held at Burlington, Vt., on December 15, 1904. The object of the meeting was to effect a permanent organization of the staff, which was done with the election of the following officers: *President,* Dr. W. N. Bryant, Ludlow; *Vice-President,* C. A. Pease, Burlington; *Secretary and Treasurer,* S. S. Eddy, Middlebury. A discussion of the work of the Surgical Department and its relations to the road was opened by Hon. H. H. Powers, General Counsel, Rutland Railroad. This was followed by the reading and discussion of the following papers: (1) Spinal Injuries, by Dr. D. A. Shirres, McGill University, Montreal, P. Q.; (2) Abdominal Injuries, by Dr. S. E. Maynard, Burlington, Vt.; (3) General Consideration of Fractures, by Dr. C. H. Herrick, Troy, N. Y.

Cincinnati Anti-Spitting Ordinance.—Complaints to the Health Board have been so frequent of late of violations of the anti-spitting ordinance the board has concluded to bring the matter to an issue at an early date. One of the sanitary officers has been instructed to commence his trips on street cars and arrest the first prosperous and well-to-do looking man who is caught violating the ordinance. A man who is able to carry the case up is desired, as the ordinance has never been tested in the upper courts.

Medical Director Hosea J. Babin, U. S. Navy, in charge of the naval hospital in this city, was retired for age recently. He is a native of Canada, and was appointed an acting assistant surgeon from Massachusetts in February, 1865. He was commissioned assistant surgeon in May of that year, passed assistant surgeon in 1869, surgeon in 1876, medical inspector in 1894, and medical director in 1898.

The Late Dr. Pryor.—The Medical Board of St. Vincent's Hospital, at the regular quarterly meeting held December 13, 1904, caused the following minute to be entered on its records, sending copies to the bereaved family and to the medical journals: "The members of the Medical Board of St. Vincent's Hospital have learned with profound regret of the death of their colleague, Dr. William R. Pryor. Of undaunted courage and indomitable perseverance, Dr. Pryor followed truth unflinchingly and the highest ideals without faltering. These qualities, coupled with technical skill of the first order, and unusually acute power and wide range of observation, had won for him an enviable reputation and a commanding eminence in his special field. His fine enthusiasm, his frankness and directness of purpose, his readiness to lend a helping hand, were enduring qualities which gained for him the highest prizes of ambition, the gratitude of his patients, the love and respect of his associates. Dr. Frederick S. Dennis, President; Dr. George D. Stewart, Secretary."

At a meeting of the New York Obstetrical Society, held October 11, 1904, the following resolutions were adopted: "That in the death of Dr. Pryor we have lost a prominent member of the society, distinguished alike as an original thinker, an earnest advocate of the truth, and an honorable gentleman. That we extend the family of our deceased Fellow our heartfelt sympathy. That a copy of these resolutions be sent to them and published in the medical journals. Henry C. Coe, Edwin B. Cragin, Clement Cleveland, Committee."

The Late Dr. Gilfillan.—The Medical and Surgical Staff of St. John's Hospital, feeling deeply the loss sustained by themselves personally, and by the institution whose interests they guard, in the death of Dr. William Gilfillan, have passed a resolution "That the Staff tender to his family the expression of their earnest and affectionate sympathy. His long and faithful service in the profession, and in St. John's Hospital, brought him into very close personal communion with his medical brethren. He was a loyal gentleman, never deviating from the best traditions of the profession of medicine. He was a man of courtesy and gentleness, courage, skill, and great patience. These qualities brought to him well deserved respect and regard. Association with him was a privilege, and we look upon his departure with profound sorrow." Committee: Alexander Hutchins, M. D., Henry A. Fairbairn, M.D.

Obituary Notes.—Dr. Henry McLean, of Brooklyn, died at his home, in that city, on December 23. He was born in Newburgh, N. Y., in 1850, and was a graduate of the Medical Department of the New York University in the class of 1873. He was a member of the Medical Society of the County of Kings, and of the Medical Society of the State of New York. He was visiting physician to the Kings County, St. Mary's Maternity, and Infants' Hospitals, and to the Brooklyn Central Dispensary. He served on the Board of Education from 1886 to 1896, and was a member of several social organizations.

Dr. Clarence Willard Butler died at his home in Montclair, N. J., on December 20, of malignant disease. He was born in Ohio in 1848, was graduated from Oberlin College, and received the degree of M.D. from the New York Homœopathic College in 1872. He had lived in Montclair for the last ten years, and was a prominent member of various State and national homœopathic medical societies.

Dr. William M. L. Fiske, of Brooklyn, died at his home in that borough, on December 21, of disease of the heart. He was born in New York in 1841. In 1859 he entered Bellevue Hospital Medical School, but left at the beginning of the Civil War to enlist in the Forty-seventh Regiment N.Y.V. He returned to the school later, and was graduated in 1863, afterward graduating from the New York Homœopathic College in 1864. He was then appointed assistant surgeon in the United States Army, and served in that capacity till the end of the Civil War. He then began practice in Brooklyn, and became prominent in homœopathic circles. He was one of the Board of Health Examiners of New York State.

Dr. Henry Mallory, president of the Board of Health of Hamilton, Ohio, and one of the oldest practising physicians of the State, died December 22, of pneumonia, aged 82 years. During the Civil war he served as a member of the Thirty-fifth Ohio Volunteer infantry, being elected captain, and after the battle of Mill Springs was elected surgeon of the Fourth Kentucky. He was made a division surgeon before the close of the war.

Dr. Samuel Hemingway died suddenly of disease of the heart on December 19, at his home in Newark, N. J. He was born in 1854, and practised for a number of years in this city and Newark, retiring some ten years ago.

Dr. Joseph D. Tantum, of Trenton, N. J., died at the German Hospital, Philadelphia, on December 18, at the age of forty-eight years. He was graduated from the Medical Department of the University of Pennsylvania in 1878.

Dr. Horatio Gates Mirick died at his home in Brooklyn, on December 22, at the age of seventy-four years. He began practice in 1856, and retired in 1892.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent).

WM. CADGE MEMORIAL—DUODENAL ULCER AND ITS TREATMENT —MENINGITIS—LUMBAR PUNCTURE—ACUTE LOCAL TUBERCULOSIS AFTER OPERATIONS.

LONDON, December 9, 1904.

On Tuesday the President of the Royal College of Surgeons went to Norwich and unveiled the memorial window to the late William Cadge in the beautiful cathedral. Many of your readers have probably visited that city and admired the church of which all artists are proud. The Cadge memorial will be an additional object of interest. Subscriptions were received from America and many other lands, for the fame of the great and good Norwich surgeon had penetrated to all countries where surgery is honored. The ceremony was performed in the presence of the profession of Norwich and of representatives of the provinces as well as a considerable contingent from London. The President (Mr. Tweedy) gave a sympathetic address in which he spoke from personal knowledge of the simplicity, sincerity, and strength of Wm. Cadge, who unceasingly cultivated all the charities of life as citizen, friend, philanthropist, and physician, "and gained the good opinion and confidence of his companions and his peers while he lived and their affectionate remembrance in death." He has "finished 'the work given him to do.' He rests from his labors and, leaving behind him an example of high purpose and worthy endeavor, has joined the glorious company of whom it is written 'Opera illorum sequantur illos.'"

Mr. D'Arcy Power brought the subject of Duodenal Ulcer before the Medical Society of London last week. He gave particulars of 7 cases on which he had operated and noticed others he had seen. He considers the disease deserves further attention. He divided the cases into those which perforated and those which did not. In the former the patient was generally a man in the prime of life seized suddenly with intense pain and collapse. Pulse small, regular, quick, but not nearly so accelerated as respiration. Sometimes a point of maximum tenderness in right hypochondrium. Vomiting might occur but no passage of fæces or flatus. If no operation was done, death from peritonitis followed. In the non-perforating cases the patient was usually older, say 50 to 60, and a martyr to indigestion and fits of vomiting, with constipation. Emaciation marked. Gastric dilatation might be more marked than in cancer. Sometimes the history suggested a former ulcer which had healed and the cicatrix, with inflammatory thickening, might cause a lump to be perceptible and so suggest cancer of the gall-bladder or pylorus. Often diagnosis could not be made until perforation took place. Direct suture was less favorable than in perforation of the stomach. Gastrojejunostomy was the treatment advised.

The discussion which followed showed a practical agreement as to the great value of gastroenterostomy. That the diagnosis is surrounded with difficulties is obvious enough and some useful suggestions were made. One or two speakers had collected statistics from the post-mortem room. Jaundice was sometimes present. Melæna without hæmatemesis was said to point to duodenal ulcer. Pain was very variable; it mostly came on an hour or so before a meal and was relieved by eating, or it would come on in the small hours of the night; sometimes it shot up towards the scapula. Tenderness about the region of the gall-bladder was more significant, and also rigidity of the rectus. Hæmatemesis and melæna may be altogether absent or small quantities of black blood passed almost constantly. In gastric ulcer a solid meal at once induces pain, relieved by a draught of hot water; in duodenal ulcer solids and fluids alike cause pain, but later on. Mr. Mayo Robson, who has operated on 30 cases, did not think diagnosis so difficult as other speakers. He said most of his cases were in the professional classes who lived too freely and took insufficient exercise, thus giving rise to hyperchlorhydria.

The "Crises of Posterior Basic Meningitis" was the title given to a paper at the Clinical Society by Dr. C. R. Box. He related 5 cases characterized by sudden rises of temperature, sometimes as much as 7° F., coming on with chills or even rigor, followed by headache, and often vomiting; the neck becoming stiff or retracted and the mental state dull, the pulse not falling, but rather rising. The symptoms subside as rapidly as they come on, the whole "crisis" lasting, say 12 hours. Dr. Box suggested temporary increase of the intraventricular pressure as the cause and thought lumbar puncture might relieve it.

Objection was taken to the term "crisis" by two or three speakers, chiefly on the ground that it suggested a turning point in the disease, a sort of critical period. The President (Dr. F. Taylor) on this point agreed that the term was scarcely justifiable, though the meaning has been extended of late, *e.g.* in ataxy. Objection was also taken to the explanation proposed by Dr. Box, on the ground that such variations of temperature and the other symptoms were met with in various conditions and could not be considered as diagnostic of posterior basic meningitis. Dr. Batten declared the fall was as characteristic as the rise and that he had seen a fall of 10° F. in 12 hours. Dr. Pasteur observed that drowsiness being present between the attacks but not during them was against the idea of increased pressure. The President thought the evidence of post-basic meningitis inconclusive, similar attacks occurring in various septic conditions. Dr. Box in his reply referred to the use of the term crisis in other diseases, *e.g.* floating kidney.

A case of unilateral tuberculous meningitis was related by Drs. Rolleston and Tebbs, in which a bullous eruption followed lumbar puncture. I notice this on account of the operation which does not seem to have been widely resorted to in this country. At any rate most of our records of it are from abroad and in conversation I do not often hear of its frequent adoption. A correspondent traveling in Egypt gives an almost enthusiastic account of its use as an anæsthetic—particularly for pelvic operations. Our surgeons are more cautious and slow to record their experience until it is more extensive. The operation, too, though spoken of as so easy and simple, does not seem to me very inviting and perhaps the "open mind" is for the present more appropriate.

The case which has led to these remarks was that of a boy of 5, who after a day's malaise was seized with general convulsions, more marked on the right side, with conjugate deviation of the head and eyes to the right. Puncture was performed between the spines of the 3rd and 4th lumbar vertebræ, subsequently a cannula introduced and cerebrospinal fluid, at first stained with blood, was allowed to run away. Next day 2 bullæ appeared on the right little toe. The child died that afternoon, the whole illness having lasted 5 days. At the autopsy tuberculous meningitis limited to the left sylvian fissure was thought to be due to an embolus from a caseous gland invading the apex of the left lung. There was a clot 3 inches long under the arachnoid in contact with the posterior nerve roots of the cauda equina on the right side, probably due to the lumbar puncture. This clot probably irritated the nerve roots and ganglia and produced the bullæ. Dr. Box remarked that lumbar puncture, though of great value, was by no means always harmless; he had twice seen thecal hemorrhage follow it. Dr. Batten remarked that the puncture was some distance from the first sacral root ganglion and asked if this root was examined, to which Dr. Rolleston replied in the negative. Injury of the roots above the ganglia, Dr. Batten thought, would not produce the bullæ. Dr. A. E. Russell said that Bayliss had shown that stimulation of the peripheral end of a cut posterior nerve set up great vasomotor changes in the limb supplied.

Drs. Corner and Dudgeon then described a case of post-operative acute local tuberculosis, affecting all the tissues around after removal of a gland from the neck. Local swelling after the wound was healed was the chief sign and this shed some light on swellings seen after operations for some other tuberculous cases, which were referred to as occurring after healing of the wound by first intention. Local infection seemed less likely if the wound was left open, or drainage employed. It was suggested that when the chance of infection seemed obvious, as when glands burst while being excised, it is best to drain if the situation permitted.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

THE CHEMISTRY OF CONSTIPATION—X-RAY TREATMENT OF TUBERCULOUS DACTYLITIS AND EPITHELIOMA.

VIENNA, December 10, 1904.

Most observers have sought to explain the nature and consequences of constipation on a chemical basis, although we are still ignorant as to the exact metabolic changes accompanying the condition and the nature of the toxins absorbed by the body from the stagnating intestinal contents. K. Glaesser has reported to the Medical Association the results obtained on analysis of the feces and urine of animals suffering from constipation artificially induced. The experiments were conducted by resecting a segment of intestine of sufficient length, turning it end for end, and restoring the interrupted canal by suture with the segment in this reversed position. As the intestinal current could not pass this portion of the gut, local stagnation was set up which increased by degrees and finally caused marked dilatation, partly in the reversed portion and partly above it, so that a considerable obstruction was formed. Thus a well-marked impediment to the passage of intestinal contents was produced without stenosis, and if the

resected portion was sufficiently large and was situated close enough to the colon extreme constipation resulted. The animals recovered from the operation promptly and showed an interesting state of affairs. They were constipated so that they defecated only once every ten to twelve days, and, although the appetite was good, and plenty of food was taken, they slowly lost weight, and finally died of cachexia. An autopsy dilatation of the reversed portion of the intestine and extreme emaciation were revealed. The animals were given a uniform diet and were placed in nitrogen equilibrium before the operation was performed, atfer which the investigation was continued by studying the nitrogen in the feces and urine. A prominent feature was that the dried bulk of the stools was much less than before the operation. It appeared as if constipation had the effect of favoring the absorption of the solid portions of the food and causing more complete extraction of the nourishment. Another advantage was that the nitrogen of the feces was greatly decreased after the operation, apparently indicating a more thorough absorption of the albuminous food constituents. The nature of the fecal nitrogen was changed, however, and whereas normally it consists principally of coagulable albumin, in these cases there was an almost equal amount of coagulable and non-coagulable albumin. More decomposition products were present and, though these ordinarily can be precipitated and fractionated into albumoses, pepton, non- and diamino-acids, in these constipation stools they were principally basic albuminous bodies precipitable by phosphotungstic acid. The disordered state of the metabolism was shown still more clearly in the urine. The animals lost their nitrogen equilibrium and from the day of operation the nitrogen contents of the urine rose steadily, till, as death approached, the quantity excreted had increased to almost the double amount. In spite of the richly albuminous diet, nitrogen excretion was in excess and progressive cachexia resulted. The ammonia of the urine also was affected in a peculiar manner. After a defecation the ammonia content was normal, but as the constipation progressed it rose until it had reached and even exceeded double the physiological limits. This condition persisted until the next stool, after which the ammonia at once dropped back to the normal amount. This phenomenon occurred with great regularity and accidental variations could be excluded.

Dr. Freund presented before the Medical Association four cases from Prof. Finger's clinic. The first patient was a girl of eleven, who, for a number of years, had suffered from tuberculous caries of the proximal phalanx of the right index finger. The lesion had been curetted twice, the last time a year and a half ago, and before treatment the first joint of the finger was the seat of a spindle shaped enlargement, with the skin reddened and a lateral sinus which discharged a thin pus containing cheesy, bony débris. Bare bone could be felt with a probe, which readily penetrated the spongy tissues. The sinus could be seen on an *x*-ray plate and had a length of 1½ cm. and a breadth of 6 mm. The favorable results obtained by the use of the *x*-ray in a previous case led to its application in this instance. Two series of treatments were given, each consisting of six sessions, in which the finger was placed 5 cm. away from a fairly hard tube. Each series gave rise to a slight reaction, consisting of redness, swelling, and an increased secretion of thin pus, but after the subsidence of the second reaction the discharge stopped and the sinus closed. At present the finger is normal in appearance and the site of the sinus is indicated by an inconspicuous scar. An *x*-ray picture shows that the former fistulous tract has been almost entirely filled with solid bone and the rest of the bone also is firmer in structure. The patient will not receive further treatment, as the bone will be completely consolidated in a few weeks. The fact that in immediate connection with the *x*-ray treatment the nature of the disease process was completely changed and that the suppuration which had persisted for eight years, without modification by several operations, suddenly ceased, warrants the assumption that the cure was the direct result of the treatment. Apparently the rays penetrated through the atrophic non-calcareous bone tissue to the disease focus and occasioned a local hyperæmia. This was probably the chief feature of the cure, in accordance with the generally accepted dictum of Bier that congestion represents an important factor in the treatment of tubercular processes. The other three were cases of epithelioma treated with the *x*-ray. One patient with a growth the size of a fice-cent piece in the naso-libial angle was treated eight times; another with a similar condition at the inner canthus, six times, and a patient with epithelioma of the upper lip the same number of times. In each instance the ulcer was completely cicatrized with excellent cosmetic effect and only in the second case did infiltration of the scar persist. In treating larger, deeply seated neoplasms it seems advisable to remove the tumor by extirpation and then to treat the granulating wound surface with the *x*-ray in order to destroy any foci that may by chance have been left behind. Freund has frequently made the observation that women at the time of menstruation react more promptly and intensely to the rays and that in the normal skin repeated treatments may, if pregnancy should intervene, give rise to telangiectases. At the menstrual epoch the circulatory as a whole is in a modified state which manifests itself by greater sensitiveness to stimuli of various sorts. Accordingly, *x*-rays of slight intensity may, under these circumstances, give rise to severe reactions in the more vascular regions, and Freund has always observed this before menstruation. Of course, the same thing holds good for all conditions associated with increased sensitiveness of the vessels, such as pregnancy. If a pathological change has been caused in the vessel walls by the *x*-rays such an increase in the reaction may plainly be preceived. Freund observed the formation of telangiectases of the breast in a woman on the occurrence of pregnancy a long time after a protracted series of *x*-ray treatments. It is not unlikely that in this instance the lesion was caused by the augmented quantity and pressure of the blood entering vessels which had already suffered changes in their walls through the action of the rays. The same observer recommends for the protection of the physician that the patient and apparatus be surrounded by a screen covered with lead sheeting and provided with windows of lead glass, through which the patient and tube may be kept under constant observation.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent).

AMŒBIC CYSTITIS—BACTERIAL VIRULENCE AND IMMUNITY—SARCOMA OF THE EYE—NEW GOVERNMENT LABORATORY BUILDING—SMALLPOX—CONTINUED HIGH DEATH RATE.

MANILA, November 14, 1904.

At the November meeting of the Manila Medical Society a case of amœbic cystitis was reported by Dr. J. R. McDill. If the cases of amœbic cystitis due to rectovesical fistula are excluded, a perusal of the literature on this subject shows that this is a very rare condition and that few cases have been made a matter of record. The case in question came under observation on account of some abdominal symptoms which were afterwards attributed to a floating kidney. The infection is supposed to have been contracted from an unclean catheter which was used on the patient by a careless attendant. The treatment consisted of bladder irrigations of a 1-1000 quinine solution, soon after which all traces of amœbæ in the urine disappeared. At the same meeting a paper was read by Dr. R. P. Strong, Director of the Government Biological Laboratory, entitled "Some Questions Relating to the Virulence of Microorganisms, with Particular Reference to their Immunizing Powers." The conclusion reached was that the virulence, as shown by experiments on animals, was not in direct proportion to the dose injected. The experiments were all made with the cholera organism and the writer expressed the hope that others would take up this work with other bacteria with the view of ascertaining whether the same results would be reached. Another paper was read by Dr. Paul G. Woolley, entitled, "A Case of Sarcoma of the Eye Involving Chiefly the Ciliary Body." This was a primary sarcoma of the eye due to an injury. The condition is rather rare according to the author of the paper. A number of excellent photomicrographs were exhibited to illustrate the case.

The construction of the new government laboratory building, of which mention has been made in these columns from time to time, has advanced sufficiently far to permit of its being occupied by a number of branches of the Bureau of Government Laboratories. The lighting and power plant has not yet been installed and the numerous carpenters and other workmen who are engaged around the building make its inspection rather unsatisfactory at present. There is little doubt, however, that when completed this will be one of the foremost institutions of its kind in the world. It will offer opportunities for research work which can scarcely be equalled by any American institution, and when the opportunities for obtaining virgin material are added to this it will be seen what a splendid promise the future holds forth. The Bureau is composed at present of the following divisions: (1) A serum laboratory at which are manufactured vaccine virus, rinderpest serum, etc. (2) A library in which are to be stored and catalogued all the scientific books in possession of the government. (3) A well-appointed chemical laboratory. (4) An entomological division, which has already done good work in the study of the insects which were destroying the cacao plants of the islands. (5) A biological laboratory, which gives much promise for the future. (6) A botanical division. The large number of plants which remain unidentified gives this division a large field in which to work. There are a number

of other branches of this bureau, but they can scarcely be dignified by the name of division, as for instance the branch which takes the photographs for all departments of the government. It has also been proposed to incorporate a division of weights and measures, the necessity for which has already been felt. The superintendent of government laboratories, Paul C. Freer, formerly professor of chemistry at the University of Michigan, is at present in the United States on a leave of absence. Dr. R. P. Strong, the director of the biological laboratory, is acting in his place.

The outbreak of smallpox at various points of the islands still continues. The situation, as nearly as can be ascertained, remains about stationary. No other quarantinable diseases are reported in the islands at the present time. A particularly discouraging factor with which the Board of Health has to deal is the continued high death rate in Manila. The last report issued shows this to be 55.28 per 1,000. It was confidently expected that, when the large number of deaths due to cholera could be eliminated, the mortality would show a decided improvement, but that such was not the case is shown by the fact that there has been no cholera reported in the city of Manila for more than six months and yet the percentage of deaths is as high and some months even higher than during the cholera epidemic. It was also thought that the population as given by the official census of 1903 (219,941) was entirely too low and therefore the death rate calculation as rendered was erroneous, but a police census which was recently completed shows that the present population does not exceed the figures given by the official census. Smallpox was another disease the deaths from which caused the mortality statistics to remain high, but no deaths from this disease have been reported for a number of weeks and still the percentage refuses to drop. The greatest number of deaths is of course among infants under one year of age. When the utter lack of knowledge of how to take care of children and the poor physiques of the Filipinos as a class are considered, it is difficult to see how any great improvement is to be expected in the near future.

THE DANGERS OF HYPNOTISM.

To the Editor of the Medical Record:

Sir: So much is being said about hypnotism and its possible uses, that it is advisable to point out some of the dangers and unfortunate experiences that may occur. In the present state of our knowledge it may be a two-edged sword capable of doing harm as well as good. Ernest Hart, late editor of the *British Medical Journal*, met with experiences that led him to take this position most emphatically. For several years the writer has been interested in studying rudimentary forms of sense perception and the various methods of their development. In the course of this study it has been found that the exact opposite of hypnotism, namely, full control of the faculties by the individual himself, is the best method of bringing out latent powers of the mind, if such there are. The results have been so instructive and satisfying that it has not been thought necessary or advisable to resort to hypnotization in any form whatever in bringing them about. Nevertheless, occasionally an experiment has been made with hypnotism in order to see what would happen, and by way of contrast. In this way it has been brought out that there may be exceedingly unpleasant forms of automatism developed, and much intensified by hypnotism. A lady of most gentle breeding, writing with planchette for amusement, finds that it begins to swear and use the foulest language imaginable. Another subject who has the power of automatic mirror writing, finds this same thing happening in a most disagreeable way and is compelled to refrain from anything of the sort. Reinforced by hypnotization, this sort of thing may be done with no consciousness whatever. At times there comes out in greater or less degree what has been termed veritable double personality, as described by Binet in his book on the subject. Persons in this state are for the time entirely lost to their own personality and do all sorts of strange things, disappearing it may be from among their friends and coming to themselves suddenly among entire strangers, and engaged in some other occupation than that to which they have been accustomed. This is really a form of automatism of highly complex character, and anything that sets it in operation in any degree or to any extent whatever is a most powerful and it may be a most dangerous agent. The irresponsibility of drug habits appears to be an automatism of this same general nature. The writer has had a most disagreeable personal experience in attempting to investigate the subject of automatic writing, by experiments of a hypnotic nature. So long as the thing is not taken seriously at all, and is for purposes of mere amusement, the results may be trivial. But if a determined effort is made and the subject becomes decidedly in earnest, it may be like letting loose a piece of machinery to run without a balance wheel, automatism of this sort being specially liable to recur or perpetuate itself to a greater or less degree. When it is supposed that the subject has returned to his normal condition, and in the absence it may be of the hypnotizer who originated it all. The hand that has been started writing automatically goes right on, it may be putting down things entirely foreign to the person's real nature and that will cause chagrin and keenest regret when the subject returns to his normal condition, especially if they fall into the hands of persons who do not understand the nature of the experiments or know that it is mere experiment. In this and other ways the inception of automatism in any earnest and positive way by hypnotization is not to be regarded as a trivial matter. Even with the best understanding of the subject now possible, there is danger in originating anything that puts a hypnotized person under his own control—in other words, that originates automatism. So long as the subject is under the control of the hypnotizer absolutely, there is not so much danger, but let him go out under his own control and he runs without a balance wheel. In this way autosuggestion, which fortunately is more difficult and exceptional, may originate exceedingly unpleasant experiences. The writer has even come to the conclusion that there may be causes of insanity confined to institutions that, if the truth were known, are really of this type. So the study of the subject may be imperative for the sake of those thus afflicted. But until it is very much better understood than at present, it needs to be undertaken, if at all, with such precautions as will insure avoidance of the origination of automatisms that may become for the time being, if not permanently, the source of irresponsibility, if not of insanity. Slight abnormality in this regard may rectify itself, but there is a point at which it becomes like the therapeutic use of deadly poisons, justifiable, no doubt, but to be used only with full understanding and utmost care.

M. A. Veeder, M.D.

Lyons N. Y.

Progress of Medical Science.

The Boston Medical and Surgical Journal, December 22, 1904.

Pulmonary Congestion as a Cause of Sudden Death.—W. W. Miner reports three cases in which he has lately met with severe and extensive congestion of the lungs in post-mortem examinations. These persons all died suddenly. Their friends had not considered them to be in any danger of the approach of death. One of them was a strong man with a severe cold, but who was walking about as usual. Three hours later his body was found at the foot of a stairway where he had fallen. One was a young man in vigorous health, and the third an elderly man in fair condition. In two of these cases there were no ante-mortem symptoms which attracted any attention. The second patient, however, complained of not feeling well after felling some small oak trees, and he dropped dead while leading his horse homeward with the fuel he had cut down and loaded on his wagon. In each of these cases, autopsy showed ample cause of death in the remarkably congested condition of the lungs which had been of very short duration. The writer then quotes from various authorities concerning this condition. Two of these cases reported were addicted to the use of alcohol. The third man had overexerted himself by chopping fuel with a poor axe, and pulmonary congestion developed, followed by death. A veterinary surgeon whom the writer consulted, stated that this condition was not infrequently found in horses at post-mortem; and it was found not only in animals which had been overdriven, but also in those which were quartered in damp, dark, or unhealthy stables, which might cause debility and inability to resist attacks of disease.

New York Medical Journal, December 24, 1904.

A Contribution to the Serum Therapy of Syphilis.—J. De Listo says that antisyphilitic serum is in no sense an antitoxin but a toxin for the bacillus of syphilis. Up to date, about one hundred cases have been treated by him, with the remedy and the clinical histories of several are given. The average dose is about 20 c.c., at intervals of one week. The author realizes that some of the cases claimed as cured by the serum might not be accepted as such by other observers, but in one instance it is stated that a man assumed to be cured, tore the skin covering his old chancre at the time of initial coitus with his wife some three or four months after he had been dismissed from treatment. Both man and wife were kept under close observation for nine months, during which time the former had no recurrence of symptoms, while the latter failed to develop the slightest sign of the disease. Not all the cases have done well. In one case of ataxia the results were surprisingly good while other similar cases were not at all benefited.

The Plasmœba of Dengue; a Brief Description of the Earlier Phases of Its Plasmic Characteristics.—H. A.

Eberle, of the U. S. Army medical corps, gives his experiences in the Philippines with this organism, illustrating his paper with some excellent photographs of the parasite and temperature charts from certain cases of illness. He regarded the malady as a serious one for marked cachexias and impairment of nutrition often follow in its train. Histologically, the parasite belongs to the sporozoa, and since it is first found in the blood plasma, the author has named it the plasmœba. It impregnates the cells producing a pale, violet tinted growth assuming various shapes as it increases in size, and in which can be noticed, after two to four hours, faintly darker bodies, the earliest spore formations which occupy usually from two-thirds of to the entire corpuscle. On many occasions, when the spores form in the pseudopodia, they give the corpuscles the appearance of being crenated, but in fact they are merely projections beyond the border of the corpuscle pushing out the elastic limiting membrane of the cell. These spores mature in the course of a few hours and are characterized by a definite outline inclosing a pale protoplasm without nucleus or nucleolus. These matured spores are highly refractive and finally burst through the limiting membrane of the corpuscle and are poured out into the plasma (the greater number, however, being passive) and ready to enter on a new cycle. The fever runs a general course of slow insiduous invasion, a stage of vacillation from 102° to 104° attaining its maximum in about forty-eight hours and then shows a gradual decline. There is seldom any distinct crisis. Quinine has no effect in cutting short its course and does not lower the temperature. Only in complicated cases is it to be given, and then only in combination with some other antipyretic.

Medical News, December 24, 1904.

Hysterectomy and the General Health.—Eugene Coleman Savidge declares that when the choice is hysterectomy or death, hysterectomy is the only path to general health. But there are cases in which the wisdom of a hysterectomy is debatable. He defines "debatable hysterectomy" as the removal of Fallopian tubes and ovaries, as well as the uterus, in patients whose health might be restored more or less completely by other methods. Cases of hysterectomy in which a part of the ovary is retained are excluded. The writer, believes, that a bit, at least, of ovarian tissue, is essential to a woman's well being, notwithstanding the undeniable good wrought by these operations. The entire removal of ovarian tissue is followed by definite modifications in the nutritive, renal, hepatic, arterial and cardiac functions. The changes wrought are both psychical and material. There will develop a mixed condition of arterial tension, venous engorgement and muscular relaxation, followed by renal insufficiency, and life is materially shortened. The ordinary physical changes which take place after hysterectomy are well known—the roughened voice, the increased hair growth, the increase of fat. There is a wiping out of zest, and spirit, and pride of bearing. The writer calls attention to the fact that there is a necessity for making a marked difference in the treatment of American women in comparison with that of the women of other nationalities. The American woman has a more highly developed nervous system, with the corresponding nervous vitality. The difference between the American and English woman has developed chiefly from an inherited perception of the chance to rise. Boundless opportunity is open to the American woman. Knowledge of this fact has stimulated search for advancement, and has resulted in the restless, aspiring, nervous system which is the inheritance of the women of our land. It is in these cases that "debatable" hysterectomy works most harm. The American woman is different from the clinic woman. She has latent capacities and a promise of effective longevity that is jeopardized by the "debatable" hysterectomy which robs the spirit, abases the pride, exhausts the energy, and devitalizes the whole woman. The writer adds that this is his "American idea" in modern gynecology.

The Significance of Pus in the Nose, with Special Reference to the Affections of the Accessory Sinuses and Their Proper Treatment.—George L. Richards believes that when more attention is paid by the average practitioner to the real pathological conditions present in the nose, and when they are not all dismissed under the heading of catarrh or neuralgia, progress will have been made. He sums up his paper as follows: The patient presents himself to the physician with pus coming from one or both sides of the nose. What is the plan of procedure? Clear the nose of all visible sources of obstruction, especially polypi, which easily grow or are maintained wherever and whenever surfaces are bathed in pus. Examine the teeth to see whether there is anything in the way of probable dental origin of sinus trouble. Ascertain, if possible, by inspection whether the pus seems to come from the antrum or from the frontal sinus or from various points in the ethmoid cells. Try transillumination, not only for the antrum but also for the frontal sinus as well. Make an exploratory puncture of the antrum. If the antrum is free, explore the frontal sinus for pus; try to wash out with the canula, or to pass a probe, if possible. If not, remove the middle turbinate. If the antrum contains pus, endeavor to cure it by washing out for a reasonable length of time. If this is not successful, a radical operation should be performed. The better the drainage, the faster the cure. Where there are several empyemata it is better to clear out the nose as thoroughly as possible and then, under ether, do the operation on all the cavities at once. Each case should receive careful individual study. A skilled operator should not the surgical work.

American Medicine, December 24, 1904.

The Military Importance of Mild Typhoid Infections Such as Mountain Fever.—Major Charles E. Woodruff calls attention to the fact that mild and atypical forms of typhoid infection are found in every part of the United States, and that when troops are organized for war there are sure to be numerous cases arising to infect every camp. Disinfection in a camp is practically impossible, so that it is now an axiom of warfare to remove every infective case from the camp rather than to try the impossible task at disinfecting. It is shown that in civil practice a very large number of cases of typhoid fever are not recognized by the physician sufficiently early, or perhaps are wholly mistaken, and when such physicians are called into the service of the nation, they will be dangerous unless they follow the invariable rule to treat as typhoid every simple continued fever of a few days' duration, resisting quinine. The fever of the West—called mountain fever—has been proved to be typhoid, and the retention of the dangerous term "mountain fever" is very reprehensible, as it tends to obscure the real state of the patient and will interfere with camp sanitation. The treatment requires an equipment which cannot possibly be carried along with a mobile army, so that it must be recognized that the patient's welfare, as well as that of the camp, demands his immediate removal to a base hospital. Modern armies are never far from railroads, and the transportation of the patient is a minor difficulty compared with the transportation of a field hospital, which must, therefore, be a mere collecting station for the sick. The medical department of the army is entirely too small for these modern duties of sanitation, and there is an urgent necessity for its enlargement on new lines which have proved so efficient in the Japanese army. At present the medical department is organized to treat the sick, and sanitation is a secondary matter, but the birth of sanitary science makes it necessary to reverse the matter. The medical officer must act for the commanding officer, and not merely recommend measures which may or may not be carried out, depending entirely upon a layman's opinion as to their necessity.

Prevention of Measles and Whooping Cough.—Chas. S. Caverly states that the profession and the public are too prone to view these diseases as harmless. Although preventable, the means adopted to check them, measured by their prevalence and fatalities, are largely ineffectual. While death rates from scarlet fever have quite uniformly been cut down, those from measles and whooping cough remain unchanged, causing more deaths than scarlet fever. Their prevention presents peculiar difficulties. For instance, the indifference of the public, shared by the profession, the failure of many patients to see a physician, their contagiousness at a time when they cannot be recognized, and the variable length of time that they remain virulent. They are officially classed as "dangerous to the public health," but are dealt with more leniently than some of the communicable diseases, because of the prevalent apathy toward their spread. There is not sufficient unanimity among doctors as to the necessity of preventing these diseases. They are difficult of early and certain diagnosis because their early symptoms are common to these and less severe and less contagious diseases. The schools offer the best opportunity for their spread. There should be a change of sentiment among parents and teachers in regard to "colds." In catarrhal diseases of all kinds affecting the upper air tracts the child should be excluded from the school. The early communicability of measles and whooping cough must never be overlooked. Health officers and physicians must work together to isolate these diseases until the symptoms of the sequels and complications, as well as of the primary disease, are well passed.

Unusual Case of Addison's Disease.—Herbert B. Whitney reports the case of a healthy laboring man of 33 who was taken with sudden weakness two months before death; he did not give up work until about a month later. His only symptoms throughout the disease were progressive muscular weakness and toward the last, one or two attacks of apparent collapse. There was no discoloration of the skin and no noticeable loss of weight. Inability of the patient to speak English and the peculiar combination of a very acute course without bronzing, made the diagnosis

peculiarly difficult. The case was considered inexplicable until autopsy disclosed tuberculous adrenals. Recognition of this form of Addison's disease would seem to depend chiefly upon remembrance of the fact that there may be no bronzing and that the course may be as rapid as that of an acute infection.

Journal of the American Medical Association, December 24, 1904.

Treatment of Aphasia by Training.—This system of training is described by C. K. Mills, it having been suggested by a patient he had under observation. The author summarizes the various pedagogic methods of training described in the books and gives his detailed experience with several patients. He prints two tables illustrative of the method he prefers and these may be placed in the patient's hands. The first table has reference to the proper pronunciation of vowel sounds and in the second, these sounds are incorporated into short, easy sentences. Mills notes the fact that experience with aphasics impresses on the observer the difference in time and completeness of recovery in cases apparently equal in the original loss of speech. The patient's previous business, mode of life, strength of character, etc., all bear directly on this point. Cases of pure sensory aphasia make rather rapid partial recoveries, at least this is true of cases with word deafness. When sensorimotor aphasia is present, the recovery from the aphasia is usually but partial. It seems probable that in many instances destruction of the cerebral areas of speech is incomplete; in these cases language is partially reacquired by the calling into activity of the uninvolved portions of these areas. The centers in the right hemisphere have a potentiality for speech, but this potentiality differs greatly in different persons.

The Control of Internal Hemorrhage by Drugs.—T. L. Coley summarizes our knowledge concerning the various agents which have the reputation of being able to control internal bleeding. It is necessary to bear in mind, says the author, that the direct indications for treatment vary with the individual case. These indications include the source of the blood, the condition of the circulation and the amount of blood lost. In cases of total collapse alcohol and strychnine would probably be of value. Fainting from loss of blood may not be in itself an indication for medical treatment, for we know the value of this condition in inducing thrombosis. The use of the vegetable and mineral astringents in those cases in which the bleeding point cannot be reached directly, is highly illogical. The same is true of the use of the mineral acids. Aconite approaches the action of this group on the circulation, without the untoward local effects. Ergot seems distinctively harmful in pulmonary hemorrhage, and from its action can scarcely prove of any value in other than uterine bleeding. Hydrastis has some value in similar conditions. The susceptibility of the splanchnic area to vasomotor influence might be utilized by administering hydrastis and strychnine in bleeding of this region. The author never saw noteworthy or conclusive results follow the employment of gelatin or calcium chloride. Normal salt solution is undoubtedly a valuable agent, and immediate response often follows its use. He has had poor success with suprarenal extract administered for its internal hemostatic effect and believes that the indications for its employment are distinctly local.

Diaphoresis and Diaphoretics in Ophthalmic Therapeutics.—Two papers are published under this title. The first is by Hiram Woods who does not find this class of agents of much use in atrophy of the optic nerve, optic neuritis, choroidal atrophy, cicatricial changes in the vitreous or uvea, chronic iritis, retinal detachment from cicatricial contraction, or primary glaucoma, but excluding these there are left many lesions in which diaphoresis is useful. These are especially acute trouble in the uvea, retina, orbital tissues and toxic blindness. Some cases of acute retinal detachment have been reported cured. His general conclusions are as follows: (1) The greatest utility of diaphoretics is in the acute congestive and exudative lesions of the uveal tract. (2) Diaphoretics are useful in retinal detachment produced by exudate from choroidal vessels during the course of acute choroidoretinitis. Judging from reported cases, they are also useful in the retinal detachment of high myopia. It is doubtful if restoration of function in the detached retina is usual or permanent. (3) Diaphoretics are useful in alcohol-tobacco amblyopia and probably in other forms of toxic blindness. (4) Diaphoretics influence to a slight extent only, if at all, lesions of the cornea and sclera. (5) Diaphoretics are useless in atrophic and cicatricial lesions.

The second paper is by T. A. Woodruff, who agrees in the main with Woods and thus describes his method of employing this form of therapeutic agency; baths should be given when the stomach is empty, as being less liable to produce any untoward effects, this being especially the case when pilocarpin is to assist in the production of the sweat. The patient should be in bed and wrapped up to the neck in a blanket and again covered with at least four blankets. Under the latter half a dozen quart bottles containing boiling hot water should be placed. If used at all, pilocarpin should now be given hypodermically, beginning with one-tenth to one-eighth of a grain, the dose of which can be increased if considered necessary to produce a more profuse perspiration, but usually a larger amount of the drug is unnecessary and not at all essential to the success of the treatment. The patient is now given to drink at least a pint of hot water, weak, sour lemonade or tea. In a few minutes he should begin to break out into a profuse perspiration, which should continue for at least two hours, only stopping short of that time if he shows any bad symptoms. At the end of the sweat he should be thoroughly dried and the skin rubbed with alcohol and then allowed to rest the remainder of the day. This treatment should be continued at least every other day until twelve baths are taken. At an interval of two or three weeks a similar course of treatment should be repeated, and then continued at various intervals so long as necessary. It is important that the treatment be carried out systematically and at regular intervals if we desire to get results.

The Lancet, December 10, 1904.

Mercurial Injections in Nervous Diseases of Syphilitic Origin.—M. Faure gives injections slowly into the muscles following them with gentle massage. He prefers the buttocks and passes the needle in four centimeters. The average daily dose is the equivalent of one centigram of mercury. His series of injections varies from six to twenty administrations. The series is repeated after a pause of equal duration to make up a total of from forty to eighty, extended over from one to two years. He notes that an intensive treatment is not necessarily a heroic treatment, for intensity may be obtained insidiously by very prolonged administration and the use of average doses frequently repeated. It is necessary to give the patient all the mercury that is required for the cure of the disease without giving him enough to produce toxic symptoms. He also declares (1) that patients who have not derived any benefit from a given preparation or from small doses, have improved under the use of another preparation or of larger doses; and (2) that patients who have become worse when treated with a certain salt or with large doses have improved when a different salt or small doses were substituted. The great advantage of the injections is that the amount of the drug given can be more accurately determined than by any other mode of administration. We know just how much is absorbed, which is not the ease with either pills or inunctions. In general, the familiar preparations of benzoate, biniodide, and perchloride of mercury agree well when given in ordinary doses, while cacodylate, hermophenyl, and other organic compounds agree even better but seem to be less active in equivalent doses, and may be reserved for delicate patients.

Some Unusual Effects of Movable Kidney.—C. Manseli Moullin gives the clinical histories of several cases in which a movable kidney gave the symptoms of respectively chronic gastric ulcer, evidences of obstruction of the gall-bladder and common bileduct and appendicitis. He believes that this particular kidney condition is far more common than is generally believed. All kidneys are in fact movable. In many people the up and down range of movement is from one to two inches. Such cases are not necessarily pathological. The name should be reserved for those cases in which the kidney not only descends but fails to ascend spontaneously when the diaphragm relaxes and which do not resume their natural position unless either the patient lies down or some external pressure is brought to bear on the abdomen. Moullin notes that whatever the nature of the symptoms to which a movable kidney gives rise, there is one test which enables the true cause to be distinguished at once and almost without fail. Symptoms that are due to a misplaced kidney are relieved and in most instances disappear entirely as soon as the patient is placed in the recumbent position. When they are due to organic disease of other organs, change of position has little or no effect.

Diseases of the Nervous System Sometimes Regarded as Functorial, with Particular Reference to Diabetes.—W. H. Dickinson says that while we have not yet discovered the initial nervous lesion of diabetes, we find on post mortem sufficient changes in the cerebrospinal centers to indicate that they play a part in the disease. The extravasations which have there been found, are not large enough to account for the diabetic process, but they suggest an attitude of the vessels which may have something to do with it. The occasional presence of sugar in the urine of the insane is beyond question, but we do not know in what percentage or what special variety of case. The loss of the patellar reflex is common in diabetes and seems to be an early symptom. A less common failure and a later manifestation is superficial impairment of sensation, affecting

especially the lower limbs. The vascular lesions found in the brain and cord are for the most part hemorrhagic or exudatory, allowing of escape of vessel contents, enlargement of the perivascular spaces and impart an appearance similar to that found in syringomyelia. All these changes indicate, however, but hypercoma, and the exciting factor in diabetes is still unknown. Taking together the results of experiment, of accident and disease, of mental impressions, and, though not frequent yet significant, the association of glycosuria with insanity, and adding to these the post-mortem evidences of transudation from the cerebral vessels, it is not to be doubted that there is a connection between the state of the brain and the voidance of sugar which must be taken into account in any theories we may form of diabetes. Whatever changes may exist in the liver and glycosuria, the remote cause is in the brain. The main suggestion from the nervous system lesion is that of loss of contractile power in the arteries. Only in some does this result in actual extravasation. Recent blood was found in eight out of twenty-two cases. The want of arterial tone found in diabetes is not, however, the terminal fact but merely a step in that direction.

British Medical Journal, December 10, 1904.

Condition of the Lower Limbs Often Mistaken for Phlebitis.—Sir William Bennett describes the general symptoms of phlebitis of the main deep venous channels as follows: Acute onset of pain or intense stiffness increased by movement; tenderness along certain definite areas increased by pressure; rapidly supervening general swelling below the seat of lesion, which "pits" on pressure, and which is increased when the erect position is assumed, or if the limb is materially dependent, subsiding on the other hand (if the phlebitis has ceased to extend), when the recumbent position is assumed and the affected part elevated; the essential part of the treatment being rest. For comparison with this, a condition of the lower limbs is met with, commencing with rapidly-oncoming pain somewhat diffusely inclined, but irregularly limited to certain areas, increased only upon slight (superficial) pressure, and completely relieved by deep or heavy pressure. There is some swelling of the limb, wholly, or in parts only, the swelling being of the nature of a general engorgement; there is no œdema; and hence no "pittting"; it is not increased by assuming the erect position, nor is it appreciably diminished in the recumbent or flat position. The swelling is for practical purposes independent of posture. The same may be said of the pain, which nevertheless, is much influenced by heat or cold, sometimes by one, and sometimes by the other. The patients, as a rule, are not neurotic, but rather the reverse. The swelling, when not involving the whole limb, is fairly limited to the areas supplied by the internal and middle cutaneous nerves, the saphenal plexus, the external cutaneous nerve in the thigh, and the musculo-cutaneous nerve at the outer side of the leg and the dorsal aspect of the foot. When the whole limb is swollen, the general contour of the normal part is preserved in striking contrast to the bolster-like limb of thrombosis. The reflexes are unaltered. Little can be said concerning the cause of the trouble. The condition may have some relation to osteo-arthritis. Possibly some vasomotor disturbance is at the root of the swelling. As to treatment, rest has no beneficial effect in these cases. The main object is to find the best means to shorten the course of the complaint. Massage, electricity, and passive movement, followed by resistance exercises are indicatd. To these may be added moderate exercise up to the point of resistance. By this is meant the point at which pain or stiffness renders exercise impossible without great effort. By these means the course of the disease is doubtless much shortened.

The Cerebrospinal Fluid in Relation to Disease of the Nervous System.—F. W. Mott declares that fortunately it is only under exceptional conditions that the cerebrospinal fluid contains microorganisms. There are, however, conditions in which microorganisms are almost invariably present, for example, cerebrospinal meningitis; and, from recent researches, it would seem that the same can be said for tuberculous meningitis. Sicard maintains that the cerebrospinal fluid in tetanic intoxication of the blood stream does not acquire any tetanizing property. This is an argument against the cerebrospinal fluid being the medium of exchange between the blood and the nervous tissues. Although it may be impossible in all cases of tuberculous meningitis to detect microscopically bacilli in the cerebrospinal fluid, yet, according to various inoculation experiments and culture experiments on blood gelose, positive results have always been obtained. Much interest has lately attached to the examination of the cerebrospinal fluid in sleeping sickness, on account of the discovery of the existence of trypanosomes in the fluid extracted by lumbar puncture. The writer has been able in a few instances, only, to find the trypanosome either in the blood or in the perivascular cell infiltrations of the central nervous system. He adds that the etiological evidence of the trypanosome being the cause of the disease, and, therefore, of the symptoms and characteristic lymphocytic reaction of sleeping sickness, is so convincing that very possibly some plasmodial or transitional form may exist in great abundance in the cerebrospinal axis which could easily be missed in sections, or forms which require a special stain, in order to disclose their existence. In general paralysis of the insane, there is evidence of chronic meningoencephalitis and lymphocytes in the cerebrospinal fluid. Under a low power in an acute case, there is a perivascular cell proliferation somewhat resembling that seen in sleeping sickness, except that it affects the cortex rather than the base of the brain. It is attended by far more neuron destruction and cell proliferation. The writer has very seldom found diplococci in the brains in this form of meningoencephalitis, although a large number of patients die with pneumonia and bronchopneumonia; whereas, in sleeping sickness, a very large proportion of the cases showed abundant evidence of diplococcal infection of the central nervous system.

Berliner klinische Wochenschrift, December 5, 1904.

Chromophorous Zones in Vital Blood Staining.—Rosin and Bibergeil describe a phenomenon observed in the course of their researches in the vital staining properties of the blood. When methylene blue, methylene azure, or combinations containing these dyes are employed, at a certain stage of the staining before the nuclei have taken up the color, some of the usually refractory red cells are seen to be stained. The cells affected are those surrounding a white cell, and it seems to make no difference whether this be a leucocyte, a lymphocyte, a myelocyte, or a mast cell, and even a mass of blood plates may produce the same phenomenon. The phenomenon is only temporary, but may be observed in pathological blood as well as in normal blood. The explanation appears to be that the leucocytes furnish enough oxygen temporarily to prevent the final reduction of the methylene blue to its leucoproduct, or that the white cells and blood plates in consequence of their great affinity for the dye attract the methylene blue to their vicinity and take it up themselves as leucoproduct until their death has taken place. During this time the erythrocytes become decolorized.

The Experimental Production of Lymphoeytic Exudates.—Wolff and von Torday believe that they have settled the question of whether or not active lmyphocytosis is possible by experiments on guinea pigs and mice. Intraperitoneal injections of tetanus toxin or diphtheria toxin, produce an exudate which, for a period of from one to twenty-four hours is made up principally of lymphocytes. The fact that this exudate can be produced artificially, and the promptness with which it appears, dispose of the two last objections to the acceptance of the possibility of active lymphocytosis, viz., that it was not possible to cause it experimentally, and that the lymphocytes might come from connective tissue cells. It was found that mice had a much greater tendency to lymphocytosis than guinea pigs; substances that in the latter animal set up only a polynucleosis, in the former produce lymphocytosis.

Münchener medizinische Wochenschrift, December 6, 1904.

A Case of Congenital Onychogryphosis.—Müller says that cases of congenital onychographosis are rare and describes an unusual one that is now under observation in the Strassburg dermatological clinic. The patient is a girl of fourteen, anæmic and sickly but without organic lesions. There is typical psoviasis on the extensor surfaces of the upper and lower extremities and the skin is everywhere dry and pale. The scalp is unusually dry and shiny, and the growth of short, thin, dry hairs is extremely scanty and irregular in distribution. The eyebrows are almost entirely missing and the eyelashes are represented by ten to fifteen little hairs scattered on the upper lid. The finger nails exhibit the most extreme degree of onychogryphosis and are from three to four times their normal thickness. The nails of the toes are affected to a less degree. Microscopical examination of the nails and hair has revealed no abnormalities of structure in either.

The Danger Attending the Use of Biehloride of Mercury in Obstetries.—Toff directs attention to the susceptibility of puerperal women to the toxic effects of bichloride. The dangers of the situation are increased by the fact that the usual evidences of mercury poisoning, salivation, and gingivitis are often now observed until poisoning has been going on for some time. Two types of intoxication are common, one in which gastrointestinal irritation is the prominent feature, and the other in which the kidneys are attacked. In cases of the first sort, diarrhœa sets in a few days after the labor, and continues together with the onset of more or less prostration and collapse, colic, etc. In such instances errors of diet, contaminated milk, etc., are apt to receive the blame and the bichloride douches are kept up till the appearance of oral symptoms proclaims the cause of the condition. If the kidneys are attacked by the poison, the case is still more serious, for in addition to albuminuria there may

be chills, fever, scanty lochia, irregular pulse, in short, a simulation of puerperal infection. Unless they have progressed too far, both types recover promptly on omission of the bichloride douches and irrigation of the uterus with saline solution. There is great variability in the susceptibility to bichloride, and some patients may be affected by even a single 1-4,000 irrigation, especially those with renal lesions. The author advises that the antiseptic should be used only in very dilute solutions, as 1-6,000 to 1-10,000, and should be followed by a douche of salt solution, to wash out any of the sublimate that might be retained in the genital canal. Albuminuria and intestinal diseases contraindicate the use of bichloride.

Deutsche medizinische Wochenschrift, December 8, 1904.

Manual Removal of the Placenta.—Ahlfeld says that the recent communications of Baisch and Wormser in which these authors have endeavored to show that better results as regards puerperal morbidity are obtained by the use of rubber gloves in manual removal of the placenta, are misleading. He ascribes the fact that the statistics of the Marburg clinic seem to show a higher percentage of temperatures in those cases to the greater care with which slight degrees of fever are noted in this institution. He also believes that such statistics give unreliable results because usually of retained placentas in maternity institutions usually occur in connection with other complications, which, of themselves, may account for a temperature, and the only way to reduce this element of error is to use the figures of larger numbers of cases than at present are available. Ahlfeld is convinced that in well-conducted institutions, the danger lies less in the hand than in the character of the contents of the genital canal, and he has usually seen temperatures only in those cases in which the nature of the labor itself was sufficient to cause a puerperal fever. The degree of contraction of the uterus is of importance and the removal of placentas completely within the uterus gives less good results than the extraction of fragments. The author also considers the attacks that have been made on his hot water and alcohol method of disinfecting the hands, and endeavors to show that it is possible to produce complete sterility of the skin with these agents.

Infection With Ankylostomum Larvæ Through the Skin.—Lambinet attained an abundant culture of ankylostomum larvæ by infecting dogs and then treating the stools according to the methods of Loos. The larvæ were washed with weak antiseptics to prevent the development of bacteria. Several hundred were injected hypodermically into a young dog. There was no local reaction, but the animal died twelve days later. The middle portion of the small intestine, not the duodenum, contained several hundred young worms of the same age and resembling those found after the same length of time in cases of mouth infections. The mucosa was covered with bloody mucus and showed numerous fresh hemorrhages.

Physiological and Pathological Albuminuria.—Senator discusses at some length the present standpoint in regard to albuminuria and especially physiological albuminuria. It is only within comparatively recent times that this condition has been received as a possibility, but now it is generally accepted that every normal urine must contain some albumin, though it may be present only in very small amounts. Now, physiological albuminuria is regarded much in the same way as physiological glycosuria, and among the causes that give rise to it in susceptible individuals are severe exertion of the lower extremities, eating and digestion of a hearty meal, menstruation, cold baths and psychical excitement. The occurrence of albuminuria is to be regarded as pathological only when it does not take place under unusual conditions alone, and does not disappear promptly on the cessation of the particular stimulus that caused it. Orthostatic albuminuria is distinctly pathological and most cases of this or cyclical albuminuria are caused by a slight irritation or inflammatory state of the kidneys which may go on to recovery or may develop into a chronic diffuse nephritis. Physiological and allied forms of albuminuria are based upon congenital or acquired predisposition of the individual, which consists in an abnormality of various organs such as the kidneys, the digestive tract, the blood-vessels, or the body fluids.

French and Italian Journals.

Cystotomy and Prostatectomy in a Patient with Calculous Prostate.—Fournier reports a case of this nature, the patient being a man of 76 years. The writer performed a cystotomy by means of which he was enabled to remove 80 vesical calculi. Ten days later, he performed prostatectomy, and determined that the ureter was filled with calculi in its prostatic portion. By means of retrograde catheterism, he was able to reestablish the permeability of the canal. Fournier believes that it is well first to do a cystotomy, in the case of patients with prostatic retention, in order that they may better support the later prostatectomy. In these cases, as in the one just cited, in which the prostatic ureter contains adherent calculi, which are very difficult to extract or push back, cystotomy and prostatectomy are two necessary operations.—*Revue de Chirurgie,* November 10, 1904.

Metaclastic Cysts of the Spleen.—Brunswic le Bihan designates cysts which follow rupture of the spleen as metaclastic cysts. Ruptures of the spleen are relatively rare in Europe. The spleen is small, and its consistence normal. Violent traumatism is necessary to cause a rupture of this organ. Unless there is surgical intervention, death is the most frequent termination of such an accident, since a free hemorrhage takes place in the peritoneal cavity. It is quite different in malarial countries. There, spleens are of large size, often enormous. The splenic pulp is fragile, but the capsule is thick and surrounded with adhesions. Sometimes even a slight injury will cause a sub-capsular rupture, or the hemorrhage is more or less limited by the adhesions. Later, the cyst gradually increases in the manner of a diffuse aneurysm. The writer has operated in two cases in which the patients had been sufferers from malaria. Both had suffered an injury with probable rupture of the kidney. The growth of the cyst dated back for several months. The same appearance was noted in the two cases. The cystic pocket contained from 8 to 10 liters of greenish liquid, which examination proved to be sterile. It contained blood and leukocytes. The wall formed by the greatly distended splenic capsule was lined by thick masses of fibrinous clots. Very strong adhesions fastened the cyst to the surrounding organs. In the first case a very difficult splenectomy was followed by death from shock on the next day. In the second case, recovery followed operation.—*Revue de Chirurgie,* November 10, 1904.

Traumatism and Affections of the Stomach.—Monprofit calls attention to the traumatic origin of certain affections of the stomach. The connection between traumatism and gastric disturbances has been well known for many years, but the writer believes that if more careful observation was given to these cases, this association would be found far more often than it is at present. He cites one of his own cases: A man was hit with great force in the upper part of the abdomen, and following this injury there developed gastric intolerance and vomiting, which lasted for several months. When the writer saw the patient, he was much emaciated, and presented all of the symptoms of gastric cancer, including a tumor in the epigrastrium. Laparotomy showed a stomach dilated, with an hypertrophied pylorus surrounded by an inflammatory area, showing the remains of hemorrhage. Posterior gastroenterostomy was performed, followed by the complete restoration of gastric functions. It is now a year since the operation, and the patient is in perfect health.—*Le Bulletin Médical,* November 16, 1904.

The Soluble Ferments and the Digestive Function of the Placenta.—Vercelli Raineri details his experiments on the digestive functions of the placenta, and formulates the following conclusions: (1) There is no doubt that the composition of the blood of the mother is different from that of the fetus. (2) The composition of the fetal blood leads us to suppose that there is a selection of the substances in the maternal blood. (3) There do not exist in the placenta soluble ferments, like those of gastric digestion, but for the fats and sugars there is a special selective action, due to the metabolic activity of the epithelial cells of the placental villi. (4) In the placental villi we have, not a function identical with that of the intestinal villi, but analogous to it, and in this sense the placenta possesses digestive activity.—*Archivio di Ostetricia e Ginecologia,* October, 1904.

Some Complications of Varicella.—Guiseppe Caccia calls attention to the fact that varicella, though ordinarily a very far from serious disease, is sometimes followed by serious complications, such as infection of the pustules by streptococci and staphylococci, kidney lesions, laryngeal and pulmonary lesions, and even nervous disturbances. Should there exist any fault of nutrition or tendency to disease, the attack of varicella may be followed by the development of other maladies of more importance. Convulsions, paralyses of various members, corea, meningitis, ophthalmoplegia externa, and encephalitis have all been observed. The author records a case in a baby of three years, healthy and of good ancestry, who, after a slight attack of varicella, developed a train of nervous symptoms which he believes to have been due to a slight encephalitis of the left cerebral hemisphere, which ended in complete recovery after four weeks. The diagnosis is based on the following symptoms: sudden onset, with vomiting, hemiparesis with tremor, disturbances of speech, slight optic neuritis, presence of albumin and leucocytes in the cerebrospinal fluid, with the complete recovery. He regards the varicella as the probable cause of the nervous lesion, combined with a predisposition to nervous disease.—*Rivista di Clinica Pediatrica,* November, 1904.

Book Reviews.

A Laboratory Guide in Elementary Bacteriology. By William Dodge Frost, PhD., Assistant Professor of Bacteriology, University of Wisconsin. Third revised edition. New York: The Macmillan Company, 1903.

This serviceable guide has required but few changes to keep it abreast of the times, and in its present edition it should prove a comfort both to instructor and student. Designed to receive the student's laboratory notes, the requisite blank pages and charts are abundantly provided, while the text is sufficiently flexible to render it easily adaptable to any course in bacteriology. The illustrations are good and thoroughly modern and the references cover literature that could be profitably read by every student.

Medical Laboratory Methods and Tests. By Herbert French, M.A., M.D. (Oxon.), M.R.C.P. (Lond.), Medical Registrar, Guy's Hospital, etc. Illustrated. Chicago: W. T. Keener & Company, 1904.

Dr. French aims to give the practising physician a very brief outline of the principal methods of examining the urine, the blood, the sputum, the gastric contents, the fæces, and the common purulent and serous fluids. In brevity the book leaves nothing to be wished for; in completeness and thoroughness it naturally lacks much. A praiseworthy feature is the emphasis placed on the possible fallacies of the various tests. The illustrations, we are sorry to say, are for the most part useless, as they are mere rough pen-and-ink diagrams. The book may prove useful for review or as a compendium, to those who have a wider knowledge of its themes than it presents.

La Chirurgie du Médiastin antérieur, par le Dr. Maurice Auvray, professeur agrégé à la Faculté de médecine de Paris, chirurgien des hôpitaux de Paris. 23 illustrations. Paris: J. and B. Baillière et fils, 1904.

This monograph by Professor Auvray presents the latest advances in the field of the surgery of the mediastinum, exclusive of the heart and the pericardium. The general technics of mediastinal operations are discussed very fully, including the methods employed by the author himself and by other operators who have written upon this subject. The operative treatment of foreign bodies in the mediastinum, in the trachea, and in the bronchi, of mediastinal abscesses, or tumors in that region, of restroternal goitre, and of aneurysms of the great vessels is then considered in detail. The surgeon will find in this work precise information upon all these subjects, offered in a concise and attractive manner. The illustrations by K. Wagner, mostly in linework, are excellent.

A Guide to Anæsthetics for the Student and General Practitioner. By Thomas D. Luke, M.B., F.R.C.S. (Ed.), Instructor in Anæsthetics (University Surgical Classes), Royal Infirmary, Anæsthetist to the Deaconess Hospital, and the Dental Hospital, Edinburgh. With 45 illustrations. Second edition. Edinburgh and London: William Green & Sons, 1905.

Within the compass of little more than a hundred pages the author has managed to compress all that the practitioner and student are likely to require on the subject of Anæsthesia. The book is, throughout, intensely practical and useful. No space is wasted on theories or discussions. This new edition includes general anæsthesia by ethyl chloride, which, in England and Scotland, has almost displaced nitrous oxide as far as general surgery is concerned. A very valuable section, and one which will appeal to every practitioner, is that on Mechanical Anæsthesia, or how the practitioner can best work single-handed. The book is small, but its value is great; it is well arranged, sufficiently illustrated, attractively written, and can be confidently recommended.

The Art of Compounding. A Textbook for Students and a Reference Work for Pharmacists at the Prescription Counter. By Wilbur L. Scoville, PhG., formerly Professor of Theory and Practice of Pharmacy in the Massachusetts College of Pharmacy, etc. Third Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Company, 1904.

It was with a pleasure that is rarely vouchsafed a reviewer that we perused the first edition of Professor Scoville's work in 1895. The third edition, which has now come to hand, presents the same material as the preceding editions in an enlarged and more complete manner. The book deals with the technical and practical knowledge required by those who are called upon to dispense medicines. It deals in detail with every form of prescription, from the simple solution to the most difficult and elegant form of dispensing. The book is so clearly and explicitly written that even the pharmaceutical tyro will at once seize the meaning of the directions given, and, with practice, will acquire the proper technique. To the country physician who is far from pharmacies or who wishes to dispense his own medicines, this book will be a perfect mine of knowledge. The subject matter is arranged so as to be of easy reference, and a large number of illustrative prescriptions are given. The chapter on incompatibilities is the best and most practical we have seen anywhere. In the new edition the subject matter has been made to conform to the U. S. Pharmacopœia, ninth revision, and chapters have been added on Tablets, on Sterilized Preparations, including the preparation of gauzes, catgut, etc. The subject of Emulsions is now treated with great fullness, with the latest researches on this theme as a basis, and additions have been made to various chapters.

Accidents and Emergencies, A Manual of the Treatment of Surgical and Medical Emergencies in the Absence of a Physician. By Charles W. Dulles, M.D., Fellow of the College of Physicians of Philadelphia and of the Academy of Surgery; Surgeon to the Rush Hospital, etc. Sixth edition, thoroughly revised and enlarged, with new illustrations. Philadelphia: P. Blakiston's Sons & Company, 1904.

Prompt action in emergencies may often save life or serious injury, and this manual, designed for the laity, is well adapted to serve as a guide in times of need. The text is simple enough to be easily understood by any person of average intelligence, with assuming the words-of-one-syllable type, so common in books of this class, and the measures advocated are all efficient and such as can easily be carried out by the unskilled. The subject matter for the most part is above criticism from the medical standpoint, though the author's sweeping condemnation of the Pasteur treatment seems somewhat ill-advised. The present edition has been considerably enlarged in both the letter press and illustrations.

A Textbook of Physiological Chemistry. By Olof Hammarsten, Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized Translation from the Author's enlarged and revised fifth German edition. By John A. Mandel, Sc.D., Professor of Chemistry and Physics, and of Physiological Chemistry, in the New York University and Bellevue Hospital Medical College. Fourth edition. First thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1904.

It is five years since the appearance of the former American edition of this well-known work; and during that period much has been done in the field of Physiological Chemistry. These new advances are incorporated in this edition, but the size of the book has been increased only by about seventy-five pages. This end has been attained by the judicious elimination of methods and statements that had become either superfluous or untenable. The general plan of the book is the same as before. Of late the importance of Physiological Chemistry has been recognized more than ever before, and those who require an authoritative and standard textbook on the subject will make no mistake in procuring this work.

Die Wirkungen von Arzneimitteln und Giften auf das Auge. Handbuch für die gesammte ärztliche Praxis. Von Dr. L. Lewin und Dr. H. Guillery. Band I. Mit 85 Texfiguren. Berlin: Verlag von August Hirschwald, 1905.

The volume is one of 857 pages. The therapeutics of the eye is discussed in an exhaustive manner, all of the known remedies employed in the treatment of the diseases of the eye being fully described. The introduction occupies thirty-five pages, and is devoted to a consideration of the peculiarities of the tissues of the eyes in different individuals—inherited tendencies, differences in the power of the tissues to resist disease, their behavior when subjected to the influence of remedial agencies, the possibilities of osmosis, the influence on deep structures of the absorption of various remedies, the casting off of effete and obnoxious materials, etc.

The volume is further divided into three parts. In the first part remedies that temporarily paralyze the entire or a part of the nervous system are considered. To this group belong chloroform, ether, cocaine, atropine, etc. The second part is devoted to a description of those remedies which have a toxic effect on the whole or a part of the nervous system. This group includes ethylic alcohol, ethereal oils, tobacco, etc. The third division is devoted to a description of the remedies that chemically or physically affect the albumin of the living cells. Iodoform, phosphorus, mercury, and the acids are included in the list. This division of the subject is not quite complete in this volume. There are a number of cuts, chiefly of fields of vision, illustrating the effect of certain remedies on the function of the retina.

The work when complete will be embodied in two volumes and will be the most comprehensive of all the works on this subject. It should be in the hands of all ophthalmologists.

Society Reports.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, Held at Birmingham, Ala., December 13, 14, and 15, 1904.

The association met in the Council Chamber of the City Hall, and, in the absence of the president, Dr. Floyd W. McRae, of Atlanta, Georgia, the second vice-president, Dr. J. Shelton Horsley, of Richmond, Virginia, presided.

Addresses of welcome were delivered by Mayor Drennan and Dr. L. G. Woodson, which were responded to by Dr. W. P. Nicolson, of Atlanta, Georgia. After a brief report from Dr. John D. S. Davis, chairman of the local Committee of Arrangements, relative to entertainments, order of procedure, etc., the reading of papers was proceeded with.

A Method of Uniting Intestines of Very Small or of Unequal Caliber.—Dr. J. Shelton Horsley of Richmond, Va., said that all sutures might be divided into two general classes, the continuous and the interrupted. The continuous suture more nearly fulfilled the ideal conditions for intestinal healing than the interrupted. Serous surfaces united after being sutured on account of the hyperemia of repair, and this was dependent upon some slight injury to the peritoneum. In the case of an interrupted suture, union was obtained within the bite of the suture by hyperemia caused by pressure of the suture, by the trauma of the needle, and by the presence of the thread. Between the sutures the pressure from thin intestinal tissues was practically *nil,* so union depended solely upon extension of this hyperemia, and if this process did not extend from one stitch to another, leakage would surely occur. Continuous pressure along the entire margin of an intestinal wound could be obtained only by the continuous suture. He described nine experiments in which an area of intestine was included between two lines of sutures. In only four of these did the whole area between the rows of sutures unite, demonstrating that something besides mere approximation of serous surfaces was necessary for satisfactory union. The method of suture was difficult to describe without accompanying illustrations. The intestinal ends to be united were placed side by side with their convex borders in contact and clamped with a hemostatic forceps. Then he used a suture that passed through the whole of the intestinal wall, sewing together with a continuous stitch a crescentic area excised; then changing the stitch to a Cushing right-angled continuous suture penetrating all the coats and invaginating the remaining margins of the wound. When the first knot was reached in the suture, it was invaginated and the suture continued by two or more insertions of the needle; with the last two insertions of the needle, as secure a hold as possible was obtained without penetrating the mucosa. The very last insertion of the needle was in the reverse direction of the other insertions, so that when the knot was tied it was partly buried. The bowel was then returned to its natural position, and the mesentery sewed up with continuous stitches. A number of photographs and specimens from dogs were exhibited, demonstrating some of the advantages claimed for this method. These specimens had been filled with paraffin and then photographed; afterward the intestine was removed, and the paraffin model was also photographed, giving a very good idea of the large lumen at the site of the union.

Dr. W. P. Carr of Washington, D. C., stated that the holding of the bowel with a clamp, a rubber ligature, tape, or something of that sort, to prevent the escape of intestinal contents during operation was the only part of intestinal suture that seemed not to be as perfect as it might be. There was more or less danger of injuring the bowel by any sort of clamp or ligature which was put around it tight enough to prevent the intestinal contents from escaping. He thought it was better to hold the bowel with the fingers of an assistant when this was possible, although it facilitated the operation very much to take the bowel in a long clamp not far from the point where it was going to be sutured, as this prevented the sliding of the coats of the bowel over each other.

Dr. Herman J. Bolt of New York City personally preferred suturing to using buttons or mechanical devices for the purpose of intestinal anastomosis.

Dr. J. M. T. Finney of Baltimore, Md., said that in his experience he found that there were certain technical difficulties in the end-to-end suture which were hard to overcome. For instance, at the mesenteric border it was difficult to obtain satisfactory union; there was so much likelihood that a leak would occur there, that it had been his practice for the last two years to use almost exclusively lateral anastomosis, closing both ends. This gave more satisfactory union. He was an advocate of the interrupted suture.

Dr. A. Palmer Dudley of New York City stated that in his experience the use of the continuous as contrasted with that of the interrupted suture had been followed by fairly good results in intestinal work.

Dr. W. S. Goldsmith of Atlanta, Ga., stated that in the case of continuous sutures around the bowel leakage might result and a fistula be produced by tissue necrosis incident to the distention of the bowel on account of the application of this ligature. It was a ligature in effect around the bowel; we had distention of the gut, and the ligature did not expand; there was no elasticity about it. Therefore, the interrupted suture would be his preference.

Dr. Samuel J. Mixter of Boston said that when one was in a hurry the continuous suture was quicker. He emphasized the absolute necessity of practising these operations on lower animals before beginning to do them on patients. This was a point that was not sufficiently recognized. Every new method should be tried on some of the lower animals. So far as his experience went, very little clamping was necessary even if there was some leakage. He did not consider that there was any great danger from septic peritonitis, because the peritoneum was able to stand a great deal of soiling without great damage, and it could be washed off without producing any ill effect. This was likewise true of operations on the stomach.

Intestinal Obstruction.—Dr. Dyer F. Talley of Birmingham, Ala., said that intestinal obstruction was a condition which presented many difficulties in its early diagnosis, and it was a well-recognized fact that in acute cases the life of the patient depended on early recognition and prompt surgical intervention. There were two difficulties in the way of early operation: (1) It was hard to make a positive diagnosis in the first twenty-four hours; indeed, in some cases it was impossible to do so unless an exploratory laparotomy was made. (2) There was a tendency on the part of the patient, his friends, and also the physician, to wait until to-morrow and see what purgatives and enemata would accomplish. The author reported eight cases of intestinal obstruction that had come under his care during the last fifteen months. The details of each case were recounted with great clearness. One case showed that a laparotomy could be done without anæsthesia, and many patients who were seen late and were too weak for an anæsthetic might be operated on and relieved without a general anæsthetic. The result of operation in the eight cases were five recoveries and three deaths.

Dr. Guy Leroy Hunner of Baltimore, Md., said that from a large experience with hospital and private patients showing symptoms of intestinal obstruction, he had come to the conclusion that he would rather err on the side of operating occasionally unnecessarily than to be too late. Cases were cited in point.

Dr. W. P. Carr said the more he saw of cases of intestinal obstruction the more he was convinced that whenever there was a strong suspicion of it an exploratory operation should be made. There were so many patients who had little or no symptoms for quite a while, and others that had considerable fecal movements from the lower bowel

after obstruction had taken place, that one was apt to be misled. He had been misled a number of times.

Dr. J. Garland Sherrill of Louisville held that whenever a patient had intra-abdominal pain which was not promptly relieved, an exploration should be made; whenever a patient had a severe pain in the abdomen that ceased suddenly, there was probably gangrene of the gut, and for that reason in such a case very prompt operation was demanded. Many of these patients could be saved by opening the abdomen at once, even in the presence of shock, and in that way avoiding inflammation of the peritoneum.

Dr. Charles L. Bonifield of Cincinnati recommended changing to ether when patients could not stand chloroform, particularly in children.

Dr. W. O. Roberts of Louisville narrated the case of a child, nine months old, on whom he had operated. The little patient had been treated for dysentery. When he saw the patient there was a considerable amount of distention, with straining, and bloody mucus was being passed by the bowel. He introduced his finger into the rectum and found an intussusception. The intussusception was within two inches of the anus. He advised laparotomy, which was consented to and performed, and he found the intussusception began at the ileocecal opening, and went clear to within two inches of the anus. It was relieved very easily, but the child died in the course of twelve hours from shock. It was important in all cases of intestinal obstruction to examine the rectum carefully.

Dr. Wm. E. Parker of Hot Springs, Ark., said the general practitioner ought to be impressed with the importance of early diagnosis in these cases, and if there was any question at all to call in a surgeon, or someone who had had experience in this class of cases. He knew of no class of work in which an early diagnosis was so important, and next in importance to this was the getting into and out of the abdomen as quickly as was consistent with good work.

Dr. W. P. Nicolson of Atlanta called attention to the significance of abdominal pain. We should always bear in mind that the location of pain in the abdomen bore practically no relation to the location of the lesion itself in many instances. When a patient with a severe abdominal pain was not relieved by two or three doses of morphine, or did not remain relieved by this agent, but needed a repetition of it, the case was not one of indigestion. It was far more serious. He had had the misfortune to operate on a young woman for intestinal obstruction, and during the operation there was tremendous fecal vomiting, which was aspirated into the lungs, some of it. She left the table in good condition, with good pulse, and with indications that she was all right; but within a short time she became cyanosed, with rapid breathing, and pulse increased in rapidity; she remained conscious, but died within two hours.

Dr. Samuel J. Mixter said that, given a patient who had had intestinal obstruction for days and was in a very critical condition, he thought he could often be saved if too much was not attempted; the reason so many of these patients died was because surgeons attempted too much. Take a case of gangrene following intussusception, if a simple opening was made in the most distended loop of bowel, a tube tied in, and the intestine drained, a later operation could be done, and the patient would probably be saved; whereas if one attempted to do a resection or a serious operation at the time, the patient would surely die.

Dr. A. Palmer Dudley said that the surgeon was at a great disadvantage when he was called in to see a patient to whom morphine had been administered for the relief of pain, for the reason that it masked the symptoms. Peristalsis was arrested and the obstruction went on more rapidly. He had not given a dose of morphine in fifteen years to any patient on whom he had performed an abdominal section.

Dr. Talley, in closing, said the principal point he wanted to emphasize was the importance of early operation, because he believed that most of the patients could be saved if reached and operated upon early enough.

A Review of One Thousand Operations for Gallstone Disease, with Especial Reference to the Mortality.—This was the title of a joint paper by Drs. William J. and Charles H. Mayo of Rochester, Minn. The paper was read by Dr. Chas. H. Mayo. In one thousand operations for gallstone disease there were fifty deaths—five per cent.—counting as a death every patient operated upon who died in the hospital, without regard to cause of death or length of time thereafter; 960 for benign disease, with 4.2 per cent. mortality. In the case of more than one procedure through a single incision, only the major was counted, therefore, 101 cholecystotomies and 44 cholecystectomies in connection with common-duct operations were not included. Of 673 cases operated upon by cholecystotomy there was a mortality of 2.4 per cent. This group included most of the acute infections. In no case did the stones reform in the gall-bladder. This was the operation of choice in the average uncomplicated case, and especially if there was or had been cholangitis. Of cholecystectomy, there were 186 operations, with a mortality of 4.3 per cent. This operation was employed for special indications, such as cystic duct obstruction, thick-walled gall-bladders suspicious of malignant disease, and cholecystitis without calculi. There were 137 operations for stone in the common duct, with a mortality of 11 per cent., 7 per cent. from the operation, and 4 per cent. from secondary complications after more than three weeks. Of the cases operated upon during the quiescent period, with little jaundice and slight infection, all recovered. There were four cases with extreme icterus from obstruction, in which there were subcutaneous hemorrhages at the time of operation (purpura). All of these patients died. Of four cases of complete biliary obstruction in which the common and hepatic ducts were filled with clear cystic fluid and no bile, all the patients died. Of the cases of malignant disease, 14.6 per cent. were of the common duct. There were forty cases of malignant disease, with 22.5 per cent. mortality; two patients with cancer of the gall-bladder were now alive and well more than two years after operation; they had also had two additional favorable cases of more recent date. Of the remaining malignant cases, a few received marked palliation, but the majority were but little benefited.

Enterostomy.—Dr. J. W. Long of Greensboro, N. C., stated that the important measures to be accomplished were: (1) The drainage of gas and fæces from the intestine. (2) In mechanical obstruction, relief of distention, pain, vomiting, and toxæmia. (3) In septic conditions, depletion of the inflamed bowel and peritoneum, overcoming intestinal paralysis and sepsis. (4) Protection of the peritoneum as in typhoid perforation. (5) Nourishment of the patient by making an artificial mouth. Enterostomy was employed only in the most desperate cases, and in those in which it was indicated the patient was always in imminent peril of speedy dissolution from some of the conditions above indicated. In all forms of intestinal obstruction the patient suffered from distention and absorption of the toxins. When septic peritonitis was present, the sepsis itself produced suspension of peristalsis, which was sufficient to account for the obstruction. In mechanical obstruction, to this factor was added painful peristalsis. In recent years enterostomy had been applied to a number of conditions other than intestinal obstruction *per se*, the principal indication being feeding the patient through the fecal fistula. This operation has been applied to cases of inoperable carcinoma of the stomach, a fistula being made in the jejunum, and the patient fed through it; life was thereby prolonged, and the patient was made more comfortable. Enterostomy was also to be applied to typhoid perforation, catching up the perforated bowel and fastening it to the wound, it being more quickly done than closure of the perforation; at the same time, the bowel was drained and the patient was fed through the fistula. Dr. Long reported eight cases of enterostomy occurring in his practice

in twenty-two years, with five recoveries, or 62½ per cent. He drew the following conclusions: 1. Enterostomy is a life-saving measure, and never an operation of choice. 2. Enterostomy is not indicated when a more ideal surgical procedure is feasible. 3. In the hands of an experienced, carefully trained, competent surgeon, capable of dealing with grave emergencies, enterostomy need rarely be resorted to, but the better the surgeon, the more quickly he will adopt any measure which will save his patient. 4. Every abdominal surgeon must, according to the abundance of his material, find cases in which only enterostomy can with propriety be done. 5. When an enterostomy is indicated, to hesitate is to lose the patient; to operate promptly, dextrously, and with celerity means to tide the patient over the imminent peril, and spare him for future consideration.

Dr. James A. Goggans of Alexander City, Ala., said that drainage of the distended intestines was very important. He made it a rule, if possible, when he did a laparotomy for any trouble whatever, to drain the intestine in order to let it regain its elasticity, and move the fecal current along as it should. He commended the author of the paper for advocating enterostomy, and draining, when the intestine was greatly distended in the class of cases under consideration.

Dr. J. Garland Sherrill said that enterostomy had a place in surgery in those cases where complete surgery could not be done; but whenever a surgeon sent a patient away from the operating table with an open intestine, he subjected the profession and himself to criticism from the laymen who did not understand the condition. Therefore, he would lay it down as a rule that no enterostomy should be done in any case where it was possible to do complete surgery, and instead of widening the field for enterostomy, surgeons should strive to contract it.

Dr. I. S. Stone of Washington, D. C., said the reader of the paper must have gotten hold of a number of very difficult and delayed cases for operation. He thought his idea was simply this, that rather than let a patient die from obstruction, he would catch up a loop of bowel and make an artificial anus. This was the old-fashioned way of doing enterostomy, and Dr. Long had had as good results as most surgeons would have gotten under the same circumstances.

Dr. Long, in closing, said it would seem that he had unfortunately ran afoul of quite a number of cases in which it seemed proper to do enterostomy. These eight cases were spread over a period of more than twenty-two years of practice. He doubted if any surgeon had had a better percentage of recoveries in cases of acute intestinal obstruction by any method than that which he had reported, namely, 62½ per cent.

The Abuse of Purgatives Before and After Abdominal Section.—Dr. I. S. Stone of Washington, D. C., read a paper with this title, in which he said that purgatives should be given as evacuants, and should not produce hypercatharsis, whether administered before or after abdominal section. Bland evacuants, such as castor oil, aided by suitable enemata, would empty the bowels without causing severe exhaustion. Excessive purgation was intended not only to empty the bowels, but to perform additional service, namely, to remove collections of serum or other fluids which might be in the peritoneal cavity. A large majority of the sections made at the present time might be called minor pelvic or abdominal. In these no infection existed, nor was the intestine in any way involved. Such cases required only the mildest evacuants, with sterile diet in the preliminary treatment. Vomiting, paresis, ileus, and excessive distention after operation were frequently exaggerated and aggravated by the administration of the worse than useless cathartics which were usually given. It had been shown that patients had bowel movements (peristaltic) after surgical operations because they were ready to act, rather than because one had found any method to produce such results. Hypercatharsis did more than anything short of venesection, or the use of dangerous heart depressants, to unfit patients for prolonged anæsthesia and operation. The administration of purgatives immediately after operation appeared to cause vomiting and reversed peristalsis, and to add to the general discomfort of the patient. The temporary paralysis of the intestines in nearly every case was to be desired, and nearly all patients having been properly prepared would recover far more satisfactorily with perfect rest until normal peristalsis returned, than with the aid of all sorts and kinds of irritants intended to produce quick movements of the bowel.

A Review of the Treatment Immediately Before and After Abdominal Section.—Dr. L. S. McMurtry of Louisville said the general indications for preparatory treatment in cases of abdominal section were to cleanse the alimentary canal thoroughly without violent disturbance or exhaustion; to put all the eliminative functions in the best possible condition, and to favor in every way a tranquil state of mind and body. More than a year ago he became satisfied that to put the patient to bed for three days, or even longer, as was practised by many, was not the best course for preparatory treatment. There was a positive advantage in having the bowels cleaned out in a relatively short time, as the patient was not relaxed by purgation, and was less prone to suffer from toxic changes. Prolonged and irritating catharsis increased the nausea and vomiting of ether and chloroform anæsthesia. A prolonged period of preparatory treatment impaired the patient's strength and depressed the nervous system. Sterilization of the skin from a bacteriological standard was impossible; yet mechanical cleansing would, for all practical purposes free the skin of all active germ action, and provide for immediate primary union of wounds. In the effort to accomplish this, the important fact had been overlooked that the unbroken skin was endowed with a power of resistance to the activity of its own and other germs; but when the epidermis was cracked, denuded, and broken by irritating germicides and scrubbing with hard brushes, this natural resistance was impaired, and infection occurred. Mechanical cleansing would remove germs readily from smooth and unbroken cutaneous surfaces. For these reasons the brush and chemical germicides should be discarded, and only soap and water and alcohol should be used, applying these with gauze instead of the brush. In the after-treatment only the most simple course was necessary in average cases. The routine use of purgatives was to be avoided. The patient should be allowed to move about in bed freely, and should be given water as soon after operation as it could be retained.

Celluloid Plates for Covering Openings in the Skull After Operation.—Dr. William P. Nicolson of Atlanta, Ga., said that celluloid remained indefinitely in the tissues without irritation, and it could be easily shaped with scissors for adjustment to the opening to be covered. Its harmlessness in the tissues was demonstrated to him many years ago by the absence of any irritation from a celluloid testicle introduced into a patient's scrotum. Given such a material, one was enabled to enlarge the opening in the skull to whatever size he might desire, knowing that he could cover the opening and protect the brain from subsequent injury, or from undue protrusion from want of support. In operations for epilepsy it not only protected the brain from subsequent pressure, but left an increased space, which was measured by the thickness of the individual's skull. The author reported some cases in which celluloid plates had been used. He felt justified in making the following claims for this practice: (1) It was safe, and did not add any extra risk to the operation. (2) It not only removed the pressure and irritation, which the surgeon was endeavoring to combat, but by its resistance prevented a recurrence from the subsequent consolidation of the coverings in a false position due to atmospheric pressure. (3) It protected the patient from external influences, and not only made him feel safer, but he was actually safer. (4) It enabled surgeons to be much more untrammeled in

the amount of bone that they could remove. (5) It prevented deformity, which, especially when beyond the hair line, was necessarily great in large bone removals.

Traumatic Synovitis of the Knee Joint.—Dr. Edward A. Balloch of Washington, D. C., made a plea for earlier operative intervention in cases of traumatic synovitis. The reluctance of surgeons to open the joint was ascribed in part to a fear of sepsis, and in part to a lack of a precise knowledge as to the normal structure of the joint. Illustrative cases were cited, showing the advantages of early operative intervention. The following conclusions were reached: (1) In most, if not all, cases of traumatic arthritis of the knee, there was an injury to some of the structures of the joint. (2) Conservative measures should not be persisted in too long. Three weeks was proposed as a fair length of time for a trial of these measures. If no improvement was manifest at the end of that time, the propriety of operative intervention should be considered. (3) Arthrotomy, properly performed, was not an essentially dangerous procedure, and might do great good. (4) Early operative intervention would give a greater proportion of useful joints in a shorter space of time than any other method.

Cases in Which Early Diagnosis of Cancer of the Body of the Uterus Was Made.—Dr. Rufus B. Hall of Cincinnati reported two cases to show that an early diagnosis of primary cancer of the body of the uterus was possible, and that a diagnosis could be made while the disease was yet very limited in extent. Of the many cases of cancer of the body of the uterus coming under his observation, only these two were seen early enough to make a diagnosis while the disease was limited to a very small area. Adenocarcinoma was found to be the variety of the disease in each case. It was this form that most frequently attacked the body of the uterus, and if operated upon early, it promised great immunity from recurrence. The disease could be diagnosed in its incipiency if surgeons systematically curetted every suspicious case, and made repeated microscopical examinations of the scrapings removed from the uterus, until they confirmed or disproved the presence of malignant disease.

Origin of Adenomyoma of the Uterus.—Dr. J. Whitridge Williams of Baltimore, Md., after calling attention to the anatomical appearance of adenomyomata of the uterus, and the various theories which had been advanced according to the origin of the epithelial structures contained in them, described a uterus removed at autopsy from a woman who died just after delivery as the result of hemorrhage from placenta prævia. At the time of its removal, the uterus apparently presented the characteristic appearance of the organ immediately following delivery, except that the area of placental attachment covered two-thirds of its interior, instead of being more circumscribed and limited to the anterior or posterior wall, thus indicating in all probability that interference with its blood supply had led to a much more extensive implantation of the placenta than usual. On making a sagittal section through the uterus after hardening, numerous irregularly shaped, more or less oval areas, of a dull white appearance, varying from a millimeter in diameter to five by ten millimeters in their various dimensions, could be seen throughout the entire thickness of the uterine walls, which measured 3 cm. in their thickest parts. These areas were most abundant immediately beneath the endometrium, but could be traced outward through theentire thickness of the uterine wall to its peritoneal covering. Upon microscopical examination they were found to consist of typical decidual tissue, which was made up of the characteristic decidual cells and glandular spaces lined by cuboidal epithelium. There could be no doubt as to the origin of the decidual areas, they being derived from the uterine mucosa. Their wide distribution throughout the uterine muscle precluded the possibility of their having resulted post partum, and indicated most conclusively that they must have existed prior to the onset of pregnancy. Such being the case, the specimen afforded a beautiful example of the presence of tissue derived from the endometrium being scattered throughout the myometrium of an adult woman. In not a few cases the glandular elements in typical adenomyomata showed changes identical with those occurring in the menstruating endometrium, and the development of the decidual tissue in this case seemed to make it probable that where portions of Muellerian tissue were scattered through the myometrium, they might undergo the same changes as the normal endometrium, namely, menstruation, and decidual formation.

Development of Fibroids of the Uterus After Ablation of the Appendages.—Dr. J. Wesley Bovée of Washington, D. C., said the large number of published cases of fibroid tumors that had broken down, become infected, or undergone other changes in structure detrimental to the lives of their unfortunate possessors had swept away the old ideas as to their benignancy. Pathologists were now searching for a distinct borderline between benign and malignant soft a distinct borderline between benign and malignant soft uterine myomata. Recurrent myomata, while not so positively dangerous as cancer, must be considered malignant Between these and sarcomata there was not always a distinct difference. Five cases were cited. Of these, two were operated upon for noninfections disease, two were victims of infection, and in one the condition requiring removal of the appendages was not known. Did the sudden change in the pelvic circulation incident to the ligation of the uteroovarian blood vessels in double salpingo-oöphorectomy act as a cause of the subsequent fibroid degeneration of the uterus? This question might be reasonably answered negatively, else such degeneration might logically be seen commonly instead of rarely. Yet it was possible that hemorrhagic infarcts in the uterus might occasionally in that manner be formed that would result in hyperplasia of connective tissue, and be the origin of fibromata.

The Effect of Suspensio Uteri on Pregnancy and Labor.—Dr. Joseph Taber Johnson of Washington, D. C., in a paper with this title, contended that very few, if any, such injurious effects need be feared as had been frequently charged against the operation of suspensio uteri. That it sometimes failed to cure was true, but that was not the charge. By ventrosuspension he did not mean ventrofixation. He was free to admit that the uterus should not be securely fixed in the abdominal wound, or to the abdominal wall, in women likely to become pregnant. It was quite certain that some of the pains of pregnancy and difficulties of labor which had been charged against suspension were really the result of fixation. In over one hundred suspensions done by himself, he knew of only two pregnancies. These were both normal. In one case, the labor was so rapid that the child was born before the doctor's arrival, and he knew from recent examinations that there had been no return of the retroversion. The other woman he delivered in November last, after a five-hour normal labor, without chloroform or forceps. The author mentioned the number of suspension operations performed by other operators, and concluded by saying that when the retrodisplaced or prolapsed uterus was suspended, not fixed, according to the technique of the author of the operation, it appeared to him to be the best operation yet devised for the great majority of women suffering with this displacement, irrespective of the fact that they might become pregnant subsequently.

Typhoid Fever and Appendicitis.—Dr. John C. Oliver of Cincinnati called attention to the possibility of these diseases being so irregular in their manifestations as to be mistaken the one for the other. He cited illustrative cases in which these mistakes had been made. A case was also reported in which an attack of appendicitis was followed within a month by an attack of typhoid fever. The possibility of mistaking the perforation of a typhoid ulcer for an acute attack of appendicitis was exemplified by the report of a case of walking typhoid in which perforation of

the ileum occurred. The author's conclusions were (1) that typhoid ulcers might appear in the glandular structures of the appendix, and give rise to a typhoid appendicitis. (2) That the infiltration of the ileum and cæcum in typhoid fever might be so great as to give rise to a distinct tumor mass in the right iliac fossa. (3) That the Widal test was of but little, if any, value in the early diagnosis of the disease present. (4) That the leucocyte count proved in his series of cases to be of value in distinguishing between the two diseases. (5) That an exploratory laparotomy in typhoid fever was not devoid of danger. (6) That abdominal incision was imperative when it became necessary to establish the differential diagnosis between a typhoid perforation and fulminant appendicitis. (7) That in the absence of perforation, cases of typhoid appendicitis should not be operated upon.

The Problems Presented to the Gynecologist Twenty-five Years Ago and To-day.—Dr. P. F. Chambers of New York City said that the problems presented to the gynecologist of earlier date were entirely different from those of to-day, and as different, he had no doubt, as would be those of twenty-five years hence. To illustrate his contention, he gave the diagnoses of all the patients who were admitted to the Woman's Hospital of New York a quarter of a century ago, and the operations which were there performed for the relief of these conditions. The peritoneum was the surgeon's *bête noir*. Abdominal surgery, then in its infancy, constituted but a little part of the work of the gynecologist. This was before the days of asepsis. Antiseptic surgery was then in vogue; consequently the mortality of all abdominal work was still so great that the abdomen was never opened except in desperate cases, such as for the removal of ovarian cysts, or the ovaries in cases of intensely severe dysmenorrhea, or very large fibroids, as then advocated by Battey, Tait, and Hegar. For other causes, for which now the abdomen was readily opened, it was then a sealed book.

The Management of Acute General Peritonitis.—Dr. J. Garland Sherrill of Louisville considered two forms of infection. First, acute septic peritonitis, in which the poison was so intense that the patient died from a profound toxæmia before the local changes had progressed to the point of pus formation. The second type was general suppurative peritonitis, in which pus was found free in the peritoneal cavity without any localization of the process. The two forms resulted from infection following perforations of the alimentary canal, rupture of the urinary or gall-bladder, ileus, abdominal operations, puerperal infection, and disease of the ovaries and tubes. Many cases, especially of the septic type, resulted fatally regardless of the time they were seen or the treatment employed, while some responded to medical, and more to promptly applied surgical measures. The various methods of medical treatment were considered, and the position was taken that these cases were surgical, except when operation was refused, and the patient's condition would not permit of surgical interference. Under such circumstances the medical treatment should be planned with reference to the causative condition, if this could be determined, and a distinction should be made between perforations of the stomach and those of the intestine, and also those cases in which there was reason to believe the intestinal wall was intact. In the first, emphasis was laid upon absolute rest of the stomach to limit leakage; rectal lavage, and nutrient enemata were advised. In the second class (intestinal perforations), gastric lavage, small rectal enemata to unload the lower bowel could be employed, and opium used freely while the patient was nourished per rectum. In the third class, with an intact intestine, gastric and rectal lavage, purgation, and nutrient enemata were recommended. Heat and cold were considered the best topical applications, and the patient's position should be suited to the location of the causative lesion. In considering the surgical treatment of this disease, much stress was placed upon early operation as a measure for the prevention of general peritonitis, while the process was yet localized. The outcome of a given case would depend upon the following factors: (1) The virulence of the infection; (2) the quantity of the infecting medium; (3) the resistance of the patient; (4) the activity of the organs of elimination; (5) the time at which the patient came to operation; (6) the rapidity and thoroughness of the surgical procedure. The special technique of the operation was of less importance than the dexterity of the surgeon and the care with which he did his work.

Advances in Renal Surgery.—Dr. John B. Murphy of Chicago made a forcible plea for more conservative surgical work on the kidney and ureters in the future, saying that surgeons must consider the importance of preservation of any portion of a kidney that was still in a condition to functionate, on account of the enormous mortality associated with the removal of this organ. The mortality in the past following the removal of a kidney that was secreting practically the normal amount of urine, varied from 29 to 35 per cent. He reported six cases of conservative operations on the kidney. In cases of great dilatation of the pelvis of the kidney, it was formerly his custom to remove the kidney, until he realized that it was practically a normally secreting organ, and that the dilatation of the pelvis was due to ureteral obstruction, and that there was no good reason for taking out the kidney when the obstruction was removed. He believed that surgeons were coming to a time when they would examine the kidney carefully, and then decide, as in certain lesions of the stomach, that this or that portion shall be removed, and the remaining portion husbanded.

Four Cases of Vesical Diverticula Requiring Operation.—Dr. Hugh H. Young of Baltimore, Md., read a paper on this subject. He said that a patient died after obscure bladder symptoms, and autopsy showed seven diverticula, the largest about five inches in diameter, communicating with the bladder by small orifices. Both ureters were compressed by the diverticula, and hydroureter and hydropelvis had resulted. The patient died of uræmia. Since then the operator had had four cases of vesical diverticula, in which operation was performed with success. In two cases the diverticula were larger than an orange, in the others smaller. In one case the ureter was compressed by the diverticulum, and intermittent attacks of renal colic resulted. In one case the diverticulum lay in the urachus, and became constricted at its orifice several times a week, producing severe tenesmus in the region of the umbilicus. In three of the cases the disease developed early in life, and in only one was an enlarged prostate the cause of the diverticulum. Careful study of the literature showed that only three cases had been operated upon radically, namely, one by Czerny, excising by transverse abdominal incision, transplantation of the ureter, development of pyonephrosis, nephrectomy, and final cure; one by Riedel, suprapubic incision, death from collapse; one by Pagenstecher, parasacral extirpation, resection of ureter, kidney involvement, improvement, with fistula. The writer's four patients were all living, and in good condition. In three cases the diverticula were completely excised, but ureteral transplantation was avoided by a plastic method. Renal infection was avoided, and no fistulæ resulted.

The Ultimate Results Obtained by Conservative Perineal Prostatectomy in Seventy-five Cases.—Dr. Young also read a paper with this title. In this series there were five patients over 80 years, one 87 years of age, with one man aged 84 years, who died five weeks after the operation. Two other deaths, neither attributable to the operation, occurred, each in the third week, one in a patient walking about, and ready to go home, from pulmonary thrombosis, and the other in a man, seventy-seven years of age, who had been uræmic for several weeks, and autopsy showed double pyohydronephrosis. The innocuousness of the operation was thus shown. The use of the author's double-bladed metal tractor was of great help in steadying the prostate for the incisions, drawing it down for a complete enucleation,

enabling the operator to deliver and remove even large middle lobes without tearing away the mucous membrane of the bladder or urethra, or the ejaculatory ducts. The advisability of preserving the floor of the urethra, the veru montanum, and the ejaculatory ducts in men whose sexual powers were well preserved (and these represented over 50 per cent, of the cases), was shown by the impotence which followed, in nearly all cases, operations like Albarran's and Murphy's, in which the floor of the urethra and duct were deliberately destroyed.

When Shall We Resect in Tuberculous Disease of Joints?—Dr. C. H. Caldwell of Cincinnati read a paper on this subject. As to the joint under consideration, somewhat would depend on whether it was a single large isolated joint, such as the knee, for instance, or whether it was a smaller joint, such as the carpal or tarsal, in immediate continuity with other joints. A single tuberculous focus in the epiphysis of a long bone, which was susceptible of complete immobilization, stood a much better chance to undergo reparative change than would such a focus in the spongy bones of the wrist in the close proximity of synovial and ligamentous structures which favored dissemination and persistence of the disease. The results to be expected from conservative treatment might be divided into three classes—ideal, satisfactory, and unsatisfactory. An ideal result was when, after a reasonably long period of treatment, a cure was obtained with no limitation, or but slight limitation, of movement, and no deformity. Under satisfactory results might be classed those in which, after a reasonable period of treatment, a cure was obtained with a stiff joint, or in which a slight range of motion was possible, without shortening or malposition, and in which, if there had been abscess or sinus formation, the sinuses had healed. Under unsatisfactory results might be classed those which, after a reasonable period of treatment, either showed no tendency to get well, or might be said to have recovered with sinuses still weeping, with a tendency to fatigue on exertion, with more than an average amount of shortening, and with deformity to a greater or less degree. The absence of any active symptoms of disease—pain, increased temperature or muscular rigidity, placed these in the category of cured cases, but cured with unsatisfactory results. The results from the resection of the hip were of necessity unsatisfactory when complete, as with ablation of the head and neck of the femur, one left no *point d'appui* for the femur, and there must be a greater or less amount of give to it under the weight of the body. In tuberculosis of the knee there was but little use of wasting time with a joint in which marked osseous changes were already present, and which, in spite of conservative treatment over a period of six months, had shown no improvement. Resection of the knee in cases which had passed the period of adolescence had much to recommend it, and but little could be said against it. In those cases too prolonged delay often meant amputation. As to resection in elbow cases, one was again confronted by the fact that results were at the best far from what one might desire. In the smaller joints, such as the wrist and carpal joints, excision must depend on individual judgment. Ankle joint and tarsal excisions were, as a rule, very unsatisfactory. The deficiency in weight-bearing capacity rendered the results far more gratifying, and amputation was, as far as his observations went, too frequent a sequel to these operations.

Obliteration of the Stomach by Caustic.—Dr. Samuel J. Mixter of Boston stated that doubtless other surgeons had seen cases of constriction of the œsophagus after the ingestion of acid or strong alkalies, and also some cases of constriction of the pylorus from the same cause. It was very rare, however, to find practically the whole stomach destroyed, and this was the reason for putting the cases he had seen on record. He reported three cases in which the stomach was almost entirely obliterated by caustics.

Tumor of the Pancreas.—Dr. J. A. Goggans of Alexander City, Ala., reported two cases of this nature.

Vaginal Cesarean Section.—Dr. C. Jeff Miller of New Orleans, read a paper on this subject, in which he reported a case and summed up the advantages of the method as follows: (1) In severe eclampsia, when the woman is unconscious between the convulsions, the cervix rigid and elongated, and delivery imperative, it is always preferable to perform abdominal section, and, under proper surroundings, she may be preferable to metal dilators or manual dilatation. (2) In severe cases of accidental hemorrhage, when the cervix is closed, it is safer than the other method of accouchement forcé, owing to the rapidity with which the uterus can be emptied, and should be given preference over abdominal hysterectomy, which is generally advised. (3) It may be considered in other conditions when cesarean section is indicated, except in contracted pelvis or dystocia arising from maternal or fetal disproportion. It has not the disadvantages of an abdominal operation; the peritoneum need not be opened unless hysterectomy is to be performed for malignancy, and there is less shock than follows abdominal operations. (4) It is not more dangerous than attempting to deliver either by version, or forceps, when the os is not fully dilated, if done under strict aseptic precautions.

Dermoid Cysts and Fistulæ of the Sacrococcygeal Region.—Dr. Lewis C. Bosher of Richmond, Va., during the past few years had had occasion to operate on seven cases of dermoid cysts or fistulæ of the sacrococcygeal region. The patients sought relief either on account of the presence of annoying exudation, or after some traumatism had given rise to the formation of abscess, with the usual train of inflammatory symptoms. The cases operated on by the writer were all in male adults. After referring to the diagnosis and prognosis, the author said that the usual methods resorted to for treating inflammatory fistulous tracts would seldom result in permanent cure. Complete extirpation of the fistula and sac must be performed to prevent a recurrence. It was to be noted that this was not always possible, as in a case reported by Wette, in which complete extirpation would have involved opening the spinal canal, with serious injury to the nerves.

Hæmatoma of the Ovary.—Dr. Magnus A. Tate of Cincinnati presented a study of the cases which he had collected from the literature. Three periods of life markedly predominated as a predisposing factor in the causation of hæmatoma of the ovary: (1) Before or during birth; (2) at or near the first menstrual flow; (3) early adult or childbearing period. Scott, in operating for ovarian disease, stated that hæmatomata were frequently found. In this the author concurred, and did not believe that they were so rare as the paucity of case reports in literature would lead one to believe. In size, they varied from a hazelnut to a good-sized orange. The uncomplicated cases were free from fever, but pain was almost always present, and vaginal examination disclosed almost constant tenderness. Sometimes the ovary was fixed, and the pain was frequently severe. Schultze and Riedel reported hæmatomata in newborn infants. Winckel saw the follicular variety of hæmatoma following petroleum burns, phosphorus poisoning, typhoid fever, cerebral hemorrhage, tuberculosis, and heart failure. Edgar reported a case in which the hæmatoma ruptured, and caused a pelvic hæmatocele; and Boldt one in which the tumor ruptured, and peritonitis resulted. Two cases were reported in which the tumors became cystic, and had twisted pedicles. Garrigues gave the history of a case associated with vicarious menstruation; Janvrin, a case of dysmenorrhœa, in which, on section, there was salpingitis of both tubes, abscess of the right, and hæmatoma of the left ovary; and Murray, a case of abscess of the left ovary, and hæmatoma of the right. Kramer reported a case associated with purpura and epilepsy; and Edebohls, one with hysteroepilepsy. Wylie had a case in which electricity was the probable cause; Tate, one following a long, tedious labor; Reamy, one in which one ovary was removed, and a portion of the other, and subsequently the patient had two children. Ricketts reported one associated with a large

ovarian tumor, one with a dermoid, one with a suppurating appendix, one in which the left ovary was removed, the right being normal, and in one year later the right ovary had to be removed for a hæmatoma. Wenning operated upon a case of double hæmatoma, the patient suffering from excruciating pain when an examination was made. The age of childbearing women who were afflicted with hæmatomata of the ovaries varied from fifteen to forty years, and the left ovary seemed to be more frequently affected than the right.

Pathogenesis and Surgical Treatment of Tuberculous Peritonitis, with Report of Cases.—Dr. William E. Stokes of Salisbury, N. C., divided tuberculous peritonitis into four forms—the adhesive, suppurative, tympanitic, and ascitic. He quoted extensively from the literature of the subject, referred to the modes of infection, gave synopses of cases, histological examinations, and reported six cases. Operation was contraindicated in cases of tuberculous peritonitis, whenever there was an advanced tuberculosis of the liver, lung, kidney, intestines, or glands, or when the exudate within the peritoneal cavity was solid. What the actual changes in this infection of the peritoneum were, or what reaction was brought about in the local lesions and in the peritoneum itself by the mere abdominal incision, remained problematical. Whether it was the mechanical action brought about by the air and sunlight, or the increase of the peritoneal resistance; or whether after the operation a local reaction in the periphery of the tuberculous nodes took place, or an increased phagocytosis brought about absorption of the tuberculous product, with the formation of new connective tissue, as has been shown in experiments on animals, still remained unsettled.

Treatment of Uterine Bleeding.—Dr. H. J. Boldt of New York City, read a paper with this title, in which he supplemented his former report on the use of cotarnine hydrochlorate in various cases of uterine hemorrhage, his opinion of the therapeutic value of this agent being based on seven years' experience.

Some Points in the Technic of Aseptic Operating.—Dr. Henry T. Byford of Chicago said he did not offer any new methods, but emphasized the necessity of more thoroughness in those already used. The method he employed consisted in (1) twenty minutes' scrubbing with green soap and water; (2) three minutes' in dilute acetic or citric or oxalic acid; (3) five minutes in strong alcohol; (4) five minutes in a 1-2,000 solution of mercuric chloride in water. The author considered the use of rubber gloves open to the objection of macerating the cuticle with danger of their being punctured and allowing septic sweat to escape. He deprecated the mixing up of the steps of the preparation by using a combination of green soap and alcohol, or by dissolving the mercuric chloride in alcohol, since aqueous solutions were more efficient than alcoholic. He advised disinfection of the hands one or more times during the course of long operations. Attention was called to the necessity of unusual care in the preparation of the field of operation in operations about the pubes and vulva. He recommended absorbent rather than occlusive dressings in the treatment of the wounds after the operation.

Suprapubic Prostatectomy.—Dr. W. H. Doughty, Jr., of Augusta, Ga., reported a case of suprapubic prostatectomy, and described an improved method of after-treatment. He also narrated an unusual case of intraperitoneal hydatids.

Tracheotomy for Gunshot Wounds of the Trachea.—Dr. J. McFadden Gaston of Atlanta, Ga., discussed the subject of gunshot wounds of the trachea, and the complications that were likely to occur from septic infection or laryngeal stenosis. He reported a case of gunshot wound of the trachea in a female child, 8 years of age. The position of the incision in the trachea was lateral rather than on the anterior surface of the windpipe. The patient made an excellent recovery.

Rupture of the Diaphragm.—Dr. Geo. S. Brown of Birmingham, Ala., contributed a paper on this subject, in which he reported an interesting and instructive case in a fireman, 27 years of age, six feet tall, and weighing 190 pounds. The patient had hurt or strained his side slightly about two years before the rupture occurred. Although an operation was performed, the case terminated fatally.

Encephalomeningocele.—Dr. W. D. Haggard of Nashville reported an unique case of encephalomeningocele, in a male child, four months of age. The child weighed six pounds; the tumor weighed five pounds, and measured 23 inches in diameter one way, and 17 inches another.

Dr. Haggard also described an easy method of instituting peritoneal gauze drainage through the cul de sac.

Dr. J. B. Murfree of Murfreesboro, Tenn., read a paper on "Strangulated Hernia," and Dr. E. Denegre Martin of New Orleans, reported two cases of cancer of the appendix.

The Davis Memorial.—The monument erected by the Association to its founder, the late Dr. W. E. B. Davis, was unveiled in Capitol Park, with fitting ceremonies, Wednesday, December 14th, at 11 o'clock. About five thousand people attended these exercises, including the members of the Association. After an invocation by Rev. Dr. L. S. Handley, Dr. Chas. M. Rosser, of Dallas, Texas, was introduced, and delivered the address of presentation. The statue was unveiled by Elizabeth and Margaret Davis, the little daughters of the beloved physician. Dr. R. M. Cunningham, Acting Governor of the State of Alabama, accepted the statue in behalf of the State in an eloquent address. The statue, in behalf of the city, was accepted by Hon. John C. Forney, the representative of Mayor Drennan, who was unavoidably absent.

Officers.—*President,* Dr. Lewis C. Bosher, Richmond, Va.; *First Vice-President,* Dr. John D. S. Davis, Birmingham, Ala.; *Second Vice-President,* Dr. I. S. Stone, Washington, D. C.; *Secretary,* Dr. W. D. Haggard, Nashville, Tenn., re-elected; *Treasurer,* Dr. Charles M. Rosser, Dallas, Texas, re-elected.

Louisville, Kentucky, was selected as the place for holding the next annual meeting, in December, 1905.

THE PRACTITIONERS' SOCIETY.

One Hundred and Ninety-first Regular Meeting, Held December 2, 1904.

Dr. Charles Stedman Bull, President, in the Chair.

On What Lines Is the Treatment of Malignant Disease Advancing?—Dr. Robert Abbe read this paper. (See page 1041.)

Dr. Charles McBurney asked Dr. Abbe how many cases of carcinoma he had seen treated by radium without any beneficial effect whatever?

Dr. Abbe said he had not employed the radium in carcinoma more than half a dozen times, all of them comparatively minor cases, and he could not recall a single instance in which some improvement was not effected by it. In one case, in which three cancerous nodules recurred in the line of a mammary scar after extirpation of a carcinomatous breast, the conglomerate mass measuring about three inches by one inch, a number of applications of the radium produced a remarkable reduction, and in a letter recently received the patient stated that this improvement had continued, and that two of the nodules had entirely disappeared. Dr. Abbe said he had seen a similar effect in other cases of recurrent carcinomatous nodules of the skin, after half a dozen applications, and Dr. McCosh had recently reported a case in which twelve or fifteen typical carcinomatous nodules, the size of a bean or larger, had entirely melted away under the influence of the radium. There were cases of this kind, however, in which the treatment had proved ineffectual.

Dr. McBurney said that the experiments with radium in the treatment of malignant disease had apparently not

yet progressed sufficiently far to permit of definite conclusions to be drawn regarding its value. The results thus far obtained, however, could not fail to recall other methods that had been from time to time advocated in the treatment of this class of cases. Not very long ago, removal of both ovaries was brought forward as a physiological cure of malignant disease in the breast, and yet, of the eight cases treated by Dr. Abbe in that manner, there was only a temporary "shrinkage of the mammary tissue" in every instance, but no other improvement. The early reports following the use of the Roentgen rays were also very encouraging. Under this method, tumors "partially disappeared," "pain diminished," "the patient was more comfortable," and occasionally even a "complete cure" was reported. On the whole, however, the effect of the Roentgen rays as well as of other methods of radiant energy, was very disappointing. The future would show whether radium would prove equally disappointing. None of the methods thus far advocated had shown any specific, controlling effect on cancer, and none of them could be depended on with any certainty whatever. This conclusion, Dr. McBurney said, he considered a fair one, and he thought it was to be deplored that many cases of cancer should be subjected to the application of remedies which must still be regarded as of a purely experimental nature, and thereby lose the opportunity to be treated by the only method which surgeons regard as reliable, namely, the operative method. Many patients, he said, had been subjected to the Roentgen rays to the exclusion of operative measures until the opportunity to operate on them with success had been lost. The speaker wished not to be understood as deprecating the search for some specific new remedy in the treatment of cancer. On the contrary, he and all other surgeons, would welcome the discovery of a really valuable cure for cancer as the most important scientific advance of modern times. Experiments in this direction should, however, be made only upon inoperable cases.

Dr. Joseph D. Bryant said that Dr. Abbe's paper, and the remarks of Dr. McBurney, led him to discuss the subject in a retrospective vein. He recalled that many years ago clover flowers were looked upon as a great remedy for cancer, and many cures were attributed to it. Subsequently, turpentine became very popular for the same purpose, and following that, the introduction into the tumor of electrically charged needles. Benefit followed the employment of all these methods. Then cundurango appeared on the field, extolled by many as of great benefit. Dr. Bryant said that while he did not wish to take a pessimistic view of the subject, and while he believed that all these various agents and methods should be given a faithful trial, he was inclined to agree with Dr. McBurney that patients were encouraged thereby in a false sense of security. Instead of first trying the Roentgen rays or radium, or any other of these temporizing methods, Dr. Bryant said he was in favor of reversing the proposition, namely, operating first, and then preventing a recurrence by the use of one of these agents, providing they had the power to do it. The speaker said he failed to understand how the application of radium to a morbid growth could control or relieve the effect of the disease upon neighboring lymphatics, providing the enlargement was the result of a true extension of the malignant disease, and not a simple inflammatory process. While he was glad to encourage the employment of all these various agencies for the purpose of combating malignant disease, he did not favor their use to the exclusion of operation. He still believed there was nothing better than operation for malignant disease of a decided type, and that any special increase in the rate of operative recovery would be achieved by earlier recognition and admission of malignancy, and prompter and more thorough extirpation (if possible) of the disease.

Dr. Abbe, in closing, said he had seen very few cases of malignant disease in which he would be willing to advise the use of radium in preference to the knife. In certain types of cases, however, he thought the method should be given a fair test by those who were willing to do so, and a critical report of the results should subsequently be given. Unless such tests were made, there would be danger of losing an opportunity of learning more about the disease than we now knew.

Dr. McBurney suggested that the inoperable cases would furnish sufficient material for the purpose of testing some of these methods.

Problems Relating to Simple Ulcer of the Stomach.—Dr. Beverley Robinson said that at a recent meeting of the New York Clinical Society he read a paper on this subject (see page 1043), in which he briefly reported twenty-nine cases of ulcer of the stomach, the histories of which had been obtained for him by Dr. J. Emil Traub, of this city, from the records of St. Luke's Hospital for the past twenty years. Of these twenty-nine cases, twenty-four occurred in females, and five in males, the ages of the former ranging from 16 to 68 years, and of the latter from 23 to 70 years. Of the men, three died; one was cured; one improved. Of the women, most of them domestics, the majority gave a history of excessive tea drinking, some taking as many as ten to fifteen cups daily, and one gave a history of having taken half a glass of vinegar and water eight or ten times a day for a long time. Most of the women were anæmic, poorly nourished, markedly constipated, and nervous and irritable in temperament. Menstruation was usually irregular, and they were living amid poor hygienic surroundings. All suffered from dyspepsia, pain in the epigastrium, vomiting of food and mucus, and, in seventeen cases, of blood. Of the twenty-four female patients, one died, two were improved, and nineteen were cured. Only one of the twenty-nine cases was treated surgically. In that case, a man, a gastroenterostomy was done, and the patient died on the following day. In addition to these twenty-nine cases, Dr. Robinson referred to six cases from the records of Bellevue Hospital. Dr. G. Strack, of the hospital staff, after a careful search of the records, reported that he could find but six cases of gastric ulcer occurring in the four medical divisions of Bellevue Hospital since November, 1903, and in two of these the diagnosis was very doubtful. He found no record of any case occurring in the surgical divisions of the hospital. Dr. Robinson said that his object in bringing this subject up for discussion was to get an expression of opinion in regard to the treatment of these cases, and whether a surgical operation for an ulcer of the stomach was preferable to medicinal methods, or even justifiable.

Dr. Bryant said he could recall only one case in the Third Surgical Division of Bellevue Hospital, in which an operation had been recently done for ulcer of the stomach. In that case, the operation was done by Dr. B. Farquhar Curtis.

Dr. Edward G. Janeway said that the results of the medicinal and dietetic methods of treating hemorrhage from ulcer of the stomach were certainly better than those recently published by the Massachusetts General Hospital, which gave ten cases treated by operation, with ten deaths. With the hæmoglobin reduced to 20 per cent., the operation was to be regarded as disastrous. In such cases, the chances of the patient were better without operation; and some remarkable instances of recovery had occurred. In the treatment of the later effects of gastric ulcer, however, such as pyloric obstruction or conditions due to the presence of old cicatrices, operative interference undoubtedly often produced good results. To operate in every case simply because there was a hemorrhage from a gastric ulcer would show very poor judgment, because quite a large proportion of these patients recovered without operation, although relapses were not uncommon. Furthermore, a hemorrhage from the stomach, like that from the lungs in early phthisis, might sometimes be regarded as a life-saver, as it usually awakened the patient to a proper realization of his condition, and made him more willing to follow his physician's instructions. The advisability of operating

in even extreme cases of gastric hemorrhage was doubtful.

Dr. W. Gilman Thompson said he had had a somewhat varied experience with gastric ulcer, and had seen quite a number of cases operated on. In a recent case under his observation there was a chronic gastric ulcer, with considerable dilatation: this condition gave rise to constant distress after eating, making the patient's life practically unendurable. She became much emaciated, and was finally referred to Dr. Mayo for operation. He did a gastroenterostomy early last summer, which was followed by immediate relief, and the patient was now enjoying better health than she had for many years. In a case seen at the Presbyterian Hospital several years ago, there was a gastric ulcer with severe hemorrhage, which was operated on successfully. This patient was a man. In another case, a woman, seen in the same institution some years ago, the patient had repeated gastric hemorrhages with constant vomiting, and all the classical symptoms of gastric ulcer. The stomach was opened and carefully explored with the aid of an electric lamp, but absolutely nothing was found. After the operation she still failed to absorb her food, and died three or four weeks later of asthenia. In a case recently operated on at the Presbyterian Hospital for repeated severe gastric hemorrhages, the patient barely got off the table alive. In a case now under observation in that hospital, the patient, a woman, had successive hemorrhages for four or five days, until the amount of hæmoglobin became reduced to 35 per cent., and the number of red corpuscles to 2,000,000. An operation was urged, but refused by the family. The patient was then put on the customary treatment for gastric ulcer, and she improved so rapidly that she was now able to take solid food, and had gained considerable strength, although she was still very anæmic. She had had no further hemorrhages. Dr. Thompson said he favored operation in cases in which repeated gastric hemorrhages endangered the patient's life, or when there was a history of recurrent attacks of gastric ulcer. The speaker referred to a case that he saw with Dr. McBurney about ten years ago. The patient was a woman who had suffered from symptoms of gastric ulcer, including several severe hemorrhages. She was exceedingly neurotic, and some of her symptoms were attributed to that source. Finally, however, her pain became so severe and constant, and her general condition became so poor that she was referred to Dr. McBurney for operation. Upon opening the stomach, he found an ulcer fully 3 by 5 inches in diameter, with an enormous indurated base. Its excision would practically have amounted to removal of the entire stomach, and as the patient's condition was desperate, it was decided to do nothing more than sew up the wound. She hovered between life and death for several days, and after the operation had a hemorrhage which was so severe that it necessitated transfusion and hypodermocylsis. She finally made a perfect recovery, however, and was now enjoying excellent health, and was able to eat everything. In this instance the ulcer was actually seen, and the diagnosis was not speculative, as it was in a certain proportion of these cases. The symptoms of gastric ulcer were sometimes simulated in chlorotic conditions.

Dr. Janeway said he could recall two cases seen in consultation in extremis, in which the introduction of the stomach tube and washing out the stomach had produced perforation of an old ulcer, in both instances with fatal results. He mentioned these cases because lavage of the stomach was advocated by some in the treatment of gastric ulcer. In corroboration of the statement made by Dr. Thompson that the symptoms of gastric ulcer were sometimes simulated by other conditions, Dr. Janeway mentioned a case that had been under observation for a long time, and in which all the classical symptoms of gastric ulcer were present, including repeated hemorrhages. The patient was a woman, who had frequently been shown to medical students as a typical example of a case of gastric ulcer. She finally died of pulmonary tuberculosis, and when the stomach was opened before the class, no cicatrix could be found, and the gastric mucous membrane was apparently perfectly normal.

Dr. McBurney said that given a dozen cases of gastric ulcer in which severe and repeated hemorrhages had occurred, a larger proportion of them would probably recover if all were subjected to the usual methods of treatment than if all were operated upon. Undoubtedly there were patients whose only chance of recovery was to be found in operation. The difficulty was to select such cases at an early stage of the disease, and before the general condition had become so bad that operation had little chance of being successful.

Dr. Abbe said he had operated on only one case of ulcer of the stomach. In that instance he found a lesion which seemed to be the cause of the bleeding. This was excised. The patient got along very well for a few days, and then had a fatal secondary hemorrhage. At the autopsy, multiple ulcers of the stomach were found. The statistics of Mayo Robson in the treatment of these cases were favorable to a gastroenterostomy, and Dr. Abbe said he would be inclined to employ that method in any suitable case that might come under his care in the future. In cases of repeated hemorrhage, however, with extreme exsanguination, the patients generally had better be left alone. A gastroenterostomy, the speaker thought, was preferable to the excision of the ulcer. It operated theoretically and practically, by preventing distention of the stomach by gas, which stretched the ulcer and continued the bleeding, and also by putting the stomach peristalsis at rest, owing to its constant emptiness.

Dr. J. Emil Traub (by invitation) said that in one of the cases included in Dr. Robinson's paper, that of a man 70 years old, the autopsy disclosed an ulcer three and one-half inches in diameter, with several additional bleeding points scattered over the stomach wall. He doubted whether such a case, in which there were multiple bleeding points, would prove a favorable one for surgical interference.

The Vasomotor Factor in the Clinical Measurement of Blood Pressure.—Albert Abrams concludes that blood pressure is an expression of action of two chief factors: ventricular force and vasoconstriction. The inhalation of amly nitrate will dissipate the vasoconstrictor factor and bring into play the ventricular force, which is the real factor to be encouraged in a failing heart. The vasoconstrictor factor may and does compensate ventricular inadequacy, for it is essential in most cardioarterial diseases for the blood pressure to be maintained to afford better nutrition for the heart and to promote arterial elasticity as a means of establishing the circulation of the blood. The recognition of the ventricular and vasomotor factors in blood pressure serves as a clue in the correct administration of cardiactonics. In the individual endowed with cardiac health the removal of the vasomotor factor causes an increase in blood pressure, whereas the converse condition causes the latter to fall, and the degree of reduction is proportional to the degree of cardiac enfeeblement. Cardiac auscultation, in conjunction with the sphygmomanometer, and the inhalation of amyl nitrite constitute the ideal methods of eliciting the real condition of things. The sphygmomanometer gauges the force of the left ventricle only, while auscultation of the pulmonic valve sounds and a physical examination of the lungs are alone adequate to determine the sufficiency of the right ventricle. Cases in which there is high blood pressure without cardiac weakness, and in which after the inhalation of amyl nitrite the blood pressure remains the same, are associated with traces of albumin in the urine which is of low specific gravity and are practically instances of incipient chronic interstitial nephritis. Persistent high blood pressure, dependent upon augmented tonus of the vasomotor center, is a cogent etiological factor in arteriosclerosis independent of any other cause, and is rarely the reaction of arterial overwork. Normally, there is a postural variation in blood pressure. In the erect posture blood pressure rises owing to a compensatory arteriole contraction. In vasomotor insufficiency the postural variations are reversed, especially in neurasthenia, notably the angiopathic form. The bromides, carried to their physiological effects, will cause high blood pressure to fall, if dependent upon augmented tonus of the vasomotor center.

Therapeutic Hints.

Chlorosis with Neurasthenia.—

℞ Tinct. ferri chloride..... ℥ iiss
Hydrarg. chlor. corrosiv..... gr. ii
Liq. arsen. chloridi..... ℥ iiss
Acidi hydrochloric dil..... ℥ v
Syr. simplicis q. s. ad..... ℥ iv
M. et Sig. ℥ i., t. i. d. in water.

—Goodell.

Tinea Tonsurans.—

℞ Proof spirit..... ℥ x
Spirit of lavender..... ℥ iv
Bichloride of mercury..... gr. xii
Tincture of cantharides..... ℥ iv
Chloral hydrate..... ℥ i
M. et Sig. Rub on whole scalp twice a week.

—Charmeil.

Sycosis.—

℞ Naphthol 5.0-10.0
Green soap,
Prepared chalk,
Sulphur,
Lanolin .....āā 25.0
M. Sig.: For local application.

—*La Riforma Medica.*

Typhoid Fever.—

Moore recommends the following combination as an intestinal antiseptic and carminative, as well as for the purpose of checking hemorrhage:

℞ Turpentine,
Sweet spirit of nitre,
Spts. chloroform.....āā ℥ ii
Emul. of almond.....q. s: ad ℥ vi
M. Ft. mistura. Sig.: Shake the bottle. Half an ounce for a dose. *Practitioner.*

Camphor as an Anæsthetic.—

Leredde offers the following formulæ for the use of camphor as a local anæsthetic in itching affections:

℞ Camphor 1.0
Oil sweet almonds..... 10.0
M.
℞ Lanolin 90.0
Camphorated oil 10.0
Chloral hydrate 1.0
M.
℞ Zinc oxide .....
Chalk .....
Camphorated oil .....
Lime water .....āā 25.0
M.

—*St. Louis Courier of Medicine.*

Gout.—

T. E. Satterthwaite says that there is a general treatment of gout that should underlie every variety, whether the form be acute, subacute, chronic, aberrant, or minor, and independent of special manifestations that require special treatment. Colchicum, in conjunction with the salicylates or their congeners, or the alkaline carbonates, still holds the palm in the treatment of acute gout. In the aberrant form, so varied are its manifestations there can be no specific treatment. In the other forms medicine plays a subordinate rôle to diet and hygienic remedies, though the iodides are mainly to be relied upon.—*The Post-Graduate.*

Pain in Mumps.—

℞ Guaiacol 1
Vaselin and lanolin, of each..... 10
M. For an ointment; use morning and evening.

—Raguzzi in *La Médecine Moderne.*

Spasmodic Asthma.—

℞ Potassium iodide..... ℥ iiss
Fld. ex. grindelia robusta.....
Syrup assafetida.....āā ℥ j
M. Sig. One teaspoonful every three hours.

Syrup of lemon or orange peel with saccharin may be added to mask the taste.—A. J. Mann, in *The Medical Summary.*

Coated Tongue and Bad Breath.—

℞ Hydrochloric acid..... gtt x
Sodium chloride..... ℥ j
Water ..... ℥ vj
M. Sig. One teaspoonful every hour.

—J. A. Burnett, in *The Medical Summary.*

Cough in Phthisis.—

℞ Potas. citrat..... gr. xv
Liq. ammon. acet..... ℥ ij
Tinct. scillæ..... ♏ xij
Vin. ipecac..... ♏ x
Aq. anisi .....ad ℥ i

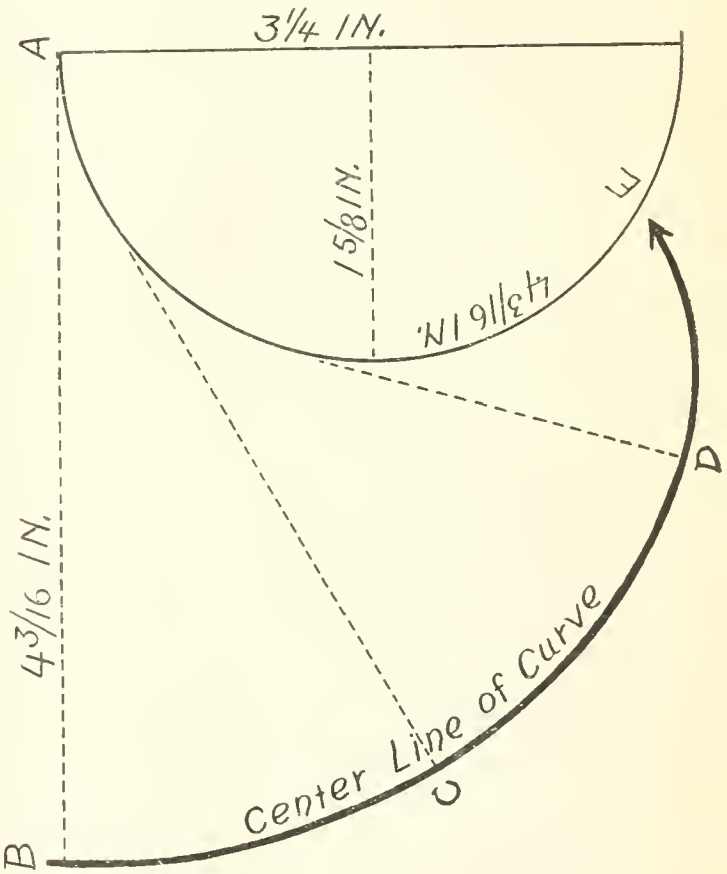
—*Scottish Medical and Surgical Journal.*

New Instruments.

CATHETERISM IN PROSTATIC RETENTION.

BY CHARLES L. SQUIRE, M.D.,
ELMIRA, N. Y.

This is the time of the year when subjects of prostatic hypertrophy are most apt to be seized with complete retention of urine from exposure of the surface of the body to cold, which produces a congestion in the already enlarged prostate and an engorgement of its blood-vessels, increasing its size and occluding its narrowed orifice, rendering catheterism difficult, painful, and often attended with hemorrhage. Acting on a recent suggestion of a colleague, I would devote a few words to the description of a curve which has been found serviceable when others have failed.



It is not a new curve, having been first described in the *American Journal of the Medical Sciences* for July, 1876. At that time a cut or pattern was given for its reproduction. It is the purpose of this article to describe how that pattern can be made at will and the correctness of the curve proven. This curve, which, by the way, does not conform to the *arc* of a circle, but is in its entire axis the shape of an *involute* of a circle, can be given to an ordinary English gum elastic catheter, No. 12, with stylet, at the bedside. To accomplish this it will be necessary to secure several articles, with which most houses are provided, namely, a cup or glass which measures three and a quarter inches across the top, a pocket tapeline, a lead pencil, and a sheet of white paper. The physician now inverts the glass upon the paper, previously placed upon a convenient table, then holds against the outside of the glass that point of the tapeline (A), four and three-sixteenths inches from the end, which is to be kept uniformly tangent by the

tip of a lead pencil (B) while the tape is being wound around the glass until the pencil comes in contact with the same (E). The mark upon the paper made by the lead pencil (B, C, D, E) will describe the curve to which the catheter with the stylet is to be made to conform, the beak of the instrument resting at the point where the curve made with the pencil meets the glass (E).

It has been the custom to give the shaft of the instrument a reverse curve, which gives to the whole a sigmoid shape, but the accuracy of the prostatic portion is all that is essential.

409 East Church Street.

Books Received.

Mechanical Vibration and Its Therapeutic Application. By M. L. H. Arnold Snow, M.D. 8vo, 297 pages, illustrated, muslin. The Scientific Authors Publishing Co., New York.

The Summer Diarrhœas of Infants, Their Etiology, Pathology, and Treatment. By H. Illoway, M.D. 16mo, 150 pages, muslin. E. R. Pelton, New York.

Practical Dietetics. By A. L. Benedict, A.M., M.D. 12mo, 383 pages, muslin. G. P. Englehard & Co., Chicago. Price, $1.50 net.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D. Vol. VI. No. 4. 8vo, 374 pages, illustrated, paper. Lea Brothers & Company, Philadelphia. Price, $6.00 per annum. December 1, 1904.

Untersuchungen Uber Knochenarterien mittelst Rontgenaufnahmen injizierter Knochen und ihre Bedeutung fur einzelne pathologische Vorgange am Knochensysteme. Von Dr. E. Lexer, Dr. Kuliga und Dr. Wolfg Turk. Mit 22 stereoskopischen Bildern und 3 Tafeln. 7vo, 23 pages, paper. August Hirschwald, Berlin.

Some Methods of Hypodermic Medication in the Treatment of Inoperable Cancer. By John A. Shaw-Mackenzie, M.D. 8vo, 32 pages, paper. Bailliere, Tindall & Cox, London. Price 1 shilling net.

Beitrage zur Klinik der Tuberkulose. Herausgegeben von Dr. Ludolph Brauer. Band III. Heft 2. 8vo, pp. 83-177, paper. A. Stuber, Wurzburg, Germany.

Rontgenologisches Hilfsbuch. Eine Sammlung von Aufsatzen uber die Grundlagen und die wichtigsten Hilfsmethoden des Rontgenverfahrens. Von Ingenieur Friedrich Dessauer. Band I. 8vo, 136 pages, illustrated, paper. A. Stuber, Wurzburg, Germany.

The Doctor's Recreation Series. In the Year 1900. By Samuel Walter Kelley, M.D. 8vo, 421 pages, illustrated, muslin. The Saalfield Publishing Company, Chicago.

How to Study Literature. A Guide to the Intensive Study of Literary Masterpieces. By Benjamin A. Heydrick, A.B. Third Edition. 16mo, 150 pages, muslin. Hinds, Noble & Eldredge, New York. Price, $0.75.

Three Recent Cases of Croup Due to Staphylococcus and Requiring Tracheotomy.—F. P. Anzinger reports three cases of preliminary sore throat in children, followed by severe obstructive symptoms in the larynx, and requiring tracheotomy. In none of the cases was there evidence of a pseudomembrane. The clinical symptoms in these cases pointed to a local infectious process, with elaboration of toxins. In two of the cases the diagnosis of diphtheria was entertained, and antitoxin was given, but with negative results. Bacteriological examination revealed the presence of practically pure cultures of staphylococci in the trachea and larynx. The organism in recent artificial cultures proved to be unusually pathogenic to white mice. Subsequent inoculation of the same strain of bacteria proved much less virulent. Pathogenesis was displayed only by direct inoculation into the lymph or blood circulation. The writer states that these cases may be taken as examples of cases at times diagnosed as diphtheria in which no microscopic examination is made. The failures of antitoxin are often credited to such cases. The writer finally emphasizes the importance of a careful analysis of each case, basing the diagnosis on both clinical and bacteriological evidence.—*Am. Journal of the Medical Sciences.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 24, 1904:

	Cases.	Deaths.
Measles	163	4
Diphtheria and Croup	338	49
Scarlet Fever	227	15
Smallpox	1	.....
Chickenpox	185	.....
Tuberculosis	347	143
Typhoid Fever	60	17
Cerebrospinal Meningitis	.....	17
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,321	245

Syphilis—A Non-Venereal Disease.—Nelson D. Brayton speaks of the dozens of epidemics of syphilis which have occurred involving not only thousands of individuals, but also races, the victims of which have acquired this dread disease ignorantly, or at least in ignorance of its dangers. Many patients are innocent victims of syphilis, the larger proportion of syphilis insontium, however, occurring in females. The larger number of cases of extragenital chancres appear on the face, which, next to the genital region, is the favorite seat for this hideous scourge. The lips are the most often attacked, then the tonsils, tongue, cheek, eye, ear, and nose. Bulkley gives the following general classification: 1. Syphilis œconomica, in which group fall those cases in which the disease is transmitted innocently from one to another, in the ordinary relations of domestic and industrial life. Under this group may be considered domestic, industrial, and personal transmission. Domestic transmission includes all cases of conveyance by means of spoons, forks, knives, cups, pipes, cigars, and the like. Articles of clothing may also convey the poison, as well as bedding, combs, sponges, and tooth brushes. Under industrial transmission belongs syphilis of the trades, arts, and crafts, the most striking example being that of glass blowing. Whole communities have been quickly syphilized in this way. Those engaged in trades in which instruments are used in the mouth are liable to infection. The poison may be transferred by means of stick candy. Personal transmission covers only a few varieties, but the innumerable cases in which the disease is acquired by means of kissing, biting, and other non-venereal acts, belong in this class. 2. Syphilis brephotrophica includes two classes, that relating to the nutrition of infants, and that relating to attendance upon them. 3. Syphilis technica includes three classes: *a.* The operator is the victim; *b.* the operator is the syphilifer; *c.* the operator is the medium. Dentists, physicians, surgeons, and nurses are the ones concerned in these classes. The writer has known eight physicians who have had digital chancres, acquired in their professional work. The greater number of these cases are among gynecologists and accoucheurs. A curious and unexpected method of transmission is that of the ancient practice of removing foreign bodies from the eye by the tongue. Tattooing and the sucking of recent wounds are causes of extra-genital chancres. Other methods of transmission are vaccination, dentistry, wet cupping, the use of razors, tongue depressors, surgical sounds, and specula. The main diagnostic features of the Hunterian lesion remain the same, though there may be slight variations in the chancre upon the buccal mucous membrane. Upon the lip, mouth, cheek, or tongue, there is often a pseudo-diphtheritic membrane difficult to remove. The prognosis and treatment do not differ essentially from the prognosis and treatment of the disease as it appears in the more usual situation. The writer believes that the most difficult part

of treatment is in the display of tact necessary in the management of such cases of syphilis. The social, moral, and medical obligations incurred by the physician in the treatment of syphilis are often very heavy, and call upon all of his resources to meet them. He becomes the guardian of the people's health. But the rewards for work of this kind are often great in proportion to the difficulties of the case.—*The Medical and Surgical Monitor.*

A Case of Dislocation of the Atlas.—James Hendrie Lloyd calls attention to the fact that a dislocation of the atlas may occur, and the patient continue to live for weeks and even years, as several well-authenticated cases prove. The author's patient was a man who fell on the left shoulder, striking the back of his head with great force. When examined by the writer the patient had a marked deformity in the neck. The head was twisted to one side and slightly rotated, and the deformity was most prominent on the left side. With a finger in the pharynx, the deformity could be felt as a projecting mass on the posterior wall. There was no complaint of pain, but the head was held in a very rigid and unnatural manner. The patient was paralyzed in the left upper arm. There was no paralysis in the left leg, however, nor in the right arm or leg. In fact, pressure symptoms were remarkable for their absence. There were no stigmata of hysteria present. As to sensory symptoms, one disturbance may possibly be very significant. This was a distinct area of tactile anæsthesia in the region of the distribution of the great occipital nerve of the left side. This nerve comes off from the second cervical which emerges from the spinal canal between the axis and the atlas. There was marked loss of thermic sense in the right arm and forearm. This sense was confused in the remaining parts of the right side extending from the fourth cervical vertebra. There was also analgesia of the entire right side from the region of the fourth cervical vertebra. There was no tactile anæsthesia either on the right or left side. The sensory symptoms eventually almost disappeared, but the motor paralysis of the left arm and the cervical deformity have persisted. In the skiagram shown, the atlas appears to be displaced. The vertebræ below it are in place. In summing up the features of this case the writer says that the motor paralysis of the left arm alone is extremely difficult to account for. This paralysis is of the peripheral type, as would be due to a lesion of the anterior nerve roots, for there is some muscular atrophy with faradic changes. The posterior colduns are not involved, as the absence of tactile anæsthesia shows. The writer questions if the odontoid process could be fractured allowing the atlas to slip, and also if there could be 2 lesions, one of the atlas and one lower in the spine, involving the anterior roots that go to form the brachal plexus.—*Am. Journal of the Medical Sciences.*

Pneumococcus Endocarditis.—Herbert R. Preble after a detailed study of this subject offers the following conclusions: Endocarditis complicates pneumonia in about 1 per cent. of all cases, and in 5 per cent. of the fatal cases. Endocarditis, due to the pneumococcus, makes about 25 per cent. of all cases of bacterial endocarditis. This affection may be of any degree of intensity, but in over three-fourths of the cases it is of the severe or so-called malignant type. The exudate is usually massive, but there is less disposition to ulceration and perforation of the valves than in endocarditis, due to the streptococci and staphylococci. Pneumococcus endocarditis is far more often left than right-sided, but involvement of the tricuspid and pulmonary valves occurs about 4 times as often as it does with endocarditis in general. The pneumococcus attacks the aortic valves more often than the mitral, and relatively twice as often as other organisms, commonly causing endocarditis. Infacts occur in about one-half the cases. Meningitis complicates pneumococcus endocarditis in about 60 per cent. of the cases, the prognosis, therefore, is extremely grave. Pneumococcus endocarditis is relatively twice as common in females as in males; it is more frequent after 30 years of age than before. An old heart lesion favors its development. Its clinical picture does not differ from that of any acute endocarditis. It may develop before, during, or after the pulmonary involvement, but the pneumococci may infect the endocardium with no lung involvement. The endocarditis may be afebrile. The duration varies from a few days to a few months. The pulse is usually rapid and irritable, but bradycardia is more frequent than in any other forms of acute endocarditis. Subjective symptoms referable to the heart are usually absent, except in the case of an old heart lesion. Physical signs are often entirely lacking. Leukocytosis is often absent. Blood culture will show the pneumococci. The diagnosis is difficult, impossible, in fact, in cases in which the endocarditis develops during the course of the pneumonia and ends rapidly in death. Endocarditis should always be suspected in pneumonia, which is followed by an irregular temperature not sufficiently accounted for by some other complication such as empyema. The treatment consists merely in absolute rest, with good, supporting food and stimulation as required.—*Am. Journal of Medical Sciences.*

Angioneurotic Œdema.—Roger S. Morris reports a case of this nature in which he believes for the first time a histological examination of the gastric mucosa has been made during an attack involving the stomach. The patient, a man of 21 years, has suffered from attacks of œdema, at times since he was 12 years old. The patient during this attack described by the writer became nauseated and vomited, and complained of pain in the stomach. In washing out the stomach a piece of tissue was obtained undoubtedly coming from a wound which was made by the end of the stomach tube. This bit of tissue was semitranslucent, and almost jelly-like. It was put at once into strong alcohol. It measured 13 mm. in length, by 7 mm. in breadth, by 4 mm. in thickness. It was soft, white and smooth on one surface and slightly rough and ragged on the other. Microscopic examination proved that it was gastric mucosa, probably from the pyloric end. Few parietal cells were found in the glands and numerous lymph nodes were present. It presented the picture of an extreme œdema of the interstitial tissue, the lymph spaces and vessels being enormously dilated. There was no excess of mucous formation. Numerous small round cells were present in many areas to a greater extent than usual in normal gastric mucosa. The lymph nodes showed the presence of œdema. Many of the stroma cells contained vacuoles and were spherical and swollen. From all the appearances a diagnosis was made of "extreme œdema of gastric mucosa, non-inflammatory in origin." The fall in free hydrochloric acid and in the total acidity coincident with the development of stomach symptoms in this case may have been due to œdema of the mucosa. It is possible, according to the writer, that the pain may also be explained by a stretching or pressing of the nerves or nerve endings. From the study of this case, it can be positively stated that simple œdema of the stomach wall does occur concomitantly with attacks of nausea, vomiting and gastric pain at times, at any rate, and that the probability of local œdema lying at the base of practically all of the gastrointestinal symptoms in angioneurotic œdema is greatly strengthened by this report.—*Am. Journal of the Medical Sciences.*

The Function of the Apophysis.—Guido Guerrini gives us an account of his experiments on animals to ascertain the function of the apophysis cerebri. He then gives a résumé of his findings and conclusions. The anterior lobe of the apophysis and the anterior portion of the posterior lobe have the structural characteristics of secreting structures, in the main that of secretory elements; there are two distinct functional products, one granular, staining red, and one of the nature of a plasmosoma which stains green; the origin, evolution, and action of the cells is the same as that of other secreting elements; the plasmosoma body is a form of colloid material; the two secretions react to the same stimuli; the maximum secretory activity is in adults, the same for male and female animals; in new-born animals

secretion is slight; in gestation, secretion is somewhat increased, not so in lactation; changes in metabolism do not increase secretion, starvation gradually decreases secretion; the kind of food does not influence secretion; injections of the nucleoproteid of apoyhysis or thyroid act as a stimulus to secretion; pilocarpine is an active stimulant; the blood serum of animals in which intoxications have been produced acts as a stimulant to secretion, when injected into normal animals. He concludes: (1) The apophysis is not a rudimentary organ destitute of function; (2) it has the function of elaborating two types of secretion; (3) the secretion seems not to influence trophic conditions; (4) the secretion has a generic antitoxic function.—*Lo Sperimentale*, October, 1904.

Cystic Hygroma of the Lymphatics of the Peritoneum.—Tito Cavazzani details the examination of the tumor in a case of hygroma of the peritoneal lymphatics. The most convenient classification of such tumors he considers to be as follows: 1. Derived from isolated connective tissue germs which develop to form new lymphatics. 2. The products of retention of fluids, forming cysts, resulting in a new formation of lymphatic vessels in a limited area. 3. Lymphangioma with obstructed vessels of exit, formation of large cysts, with alteration of the walls, desquamation of the endothelium, etc. The author diagnoses lymphatic angioma only when he finds abnormal production of vessels independent if obstruction. The etiology is not well known. Stasis, chronic inflammation. development of connective tissue, compression from tumors, etc., favor it. The most important factor is stasis. There must be an inflammatory reaction sufficiently acute to cause development of endotheliol cells quicker and in greater numbers than of the connective tissue cells. The specimen examined by the author was found in an operation for tubercular peritonitis. It consisted of two cysts, united by cords of vessels, and with several smaller cysts, which floated in the ascitic fluid which the abdomen contained. One of the cysts arose from the peritoneum near the umbilicus, two others from the omentum. The chronic peritoneal inflammation was the origin of the overgrowth of connective tissue and endothelial cells.—*Archivio per le Scienze Mediche*, Vol. XXVIII, Nov. 21, 1904.

History of Cerebral Localization, with Some Considerations Regarding the Subdivisions of the Areas of Representation of Cutaneous and Muscular Sensibility and of Concrete Concepts.—Charles K. Mills first speaks briefly of the history of cerebral localization, attributing the initiation of the modern era of this line of research to Francis Gall and Sir Charles Bell. Some of the results of recent studies in localization he presents as follows: In operating for prefrontal tumors, higher psychical symptoms should be the chief guide, and in the case of the left hemisphere, agraphia and aphasia, the opening should always be anterior to the main extent of the motor region. In all operations for brain tumors with dominating motor symptoms, the opening of the skull should be made so that the correlative brain exposure will be three-fourths in front and one-fourth behind the central fissure, the base of the flap being perpendicular to the lower end of that fissure. In operations for tumors having symptom-complexes, in which disorders of the muscular sense and astereognosis are dominant, the opening in the skull should be so made that the cerebral exposure will be three-fourths behind and one-fourth in front of the central fissure. When oculomotor symptoms, such as abducens paresis, lid drooping, and nystagmoid movements, are present, with symptoms pointing to the parietal lobe, the operation should be parietal or parieto-occipital, for the interference with eye movements is not basal, but probably due to disturbance of the visual motor cortex. When object blindness in any of its forms is the central feature of the symptomatology, operation should be done with a view of exposing the lower temporo-occipital convolutions. When relative or absolute hemianopsia, or hemiachromatopsia, or both, are the most important symptoms, the operation should, if possible, be with the view of reaching the mesotentorial surfaces of the occipital lobe. When forms of literal or verbal blindness are the central features of the syndrome, the angular gyrus should be the focus of the exposure. Likewise, when verbal deafness is the deciding symptom, the posterior extremities of the first and second temporal convolutions should be the objective points, while for uncomplicated verbal amnesia, the mid-temporal region should he exposed, and for note deafness or amnesia, the anterior-temporal region.—*Proceedings of the Philadelphia County Medical Society.*

What Constitutes Medical Practice.—Dr. Van Meter of Denver suggests the following comprehensive definition: Any person shall be regarded as practising medicine who shall in any manner hold himself out to the public as being engaged in the diagnosis and treatment of diseases or injuries of human beings; or who shall suggest, recommend, or prescribe any form of treatment for the intended palliation, relief or cure of any physical or mental ailment of any person, with the intention of receiving therefor, either directly or indirectly, any fee, gift, or compensation whatsoever; or who shall maintain an office for the reception, examination, and treatment of any person suffering from disease or injury of body or mind; or who shall attach the title of M.D., Surgeon, Doctor, or any other word or abbreviation to his name, indicative that such person is engaged in the practice of medicine as hereinbefore defined.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 23, 1904:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS
California, Stockton	Nov. 1–30	2	..
Illinois, East Saint Louis	Dec. 1 17	18	2
Indiana, Evansville	Dec. 17	83	..
Louisiana, New Orleans	Dec. 10–17	4(2 imp rt'd)	
Michigan, at 70 Places	Dec. 3–10	(Present.)	
Minnesota, Aitkin County	Dec. 5–12	3	..
Otter Tail County	Dec. 5–12	2	..
Rice County	Dec. 5–12	1	..
Todd County	Dec. 5 –12	5	..
Wilkin County	Dec. 5–12	3	..
Missouri, Saint Louis	Dec. 10–17	12	1
New York, New York	Dec. 10–17	2	..
Ohio, Canton	Dec. 3–10	1	..
Pennsylvania, Altoona	Dec. 10–17	1	..
South Carolina, Charleston	Dec. 14	1	Imported.
Tennessee, Memphis	Dec. 10–17	1	Imported.
Nashville	Dec. 10–17	2	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Nov. 19–26	12	..
China, Shanghai	Nov. 5–12	4	..
France, Paris	Nov. 26–Dec. 3	15	..
Great Britain, Bradford	Nov. 19–Dec. 3	6	..
Leeds	Nov. 26–Dec. 3	2	..
London	Nov. 19–26	2	..
Newcastle-on Tyne	Nov. 26–Dec. 3	11	1
Nottingham	Nov. 26–Dec. 3	1	..
India, Bombay	Nov. 15–22	..	2
Madras	Nov. 12–18	..	3
Italy, Catania	Nov. 24–Dec. 1	..	3
Russia, Moscow	Nov. 19–26	2	1
Warsaw	Oct. 15–Nov. 5	..	15
Switzerland, Zurich	Nov. 19–26	..	1

YELLOW FEVER.

Ecuador, Guayaquil	Nov. 16–23	..	1
Mexico, Coatzacoalcos	Nov. 26–Dec. 10	4	5
Iuchitan	Dec. 4–10	2	..
Tehuantepec	Dec. 4–10	1	1
Texistepec	Dec. 4–10	1	1
Panama, Panama	Dec. 5–12	3	..

CHOLERA.

India, Calcutta	Nov. 5–19	.	65
Russian Empire, Baku District	Oct. 24–Nov. 10	..	20
Erivan	Oct. 24–Nov. 10	254	134
Samara District	Oct. 24–Nov. 10	64	..
Serachs	Oct. 24–Nov. 10	3	..
Zaragyn	Oct. 24–Nov. 10	21	17
Turkey in Asia	Nov. 21	84	63

PLAGUE

Arabia, Aden	Nov. 3	(Present)	
Australia, Brisbane, vicinity of	Nov. 5	1	..
Ceylon, Colombo	Nov. 3–11	6	4
	Imported on steamship *Torridge* from Burmese ports.		
Egypt, Tukh District	Nov. 12–19	1	1
India, Bombay	Nov. 15–22	.	57
Calcutta	Nov. 5–19	..	14
Karachi	Nov. 13–20	13	8
Mauritius	Sept. 9–Oct. 13	101	82
Peru, Callac	Oct. 24–31	3	..
Eten	Oct. 24–31	21	9
Pacasmayo	Oct. 31	(Present.)	

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